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Acts whose titles are printed in light type are those relating to day-to-day management of agricultural matters, and are generally valid for a limited period.

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(Acts whose publication is not obligatory)

COUNCIL

COUNCIL DIRECTIVE

of 27 July 1976

on the approximation of the laws of the Member States relating to the installation of lighting and light-signalling devices on motor vehicles and their trailers

(76/756/EEC)

THE COUNCIL OF THE EUROPEAN COMMUNITIES,

Having regard to the Treaty establishing the European Economic Community, and in particular Article 100 thereof,

Having regard to the proposal from the Commission,

Having regard to the opinion of the European Parliament [1],

Having regard to the opinion of the Economic and Social Committee [2],

Whereas the technical requirements which motor vehicles must satisfy pursuant to national laws relate *inter alia* to the installation of lighting and light-signalling devices;

Whereas those requirements differ from one Member State to another; whereas it is therefore necessary that all Member States adopt the same requirements either in addition to or in place of their existing rules, in order, in particular, to allow the EEC type-approval proccedure which was the subject of Council Directive 70/156/EEC of 6 February 1970 on the approximation of the laws of the Member States relating to the type-approval of motor vehicles and their trailers [3], to be introduced in respect of each type of vehicle;

Whereas common requirements for the construction of lighting and light-signalling devices will be the subject of further special Directives;

Whereas approximation of the national laws relating to motor vehicles entails mutual recognition by the Member States of the checks carried out by each of them on the basis of the common requirements; whereas, if the system is to function properly, these requirements must be applied from the same date,

HAS ADOPTED THIS DIRECTIVE:

Article 1

For the purposes of this Directive, 'vehicle' means any motor vehicle intended for use on the road, with or without bodywork, having at least four wheels and a maximum design speed exceeding 25 km/h, and its trailers, with the exception of

(1) OJ No C 55, 13. 5. 1974, p. 14.
(2) OJ No C 109, 19. 9. 1974, p. 22.
(3) OJ No L 42, 23. 2. 1970, p. 1.

vehicles which run on rails, agricultural or forestry tractors and machinery, and public works vehicles.

Article 2

No Member State may refuse to grant EEC type-approval or national type-approval of a vehicle on grounds relating to the installation of lighting and light-signalling devices, whether mandatory or optional, listed in 1.5.7 to 1.5.20 of Annex I if these are installed in accordance with the requirements set out in Annex I.

Article 3

No Member State may refuse or prohibit the sale, registration, entry into service or use of any vehicle on grounds relating to the installation of lighting and light-signalling devices, whether mandatory or optional, listed in 1.5.7 to 1.5.20 of Annex I if these are installed in accordance with the requirements set out in Annex I.

Article 4

A Member State which has granted EEC type-approval shall take the necessary measures to ensure that it is informed of any modification to any of the parts or characteristics referred to in 1.1 of Annex I. The competent authorities of that Member State shall determine whether further tests should be carried out on the modified vehicle type and a fresh report drawn up. Where such tests reveal failure to comply with the requirements of this Directive, the modification shall not be approved.

Article 5

Any amendments necessary to adjust the requirements of the Annexes to take account of technical progress shall be adopted in accordance with the procedure laid down in Article 13 of Directive 70/156/EEC.

Article 6

1. Member States shall adopt and publish the provisions necessary in order to comply with this Directive before 1 July 1977 and shall forthwith inform the Commission thereof.

They shall apply these provisions with effect from 1 October 1977 at the latest. However, until 1 October 1979 Member States may not refuse EEC or national type-approval on grounds relating to the installation of lighting and light-signalling devices, if the requirements of 4.2.6 of Annex I only are not complied with. Where, however, devices mentioned in 4.2.6 are fitted, they shall meet the requirements of that section.

2. Once this Directive has been notified, Member States shall also ensure that the Commission is informed, in sufficient time to enable it to submit its comments of any draft laws, regulations or administrative provisions which they intend to adopt in the field covered by this Directive.

Article 7

This Directive is addressed to the Member States.

Done at Brussels, 27 July 1976.

For the Council

The President

M. van der STOEL

ANNEX I

INSTALLATION OF LIGHTING AND LIGHT-SIGNALLING DEVICES

1. DEFINITIONS

For the purposes of this Directive:

1.1. **Vehicle type with regard to the installation of lighting and light-signalling devices**

'Vehicle type with regard to the installation of lighting and light-signalling devices' means vehicles which do not differ in such essential respects as:

1.1.2. the number and positioning of the devices;

1.1.2. the number and positioning of the devices;

the following are likewise considered not to be 'vehicles of a different type': vehicles which differ within the meaning of 1.1.1 and 1.1.2 but not in such a way as to entail a change in the type, number, positioning and geometric visibility of the lamps prescribed for the vehicle type in question, and vehicles on which optional lamps are fitted or are absent.

1.2. **Transverse plane**

'Transverse plane' means a vertical plane perpendicular to the median longitudinal plane of the vehicle.

1.3. **Unladen vehicle**

Unladen vehicle' means the vehicle in running order, as defined in 2.6 of Annex I, model information document, to Directive 70/156/EEC.

1.4. **Laden vehicle**

'Laden vehicle' means the vehicle loaded to its technically permissible maximum weight, as stated by the manufacturer, who shall also fix the distribution of this weight between the axles in accordance with the method described in Appendix 1.

1.5. **Lamp**

'Lamp' means a device designed to illuminate the road (headlamp) or to emit a light signal. Rear registration plate lamps and reflex reflectors shall likewise be regarded as lamps.

1.5.1. *Equivalent lamps*

'Equivalent lamps' means lamps having the same function and authorized in the country in which the vehicle is registered; such lamps may have different characteristics from those installed on the vehicle when it is approved on condition that they satisfy the requirements of this Annex.

1.5.2. *Independent lamps*

'Independent lamps' means lamps having separate lenses, separate light sources and separate lamp bodies.

1.5.3. *Grouped lamps*

'Grouped lamps' means devices having separate lenses and separate light sources, but a common lamp body.

1.5.4. *Combined lamps*

'Combined lamps' means devices having separate lenses, but a common light source and a common lamp body.

1.5.5. *Reciprocally incorporated lamps*

'Reciprocally incorporated lamps' means devices having separate light sources (or a single light source operating under different conditions), totally or partially common lenses and a common lamp body.

1.5.6. *Concealable illuminating lamp*

'Concealable illuminating lamp' means a headlamp capable of being partly or completely hidden when not in use. This result may be achieved by means of a movable cover, by displacement of the headlamp or by any other suitable means. The term 'retractable' is used more particularly to describe a concealable lamp the displacement of which enables it to be inserted within the bodywork.

1.5.7. *Main-beam headlamp*

'Main-beam headlamp' means the lamp used to illuminate the road over a long distance ahead of the vehicle.

1.5.8. *Dipped-beam headlamp*

'Dipped-Beam headlamp' means the lamp used to illuminate the road ahead of the vehicle without causing undue dazzle or discomfort to oncoming drivers and other road-users.

1.5.9. *Front fog lamp*

'Front fog lamp' means the lamp used to improve the illumination of the road in case of fog, snowfall, rainstorms or dust clouds.

1.5.10. *Reversing lamp*

'Reversing lamp' means the lamp used to illuminate the road to the rear of the vehicle and to warn other road-users that the vehicle is reversing or about to reverse.

1.5.11. *Direction indicator lamp*

'Direction indicator lamp' means the lamp used to indicate to other road-users that the driver intends to change direction to the right or to the left.

1.5.12. *Hazard warning signal*

'Hazard warning signal' means the simultaneous operation of all of a vehicle's direction indicator lamps to draw attention to the fact that the vehicle temporarily constitutes a special danger to other road-users.

1.5.13. *Stop lamp*

'Stop lamp' means the lamp used to indicate to other road-users to the rear of the vehicle that the latter's driver is applying the service brake.

1.5.14. *Rear registration plate lamp*

'Rear registration plate lamp' means the device used to illuminate the space intended to accommodate the rear registration plate; it may consist of different optical elements.

1.5.15. *Front position (side) lamp*

'Front position (side) lamp' means the lamp used to indicate the presence and the width of the vehicle when the latter is viewed from the front.

1.5.16. *Rear position (side) lamp*

'Rear position (side) lamp' means the lamp used to indicate the presence and the width of the vehicle when the latter is viewed from the rear.

1.5.17. *Rear fog lamp*

'Rear fog lamp' means the lamp used to render the vehicle more readily visible from the rear in dense fog.

1.5.18. *Parking lamp*

'Parking lamp' means the lamp used to draw attention to the presence of a stationary vehicle in a built-up area. In such circumstances it replaces the front and rear position (side) lamps.

1.5.19. *End-outline marker lamp*

'End-outline marker lamp' means the lamps fitted to the extreme outer edge as close as possible to the top of the vehicle and intended clearly to indicate the

vehicle's overall width. This signal is intended, for certain vehicles and trailers, to complement the vehicle's front and rear position (side) lamps by drawing particular attention to its bulk.

1.5.20. *Reflex reflector*

'Reflex reflector' means a device used to indicate the presence of a vehicle by the reflection of light emanating from a light source not connected to the vehicle, the observer being situated near the source.

For the purposes of this Directive the following are not considered as reflex reflectors:

— retro-reflecting number plates;
— the retro-reflecting signals mentioned in the ADR;
— other plates and retro-reflecting signals which must be used to comply with a Member State's specifications for use as regards certain categories of vehicles or certain methods of operation.

1.6. Illuminating surface of a lamp

1.6.1. 'Illuminating surface of a lighting device' (1.5.7 to 1.5.10) means the orthogonal projection of the full aperture of the reflector in a transverse plane. If the lamp glass (or glasses) extend(s) over part only of the full aperture of the reflector, then the projection of that part only is taken into account. In the case of a dipped-beam headlamp, the illuminating surface is limited on the side of the cut-off by the apparent projection of the line of the cut-off on to the lens. If the reflector and glass are adjustable, the mean adjustment should be used.

1.6.2. *Illuminating surface of a signalling lamp other than a reflex reflector*

'Illuminating surface of a signalling lamp other than a reflex reflector' (1.5.11 to 1.5.19) means the orthogonal projection of the lamp in a plane perpendicular to its axis of reference and in contact with the exterior light-emitting surface of the lamp, this projection being bounded by the edges of screens situated in this plane, each allowing only 98% of the total luminous intensity of the light to persist in the direction of the axis of reference. To determine the lower, upper and lateral limits of the illuminating surface, only screens with horizontal or vertical edges shall be used.

1.6.3. *Illuminating surface of a reflex reflector*

'Illuminating surface of a reflex reflector' (1.5.20) means the illuminating surface of a reflex reflector in a plane perpendicular to the axis of reference and bounded by planes touching the outer edges of the light projection surface of the reflex reflector and parallel to this axis. To determine the lower, upper and lateral limits of the illuminating surface, only vertical and horizontal planes shall be used.

1.6.4. *Exterior light-emitting surface*

'Exterior light-emitting surface', for a defined direction of observation, means the orthogonal projection of the surface of light emission in a plane perpendicular to the direction of observation (see drawing in Appendix 2).

1.7. Axis of reference

'Axis of reference' means the characteristic axis of the light signal, determined by the manufacturer for use as the direction of reference (H = 0°, V = 0°) for photometric measurements and when fitting the lamp on the vehicle.

1.8. Centre of reference

'Centre of reference' means the intersection of the axis of reference with the exterior light-emitting surface, specified by the manufacturer of the lamp.

1.9. Angles of geometric visibility

'Angles of geometric visibility' means the angles which determine the field of the minimum solid angle in which the exterior light-emitting surface of the lamp must be visible. That field of the solid angle is determined by the segments of a sphere of which the centre coincides with the centre of reference of the lamp and the equator is parallel with the ground. These segments are determined in relation to

the axis of reference. The horizontal angles β correspond to the longitude and the vertical angles α to the latitude. There must be no obstacle on the inside of the angles of geometric visibility to the propagation of light from any part of the exterior light-emitting surface of the lamp. This shall not apply to any obstacles existing at the time when the lamp is approved if approval is required.

1.10. **Extreme outer edge**

'Extreme outer edge' on either side of the vehicle means the plane parallel with the median longitudinal plane of the vehicle and coinciding with its lateral outer edge, disregarding the projection:

1.10.1. of tyres near their point of contact with the ground, and connections for tyre-pressure gauges;

1.10.2. of any anti-skid devices which may be mounted on the wheels;

1.10.3. of rear-view mirrors;

1.10.4. of side direction indicator lamps, end-outline marker lamps, front and rear position (side) lamps and parking lamps;

1.10.5. of customs seals affixed to the vehicle, and devices for securing and protecting such seals.

1.11. **Overall width**

'Overall width' means the distance between the two vertical planes defined in 1.10.

1.12. **A single lamp**

'A single lamp' means any combination of two or more lamps, whether identical or not, having the same function and emitting light of the same colour, if it comprises devices, the projection of whose aggregate light-emitting surfaces in a given transverse plane occupies 60 % or more of the area of the smallest rectangle circumscribing the projections of those light-emitting surfaces, provided that such combination is, where approval is required, approved as a single lamp. This possible combination does not apply to main-beam headlamps, dipped-beam headlamps and front fog lamps.

1.13. **Two lamps or an even number of lamps**

'Two lamps' or 'an even number of lamps' means a single light-emitting surface in the shape of a band if placed symmetrically in relation to the median longitudinal plane of the vehicle and extending on both sides to within not less than 400 mm of the extreme outer edge of the vehicle, and being not less than 800 mm long. The illumination of such a surface shall be provided by not less than two light sources placed as close as possible to its ends. The light-emitting surface may be constituted by a number of juxtaposed elements on condition that the projections of the several individual light-emitting surfaces on the same transverse plane occupy not less than 60 % of the area of the smallest rectangle circumscribing the projections of those individual light-emitting surfaces.

1.14. **Distance between two lamps**

'Distance between two lamps' which face in the same direction, means the distance between the orthogonal projections in a plane perpendicular to the axes of reference of the outlines of the two illuminating surfaces as defined according to the case mentioned in 1.6.

1.15. **Optional lamp**

'Optional lamp' means a lamp the presence of which is left of the discretion of the manufacturer.

1.16. **Operational tell-tale**

'Operational tell-tale' means a light or auditory device showing whether a device that has been actuated is operating correctly or not.

1.17. **Circuit-closed tell-tale**

'Circuit-closed tell-tale' means a light showing that a device has been switched on but not showing whether it is operating correctly or not.

2. APPLICATION FOR EEC TYPE-APPROVAL

2.1. The application for EEC approval of a vehicle type with regard to the installation of its lighting and light-signalling devices shall be submitted by the vehicle manufacturer or his representative.

2.2. It shall be accompanied by the following documents in triplicate, and by the following particulars:

2.2.1. a description of the vehicle type in accordance with the points listed in 1.1, together with the restrictions on loading, particularly the maximum permissible load in the boot;

2.2.2. a list of devices prescribed by the manufacturer for the lighting and light-signalling assembly. The list may include several types of device for each operation. Each type must be duly identified (for example component type-approval mark, name of manufacturer, etc.). The list may also include the following additional particulars in respect of each operation: 'or equivalent devices';

2.2.3. layout drawing of the lighting and light-signalling equipment as a whole, showing the position of the various lamps on the vehicle;

2.2.4. layout drawing(s) for each individual lamp showing the illuminating surfaces as defined in 1.6.

2.3. An unladen vehicle fitted with lighting and light-signalling equipment as described in 2.2.2 and representative of the vehicle type to be approved, must be submitted to the technical authority conducting approval tests.

2.4. The document provided for in Annex II shall be attached to the type-approval document.

3. GENERAL SPECIFICATIONS

3.1. The lighting and light-signalling devices must be so fitted that under normal conditions of use, and notwithstanding any vibration to which they may be subjected, they retain the characteristics laid down in this Annex and enable the vehicle to comply with the requirements of this Annex. In particular, it shall not be possible for the adjustment of the lamps to be inadvertently disturbed.

3.2. The illuminating lamps described in 1.5.7, 1.5.8 and 1.5.9 must be so fitted that a correct setting of their alignment can easily be performed.

3.3. For all light-signalling devices, including those mounted on the side panels, the reference axis of the lamp when fitted to the vehicle must be parallel with the bearing plane of the vehicle on the road; in addition, it must be perpendicular to the median longitudinal plane of the vehicle in the case of side reflex reflectors and parallel to that plane in the case of all other signalling devices. In each direction a tolerance of ±3° shall be allowed. In addition, any specific instructions as regards fitting laid down by the manufacturer must be complied with.

3.4. In the absence of specific requirements, the height and alignment of the lamps shall be checked with the unladen vehicle placed on a flat, horizontal surface.

3.5. In the absence of specific requirements, lamps constituting a pair shall:

3.5.1. be fitted to the vehicle symmetrically in relation to the median longitudinal plane;

3.5.2. be symmetrical to one another in relation to the median longitudinal plane;

3.5.3. satisfy the same colorimetric characteristics;

3.5.4. have substantially identical photometric characteristics.

3.6. On vehicles whose external shape is asymmetrical, the above requirements shall be satisfied as far as possible.

3.7. Lamps having different functions may be independent or be grouped, combined or reciprocally incorporated in one device, provided that each such lamp complies with the requirements applicable to it.

3.8. The maximum height above ground shall be measured from the highest point and the minimum height from the lowest point of the illuminating surface.

3.9. In the absence of specific requirements no lamps other than direction indicator lamps and the hazard warning signal may emit a flashing light.

3.10. No red light shall be visible towards the front and no white light other than that from the reversing lamp shall be visible towards the rear.

This requirement is cosidered to have been met if:

3.10.1. for the visibility of a red light towards the front: there must be no direct visibility of a red light if viewed by an observer moving within Zone 1 in a transverse plane situated 25 m in front of the vehicle (see Appendix 3, figure 1);

3.10.2. for the visibility of a white light towards the rear: there must be no direct visibility of a white light if viewed by an observer moving within Zone 2 in a transverse plane situated 25 m behind the vehicle (see Appendix 3, figure 2).

3.10.3. Zones 1 and 2, as seen by the observer, are limited in their respective planes as follows:

3.10.3.1. as regards height, by two horizontal planes which are 1 and 2·2 m respectively above the ground;

3.10.3.2. as regards width, by two vertical planes which make an angle of 15° towards the front and rear respectively, and outside the vehicle by reference to the median plane of the vehicle, passing through the point (or points) of contacts of vertical planes which are parallel with the median longitudinal plane of the vehicle, and limiting the overall width of the vehicle.

If there are several points of contact, the one which is furthest forward shall correspond to the front plane and the one furthest rearward shall correspond to the rear plane.

3.11. The electrical connections must be such that the front and rear position (side) lamps, the end-outline marker lamps if they exist, and the rear registration plate lamp can only be switched on and off simultaneously.

3.12. The electrical connections must be such that the main-beam and dipped-beam headlamps, and the front and rear fog lamps cannot be switched on unless the lamps referred to in 3.11 are also switched on. This requirement shall not apply, however, to main-beam or dipped-beam headlamps when their luminous warnings consist of the intermittent lighting up at short intervals of the main-beam headlamps or the intermittent lighting up at short intervals of the dipped-beam headlamps or the alternate lighting up at short intervals of the main-beam and dipped beam headlamps.

3.13. The colours of the light emitted by the lamps or reflectors are as follows:

— main-beam headlamp:	white or selective yellow,
— dipped-beam headlamp:	white or selective yellow,
— front fog lamp:	white or yellow,
— reversing lamp:	white,
— direction indicator lamp:	amber,
— hazard warning signal:	amber,
— stop lamp:	red,
— rear registration plate lamp:	white,
— front position (side) lamp:	white; selective yellow is permitted if the front position (side) lamp is incorporated in a selective yellow headlamp,
— rear position (side) lamp:	red,
— rear fog lamp:	red,

— parking lamp:	white in front, red at the rear, amber if incorporated in the side direction indicator lamps,
— end-outline marker lamp:	white in front, red at the rear,
— rear reflex reflector, non-triangular:	red,
— rear reflex reflector, triangular:	red,
— front reflex reflector, non-triangular (1):	identical to incident light,
— side reflex reflector, non-triangular:	amber.

However, as long as all the requirements necessary for obtaining EEC vehicle type-approval do not apply, the choice of the colour of the light emitted by main-beam and dipped-beam headlamps and front fog lamps shall be left to the Member States.

3.14. The function of the circuit-closed tell-tales may be fulfilled by operational tell-tales.

3.15. **Concealable lamps**

3.15.1. The concealment of lamps shall be prohibited, with the exception of the main-beam headlamp, the dipped-beam headlamp and the front fog lamp, which may be concealed when not in use.

3.15.2. An illuminating device in the position of use shall remain in that position if the malfunction referred to in 3.15.2.1 occurs alone or in conjunction with one of the malfunctions described in 3.15.2.2:

3.15.2.1. the absence of power for manipulating the lamp:

3.15.2.2. a break, impedance, or short-circuit to earth in the electrical circuit, defects in the hydraulic or pneumatic leads, Bowden cables, solenoids or other components controlling or transmitting the energy intended to activate the concealment device.

3.15.3. In the event of a defect in the concealment control, a concealed lighting device shall be capable of being moved into the position of use without the aid of tools.

3.15.4. It must be possible to move illuminating devices into the position of use and to switch them on by means of a single control, without excluding the possibility of moving them into the position of use without switching them on. However, in the case of grouped-main-beam and dipped-beam headlamps, the control referred to above is required only to activate the dipped-beam headlamps.

3.15.5. It must not be possible deliberately, from the driver's seat, to stop the movement of switched-on headlamps before they reach the position of use. If there is a danger of dazzling other road users by the movement of headlamps, they may light up only when they have reached their final position.

3.15.6. At temperatures of —30 to +50 °C an illuminating device must be capable of reaching the fully-open position within three seconds of initial operation of the control.

4. INDIVIDUAL SPECIFICATIONS

4.1. **Main-beam headlamp**

4.1.1. *Presence*

Mandatory on motor vehicles.
Prohibited on trailers.

4.1.2. *Number*

Two or four.

4.1.3. *Arrangement*

No individual specifications.

(1) Also known as 'white' or 'colourless' reflector.

4.1.4. *Position*

4.1.4.1. Width:
The outer edges of the illuminating surface must in no case be closer to the extreme outer edge of the vehicle than the outer edges of the illuminating surface of the dipped-beam headlamps.

4.1.4.2. Height:
No individual specifications.

4.1.4.3. Length:
Forward of the front axle of the vehicle, and fitted in such a way that the light, emitted does not cause discomfort to the driver either directly, or indirectly through the rear-view mirrors and/or other reflecting surfaces of the vehicle.

4.1.5. *Geometric visibility*
The visibility of the illuminating surface, including its visibility in areas which do not appear to be illuminated in the direction of observation considered, must be ensured within a divergent space defined by generalting lines based on the perimeter of the illuminating surface and forming an angle of not less than 5° with the axis of reference of the headlamp.

4.1.6. *Alignment*
Towards the front.
Apart from the devices necessary to maintain correct adjustment, and when there are two pairs of headlamps, one pair, consisting of headlamps functioning as main-beam headlamps only may swivel, according to the angle of lock of the steering, about an axis very near the vertical.

4.1.7. *May be 'grouped'*
with the dipped-beam headlamp and the other front lamps.

4.1.8. *May not be 'combined'*
with any other lamp.

4.1.9. *May be 'reciprocally incorporated'*

4.1.9.1. with the dipped-beam headlamp, unless the main-beam headlamp swivels according to the angle of lock of the steering;

4.1.9.2. with the front position (side lamp;

4.1.9.3. with the front fog lamp;

4.1.9.4. with the parking lamp.

4.1.10. *Electrical connections*

4.1.10.1. The main-beam headlamps may be switched on either simultaneously or in pairs. For changing over from the dipped to the main beam at least one pair of main beams must be switched on. For changing over from the main to the dipped beam all main-beam headlamps must be switched off simultaneously.

4.1.10.2. The dipped beams may remain switched on at the same time as the main beams.

4.1.11. *Circuit-closed tell-tale*
Mandatory.

4.1.12. *Other requirements*

4.1.12.1. The aggregate maximum intensity of the headlamp beams which can be switched on simultaneously must not exceed 225 000 cd.

4.1.12.2. This maximum intensity shall be obtained by adding together the individual maximum intensities measured at the time of component type-approval and shown on the relevant approval certificates.

4.2. **Dipped-beam headlamp**

4.2.1. *Presence*

Mandatory on motor vehicles.
Prohibited on trailers.

4.2.2. *Number*

Two.

4.2.3. *Arrangement*

No individual specifications.

4.2.4. *Position*

4.2.4.1. Width:

The edge of the illuminating surface which is farthest from the vehicle's median longitudinal plane must be not more than 400 mm from the extreme outer edge of the vehicle.

The inner edges of the illuminating surfaces must be not less than 600 mm apart.

4.2.4.2. Height:

Above the ground: not less than 500 mm and not more than 1 200 mm.

4.2.4.3. Length:

At the front of the vehicle; this requirement shall be regarded as satisfied if the light emitted does not cause discomfort to the driver either directly, or indirectly through the rear-view mirrors and/or other reflecting surfaces of the vehicle.

4.2.5. *Geometric visibility*

Defined by angles α and β as specified in 1.9:

α = 15° upwards and downwards,

β = 45° outwards and 10° inwards.

Within this field, almost the whole of the light-emitting surface of the lamp must be visible.

The presence of panels or other items of equipment near the light must not give rise to secondary effects causing discomfort to other road users.

4.2.6. *Alignment*

4.2.6.1. The vertical inclination of the dipped beam shall be measured under static conditions and all the loading conditions defined in Appendix 1. In the 'unladen vehicle' state with one person in the driving seat, the initial vertical downwards inclination shall be between 1 and 1·5%. It must then remain between 0·5 and 2·5% without manual adjustment.

The initial adjustment for each type of vehicle must be expressly laid down by the manufacturer and must be indicated on a plate on each vehicle.

4.2.6.2. The preceding condition may be satisfied by means of a device acting on the relative position of the headlamp and the vehicle. In the case of this device failing the beam must not return to a position less inclined downwards than its position at the time of failure of the device.

4.2.6.2.1. The device mentioned in 4.2.6.2 must be automatic.

4.2.6.2.2. Devices which are adjusted manually, either continuously or through a series of positions, shall nevertheless be permitted, provided that they have a stop position where the lamps can be put back to the initial alignment defined in 4.2.6.1 by means of the usual adjusting screws. These manually adjustable devices must be operable from the driving seat. Continuously adjustable devices must have reference marks indicating the main loading conditions.

The number of positions on adjustable devices operating with a series of positions must be such as to ensure compliance, starting from an initial downwards inclination of between 1 and 1·5%, with the range of values between 0·5 and 2·5% for the loading conditions defined in Appendix 1. For these devices, the loading conditions shall be clearly marked near the control of the device.

4.2.7. *May be 'grouped'*

with the main-beam headlamp and the other front lamps.

4.2.8. *May be not 'combined'*
with any other lamp.

4.2.9. *May be 'reciprocally incorporated'*

4.2.9.1. with the main-beam headlamp, unless the latter swivels according to the angle of lock of the steering;

4.2.9.2. with the other front lamps.

4.2.10. *Electrical connections*
The control for changing over to the dipped beam must switch off all main-beam headlamps simultaneously.
The dipped beams may remain switched on at the same time as the main beams.

4.2.11. *Circuit-closed tell-tale*
Optional.

4.2.12. *Other requirements*
The requirements of 3.5.2 shall not apply to dipped-beam headlamps.

4.3. **Front fog lamp**

4.3.1. *Presence*
Optional on motor vehicles.
Prohibited on trailers.

4.3.2. *Number*
Two.

4.3.3. *Arrangement*
No individual specifications.

4.3.4. *Position*

4.3.4.1. Width:
The point on the illuminating surface which is farthest from the vehicle's median longitudinal plane must be not more than 400 mm from the extreme outer edge of the vehicle.

4.3.4.2. Height:
Not less than 250 mm above the ground.
No point on the illuminating surface must be higher than the highest point on the illuminating surface of the dipped-beam headlamp.

4.3.4.3. Length:
At the front of the vehicle: this requirement shall be considered to be satisfied if the light emitted does not cause discomfort to the driver either directly or indirectly through the rear-view mirrors and/or other reflecting surfaces of the vehicle.

4.3.5. *Geometric visibility*
Defined by angles α and β as specified in 1.9:
α = 5° upwards and downwards,
β = 45° outwards and 10° inwards.

4.3.6. *Alignment*
The alignment of the front fog lamps must not vary according to the angle of lock of the steering.
They must be directed forwards without causing undue dazzle or discomfort to oncoming drivers and other road users.

4.3.7. *May be 'grouped'*
with other front lamps.

4.3.8. *May not be 'combined'*
with other front lamps.

4.3.9. *May be 'reciprocally incorporated'*

4.3.9.1. with main-beam headlamps which do not swivel according to the angle of lock of the steering when there are four headlamps;

4.3.9.2. with the front position (side) lamps;

4.3.9.3. with the parking lamp.

4.3.10. *Electrical connections*
It must be possible to switch the fog lamps on and off independently of the main or dipped-beam headlamps and vice versa.

4.3.11. *Circuit-closed tell-tale*
Optional.

4.4. **Reversing lamps**

4.4.1. *Presence*
Mandatory on motor vehicles.

4.4.2. *Number*
One or two.

4.4.3. *Arrangement*
No individual specifications.

4.4.4. *Position*

4.4.4.1. Width:
No individual specifications.

4.4.4.2. Height:
Not less than 250 mm and not more than 1 200 mm above the ground.

4.4.4.3. Length:
At the back of the vehicle

4.4.5. *Geometric visibility*
Defined by angles α and β as specified in 1.9:
α = 15° upwards and 5° downwards,
β = 45° to right and left if there is only one lamp,
β = 45° outwards and 30° inwards if there are two.

4.4.6. *Alignment*
Rearwards.

4.4.7. *May be 'grouped'*
with any other rear lamp.

4.4.8. *May not be 'combined'*
with other lamps.

4.4.9. *May not be 'reciprocally incorporated'*
with other lamps.

4.4.10. *Electrical connections*
It can only light up if the reverse gear is engaged and if the device which controls the starting or stopping of the engine is in such a position that operation of the engine is possible.
It must not light up or remain lit up if either of the above conditions is not satisfied.

4.4.11. *Tell-tale*
Optional.

4.5. **Direction indicator lamp**

4.5.1. *Presence* (see Appendix 4)
Mandatory. Types of direction indicator lamps fall into categories (1, 2 and 5) the assembly of which on one vehicle constitutes an arrangement ('A' and 'B').
Arrangement 'A' shall apply to all motor vehicles.
Arrangement 'B' shall apply to trailers only.

4.5.2. *Number*
The number of devices shall be such that they can emit signals which correspond to one of the arrangements referred to in 4.5.3.

4.5.3. *Arrangement*

A: two front direction indicator lamps (category 1),
two rear direction indicator lamps (category 2),
two repeating side direction indicator lamps (category 5).

B: two rear direction indicator lamps (category 2).

4.5.4. *Position*

4.5.4.1. Width:

The edge of the illuminating surface furthest from the median longitudinal plane of the vehicle must not be more than 400 mm from the extreme outer edge of the vehicle.

The distance between the inner edges of the two illuminating surfaces shall be not less than 600 mm.

Where the vertical distance between the rear direction indicator lamp and the corresponding rear position (side) lamp is not more than 300 mm, the distance between the extreme outer edge of the vehicle and the outer edge of the rear direction indicator lamp must not exceed by more than 50 mm the distance between the extreme outer edge of the vehicle and the outer edge of the corresponding rear position (side) lamp.

For front direction indicator lamps the illuminating surface must be not less than 40 mm from the illuminating surface of the dipped-beam headlamps or front fog lamps, if any. A smaller distance is permitted if the luminous intensity in the reference axis of the direction indicator lamp is equal to at least 400 cd.

4.5.4.2. Height:

Above the ground: not less than 500 mm for direction indicator lamps in category 5;

not less than 350 mm for direction indicator lamps in categories 1 and 2;

not more than 1 500 mm for all categories.

If the structure of the vehicle makes it impossible to keep to this maximum figure, the highest point on the illuminating surface may be at 2 300 mm in the case of direction indicator lamps in category 5 and at 2 100 mm in the case of direction indicator lamps in categories 1 and 2.

4.5.4.3. Length:

The distance between the centre of reference of the illuminating surface of the side indicator (arrangement 'A') and the transverse plane which marks the forward boundary of the vehicle's overall length, shall not exceed 1 800 mm. If the structure of the vehicle makes it impossible to comply with the minimum angles of visibility, this distance may be increased to 2 500 mm if the vehicle is equipped in conformity with arrangement 'A'.

4.5.5. *Geometric visibility*

Horizontal angles: see Appendix 4.

Vertical angles: 15° above and below the horizontal. The vertical angle below the horizontal may be reduced to 5° in the case of side direction indicator lamps of arrangement 'A' if they are less than 750 mm above the ground.

4.5.6. *Alignment*

If individual specifications for installation are laid down by the manufacturer they must be observed.

4.5.7. *May be 'grouped'*

with one or more lamps.

4.5.8. *May not be 'combined'*

with another lamp.

4.5.9. *May be 'reciprocally incorporated'*

with a parking lamp only.

4.5.10. *Electrical connections*

Direction indicator lamps shall switch on independently of the other lamps. All direction indicator lamps on one side of a vehicle shall be switched on and off by means of one control and must flash in phase.

4.5.11. *Operational tell-tale*

Mandatory for all direction indicator lamps not directly visible to the driver. It may be optical or auditory or both.

If it is optical, it shall be a flashing light which, in the event of the malfunction of any of the direction indicator lamps other than the repeating side direction indicator lamps, is either extinguished, or remains alight without flashing, or shows a marked change of frequency. If it is entirely auditory, it shall be clearly audible and shall show a marked change of frequency in the event of any malfunction.

If a motor vehicle is equipped to draw a trailer, it must be equipped with a special optical operational tell-tale for the direction indicator lamps on the trailer unless the tell-tale of the drawing vehicle allows the failure of any one of the direction indicator lamps on the vehicle combination thus formed to be detected.

4.5.12. *Other requirements*

The light shall be a flashing light flashing 90 ± 30 times per minute. Operation of the light-signal control shall be followed within not more than one second by the appearance of the light and within not more than one and one-half seconds by its first extinction.

If a motor vehicle is authorized to draw a trailer, the control of the direction indicator lamps on the drawing vehicle shall also operate the indicator lamps of the trailer.

In the event of failure, other than a short-circuit, of one direction indicator lamp, the others must continue to flash but the frequency under this condition may be different from that specified.

4.6. **Hazard warning signal**

4.6.1. *Presence*

Mandatory.

4.6.2.	*Number*	As specified in the corresponding headings of 4.5.
4.6.3.	*Arrangement*	
4.6.4.	*Position*	
4.6.4.1.	Width	
4.6.4.2.	Height	
4.6.4.3.	Length	
4.6.5.	*Geometric visibility*	
4.6.6.	*Alignment*	
4.6.7.	*May/may not be 'grouped'*	
4.6.8.	*May/may not be 'combined'*	
4.6.9.	*May/may not be 'reciprocally incorporated'*	

4.6.10. *Electrical connections*

The signal shall be operated by means of a separate control enabling all the direction indicator lamps to function in phase.

4.6.11. *Circuit-closed tell-tale*

Mandatory. Flashing warning light, which can operate in conjunction with the tell-tale(s) specified in 4.5.11.

4.6.12. *Other requirements*

As specified in 4.5.12. If a motor vehicle is equipped to draw a trailer the hazard warning signal control must be also capable of bringing the direction indicator lamps on the trailer into action. The hazard warning signal must be able to function even if the device which starts or stops the engine is in a position which makes it impossible to start the engine.

4.7. **Stop lamps**

4.7.1. *Presence*

Mandatory.

4.7.2. *Number*

Two.

4.7.3. *Arrangement*

No individual specifications.

4.7.4. *Position*

4.7.4.1. Width:

Not less than 600 mm apart. This distance may be reduced to 400 mm if the overall width of the vehicle in less than 1 300 mm.

4.7.4.2. Height:

Above the ground: not less than 350 mm, not more than 1 500 mm or not more than 2 100 mm if the shape of the bodywork makes it impossible to keep within 1 500 mm.

4.7.4.3. Length:

At rear of vehicle.

4.7.5. *Geometric visibility*

Horizontal angle: 45° outwards and inwards.

Vertical angle: 15° above and below the horizontal.
The vertical angle below the horizontal may be reduced to 5° in the case of lamps less than 750 mm above the ground.

4.7.6. *Alignment*

Towards the rear of the vehicle.

4.7.7. *May be 'grouped'*

with one or more other rear lamps.

4.7.8. *May not be 'combined'*

with another lamp.

4.7.9. *May be 'reciprocally incorporated'*

with the rear position (side) lamp or the parking lamp.

4.7.10. *Electrical connections*

Must light up when the service brake is applied.

4.7.11. *Operational tell-tale*

Optional. If it exists, it should be a non-flashing warning light which comes on in the event of the malfunctioning of the stop lamps.

4.7.12. *Other requirements*

The luminous intensity of the stop lamps shall be markedly greater than that of the rear position (side) lamps.

4.8.	**Rear registration plate lamp**	
4.8.1.	*Presence* Mandatory	
4.8.2.	*Number*	Such that the device is capable of illuminating the space for the registration plate.
4.8.3.	*Arrangement*	
4.8.4.	*Position*	
4.8.4.1.	Width	
4.8.4.2.	Height	
4.8.4.3.	Length	
4.8.5.	*Geometric visibility*	
4.8.6.	*Alignment*	
4.8.7.	*May be 'grouped'* with one or more rear lamps.	
4.8.8.	*May be 'combined'* with the rear position (side) lamps.	
4.8.9.	*May not be 'reciprocally incorporated'* with any other lamp.	
4.8.10.	*Electrical connections* The device shall light up only at the same time as the rear position (side) lamps.	
4.8.11.	*Circuit-closed tell-tale* Optional. If it exists, its function should be carried out by the tell-tale required for the front and rear position (side) lamps.	
4.9.	**Front position (side) lamps**	
4.9.1.	*Presence* Mandatory on all motor vehicles. Mandatory on trailers over 1 600 mm wide. Optional on trailers which are not more than 1 600 mm wide.	
4.9.2.	*Number* Two.	
4.9.3.	*Arrangement* No individual specifications.	
4.9.4.	*Position*	
4.9.4.1.	Width: The point on the illuminating surface which is farthest from the vehicle's median longitudinal plane must not be more than 400 mm from the extreme outer edge of the vehicle. In the case of a trailer, the point on the illuminating surface which is farthest from the median longitudinal plane must be not more than 150 mm from the extreme outer edge of the vehicle. The clearance between the respective inner edges of the two illuminating surfaces must not be less than 600 mm.	
4.9.4.2.	Height: Above the ground: not less than 350 mm, not more than 1 500 mm or not more than 2 100 mm if the shape of the bodywork makes it impossible to keep within 1 500 mm.	
4.9.4.3.	Length: At front of vehicle.	

4.9.5. *Geometric visibility*

Horizontal angle for the two front position (side) lamps:
either 45° inwards and 80° outwards,
or 80° inwards and 45° outwards.

Vertical angle:
15° above and below the horizontal. The vertical angle below the horizontal may be reduced to 5° in the case of lamps less than 750 mm above the ground.

4.9.6. *Alignment*

Towards the front.

4.9.7. *May be 'grouped'*

with any other front lamp.

4.9.8. *May not be "combined'*

with any other lamps.

4.9.9. *May be 'reciprocally incorporated'*

with any other front lamp.

4.9.10. *Electrical connections*

No individual specifications.

4.9.11. *Tell-tale*

Mandatory. This tell-tale shall be non-flashing and shall not be required if the instrument panel lighting can only be turned on simultaneously with the front position (side) lamps.

4.10. **Rear position (side) lamps**

4.10.1. *Presence*

Mandatory.

4.10.2. *Number*

Two.

4.10.3. *Arrangement*

No individual specifications.

4.10.4. *Position*

4.10.4.1. Width:

The point on the illuminating surface which is farthest from the vehicle's median longitudinal plane must be not more than 400 mm from the extreme outer edge of the vehicle.
The distance between the inner edges of the two illuminating surfaces shall be not less than 600 mm. This distance may be reduced to 400 mm where the overall width of the vehicle is less than 1 300 mm.

4.10.4.2. Height:

Above the ground: not less than 350 mm, not more than 1 500 mm or not more than 2 100 mm if the shape of the bodywork makes it impossible to keep within 1 500 mm.

4.10.4.3. Length:

At rear of vehicle.

4.10.5. *Geometric visibility*

Horizontal angle for the two rear position (side) lamps:
either 45° inwards and 80° outwards,
or 80° inwards and 45° outwards.

Vertical angle:
15° above and below the horizontal. The vertical angle below the horizontal may be reduced to 5° in the case of lamps less than 750 mm above the ground.

4.10.6. *Alignment*

Towards the rear.

4.10.7. *May be 'grouped'*

with any other rear lamp.

4.10.8. *May be 'combined'*
with the rear registration plate lamp.

4.10.9. *May be 'reciprocally incorporated'*
with the stop lamp or the rear fog lamp or the parking lamp.

4.10.10. *Electrical connections*
No individual specifications.

4.10.11. *Circuit-closed tell-tale*
Mandatory.
It must be combined with that of the front position (side) lamps.

4.11. **Rear fog lamp**

4.11.1. *Presence*
Mandatory.

4.11.2. *Number*
One, a second being optional.

4.11.3. *Arrangement*
No individual specifications.

4.11.4. *Position*

4.11.4.1. Width:
If there is only one rear fog lamp it must be on the opposite side of the median longitudinal plane of the vehicle to the direction of traffic prescribed in the country of registration.
In all cases the distance between the rear fog lamp and the stop lamp must be greater than 100 mm.

4.11.4.2. Height:
Between 250 and 1 000 mm above the ground.

4.11.4.3. Length:
At rear of vehicle.

4.11.5. *Geometric visibility*
Horizontal angle: 25° inwards and outwards.
Vertical angle: 5° above and below the horizontal.

4.11.6. *Alignment*
Towards the rear.

4.11.7. *May be 'grouped'*
with any other rear lamps.

4.11.8. *May not be 'combined'*
with other lamps.

4.11.9. *May be 'reciprocally incorporated'*
with the rear position (side) lamp or the parking lamp.

4.11.10. *Electrical connections*
Must be such that the rear fog lamp can light up only when the dipped-beam headlamps or the front fog lamps are in use.
If there are front fog lamps, it must be possible to extinguish the rear fog lamp independently of the front fog lamps.

4.11.11. *Circuit-closed tell-tale*
Mandatory. An independent, fixed-intensity warning light.

4.12. **Parking lamp**

4.12.1. *Presence*
on motor vehicles not exceeding 6 m in length and not exceeding 2 m in width: optional;
on all other vehicles: prohibited.

4.12.2. *Number*

Dependent upon the arrangement.

4.12.3. *Arrangement*

— either two front lamps and two rear lamps,
— or one lamp on each side.

4.12.4. *Position*

4.12.4.1. Width:

The point on the illuminating surface which is farthest from the median longitudinal plane of the vehicle must not be more than 400 mm from the extreme outer edge of the vehicle.
Furthermore, in the case of a pair of lamps, the lamps must be on the sides of the vehicle.

4.12.4.2. Height:

Above the ground: not less than 350 mm;
not more than 1 500 mm, or 2 100 mm if the shape of the bodywork makes it impossible to keep within 1 500 mm.

4.12.4.3. Length:

No individual specifications.

4.12.5. *Geometric visibility*

Horizontal angle: 45° outwards, towards the front and towards the rear.

Vertical angle: 15° above and below the horizontal. The vertical angle below the horizontal may be reduced to 5° in the case of lamps less than 750 mm above the ground.

4.12.6. *Alignment*

Such that the lamps meet the specified conditions concerning visibility towards the front and towards the rear.

4.12.7. *May be 'grouped'*

with any other lamp.

4.12.8. *May not be 'combined'*

with other lamps.

4.12.9. *May be 'reciprocally incorporated'*

— at the front: with the front position (side) lamp, the dipped-beam headlamp, the main-beam headlamp and the fog lamp;
— at the rear: with the rear position (side) lamp, the stop lamp and the fog lamp;
— with the category 5 direction indicator lamp.

4.12.10. *Electrical connections*

The connection must allow the parking lamp(s) on the same side of the vehicle to be lit independently of any other lamps.

4.12.11. *Tell-tale*

Optional. If there is one, it must not be possible to confuse it with the tell-tale for the front and rear position (side) lamps.

4.12.12. *Other requirements*

The function of this lamp may also be performed by simultaneously switching on the front and rear position (side) lamps on the same side of the vehicle.

4.13. **End-outline marker lamp**

4.13.1. *Presence*

Mandatory on vehicles exceeding 2·10 m in width.

4.13.2. *Number*

Two visible from the front and two visible from the rear.

4.13.3. *Arrangement*
No individual specifications.

4.13.4. *Position*

4.13.4.1. Width:
As close as possible to the extreme outer edge of the vehicle.

4.13.4.2. Height:
At the maximum height compatible with the width requirements as to position and the symmetry of the lamps.

4.13.4.3. Length:
No individual specifications.

4.13.5. *Geometric visibility*
Horizontal angle: 80° outwards.
Vertical angle: 5° above and 20° below the horizontal.

4.13.6. *Alignment*
Such that the lamps meet the visibility requirements towards the front and towards the rear.

4.13.7. *May not be 'grouped'*
4.13.8. *May not be 'combined'*
4.13.9. *May not be 'reciprocally incorporated'*
} with other lamps.

4.13.10. *Electrical connections*
No individual specifications.

4.13.11. *Tell-tale*
Optional.

4.13.12. *Other requirements*
Subject to all the other conditions being met, the lamp visible from the front and the lamp visible from the rear, on the same side of the vehicle, may be combined in one device.
The position of an end-outline marker lamp in relation to the corresponding position (side) lamp shall be such that the distance between the projections on a transverse vertical plane of the points nearest to the illuminating surfaces of the two lamps considered is not less than 200 mm.

4.14. **Rear reflex reflector, non-triangular**

4.14.1. *Presence*
Mandatory on motor vehicles.
Prohibited on trailers.

4.14.2. *Number*
Two.

4.14.3. *Arrangement*
No individual specifications.

4.14.4. *Position*

4.14.4.1. Width:
The point on the illuminating surface which is farthest from the vehicle's median longitudinal plane must be not more than 400 mm from the extreme outer edge of the vehicle.
The distance between the inner edges of the reflex reflectors shall not be less than 600 mm. This distance may be reduced to 400 mm if the overall width of the vehicle is less than 1 300 mm.

4.14.4.2. Height:
Above the ground: not less than 350 mm and not more than 900 mm.

4.14.4.3. Length:
No individual specifications.

4.14.5. *Geometric visibility*
Horizontal angle: 30° inwards and outwards.
Vertical angle: 15° above and below the horizontal. The vertical angle below the horizontal may be reduced to 5° in the case of a reflex reflector less than 750 mm above the ground.

4.14.6. *Alignment*
To the rear.

4.14.7. *May be 'grouped'*
with any other lamp.

4.14.8. *Other requirements*
The illuminating surface of the reflex reflector may have parts in common with the illuminating surface of any other rear lamp.

4.15. **Rear reflex reflector, triangular**

4.15.1. *Presence*
Mandatory on trailers.
Prohibited on motor vehicles.

4.15.2. *Number*
Two.

4.15.3. *Arrangement*
The apex of the triangle must be uppermost.

4.15.4. *Position*

4.15.4.1. Width:
The point of the illuminating surface which is furthest from the vehicle's median longitudinal plane must not be further than 400 mm from the extreme outer edge of the vehicle.
The distance between the inner edges of the reflex reflectors shall not be less than 600 mm. This distance may be reduced to 400 mm if the overall width of the vehicle is less than 1 300 mm.

4.15.4.2. Height:
Above the ground: not less than 350 mm and not more than 900 mm.

4.15.4.3. Length:
No individual specifications.

4.15.5. *Geometric visibility*
Horizontal angle: 30° inwards and outwards.
Vertical angle: 15° above and below the horizontal. The vertical angle below the horizontal may be reduced to 5° in the case of a reflex reflector less than 750 mm above the ground.

4.15.6. *Alignment*
To the rear.

4.15.7. *May not be 'grouped'*
with any other lamp.

4.15.8. *Other requirements*
No lamp may be placed within the triangle.

4.16. **Front reflex reflector, non-triangular**

4.16.1. *Presence*
Mandatory on trailers.

4.16.2. *Number*
Two.

4.16.3. *Arrangement*
No individual specifications.

4.16.4. *Position*

4.16.4.1. Width:
The point of the illuminating surface which is furthest from the vehicle's median longitudinal plane must not be further than 400 mm from the extreme outer edge of the vehicle.
In the case of a trailer, the point of the illuminating surface which is furthest from the vehicle's median longitudinal plane must not be further than 150 mm from the extreme outer edge of the vehicle.
The distance between the inner edges of the reflex reflectors shall not be less than 600 mm. This distance may be reduced to 400 mm if the overall width of the vehicle is less than 1 300 mm.

4.16.4.2. Height:
Above the ground: not less than 350 mm and not more than 900 mm, or 1 500 mm if the structure of the vehicle makes it impossible to keep within 900 mm.

4.16.4.3. Length:
No individual specifications.

4.16.5. *Geometric visibility*

Horizontal angle:	30° inwards and outwards.
Vertical angle:	15° above and below the horizontal. The vertical angle below the horizontal may be reduced to 5° in the case of a reflex reflector less than 750 mm above the ground.

4.16.6. *Alignment*
Towards the front.

4.16.7. *May be 'grouped'*
with the front position (side) lamp.

4.16.8. *Other requirements*
The illuminating surface of the reflex reflector may have parts in common with that of the front position (side) lamp.

4.17. **Side reflex reflector, non-triangular**

4.17.1. *Presence*
Mandatory:
— on all motor vehicles the length of which exceeds 6 m, except those in category M_1,
— on all trailers.
Optional:
— on motor vehicles in category M_1,
— on motor vehicles, other than those in category M_1, the length of which does not exceed 6 m.

4.17.2. *Minimum number per side*
Such that the rules for longitudinal positioning are complied with.

4.17.3. *Arrangement*
No individual specifications.

4.17.4. *Position*

4.17.4.1. Width:
No individual specifications.

4.17.4.2. Height:

Above the ground: not less than 350 mm and not more than 900 mm. If the structure of the vehicle does not allow of compliance with the maximum height, this limit may be raised to 1 500 mm.

4.17.4.3. Length:

At least one reflex reflector must be fitted to the middle third of the vehicle, the foremost reflex reflector being no further than 3 m from the front, and in the case of trailers, inclusive of the drawbar.

The distance between two adjacent reflex reflectors may not exceed 3 m.

The distance between the rearmost reflex reflector and the rear of the vehicle may not exceed 1 m.

4.17.5. *Geometric visibility*

Horizontal angle: 45° to the front and to the rear.

Vertical angle: 15° above and below the horizontal. The vertical angle below the horizontal may be reduced to 5° in the case of a reflex reflector less than 750 mm above the ground.

4.17.6. *Alignment*

The reference axis of the reflex reflector must be horizontal and perpendicular to the vehicle's median longitudinal plane and directed outwards.

4.17.7. *May be 'grouped'*

with other lamps.

5. CONFORMITY OF PRODUCTION

5.1. Every series-produced vehicle must conform to the vehicle type which received type-approval as regards the installation of lighting and light-signalling devices and their characteristics as specified by this Directive.

Appendix 1

Loading conditions on axles referred to in 4.2.6.1

1. For the following tests, the mass of the passengers shall be calculated on the basis of 75 kg per person.

2. Loading conditions for different types of vehicles:

2.1. Vehicles in category M_1.

2.1.1. The angle of the light beam of the dipped-beam headlamps shall be determined under the following load conditions:

2.1.1.1. one person in the driver's seat;

2.1.1.2. the driver, plus one passenger in the front seat farthest from the driver;

2.1.1.3. the driver, one passenger in the front seat farthest from the driver, all the seats farthest to the rear occupied;

2.1.1.4. all the seats occupied;

2.1.1.5. all the seats occupied, plus an evenly distributed load in the luggage boot, in order to obtain the permissible load on the rear axle or on the front axle if the boot is at the front. If the vehicle has a front and a rear boot, the additional load must be appropriately distributed in order to obtain the permissible axle loads. However, if the maximum permissible laden weight is obtained before the permissible load on one of the axles, the loading of the boot(s) shall be limited to the figure which enables that weight to be reached;

2.1.1.6. driver, plus an evenly distributed load in the boot, in order to obtain the permissible load on the corresponding axle.
However, if the maximum permissible laden weight is obtained before the permissible load on the axle, the loading of the boot(s) shall be limited to the figure which enables that weight to be reached.

2.1.2. In determining the above loading conditions, account must be taken of any loading restrictions laid down by the manufacturer.

2.2. Vehicles in categories M_2 and M_3.
The angle of the light beam from the dipped-beam headlamps must be determined under the following loading conditions:

2.2.1. vehicle unladen;

2.2.2. vehicle laden in such a way that each of the axles carries its technically permissible load.

2.3. Vehicles in category N with load surfaces.

2.3.1. The angle of the light beam from the dipped-beam headlamps must be determined under the following loading conditions:

2.3.1.1. vehicle unladen;

2.3.1.2. one person in the driver's seat, the load being distributed in order to obtain the maximum technically permissible load on the rear axle and the unladen weight on the front axle. The procedure is the same if the load surface is situated at the front.

2.4. Vehicles in category N without load surface.

2.4.1. Drawing vehicles for semi-trailers:

2.4.1.1. unladen vehicle without a load on the coupling attachment;

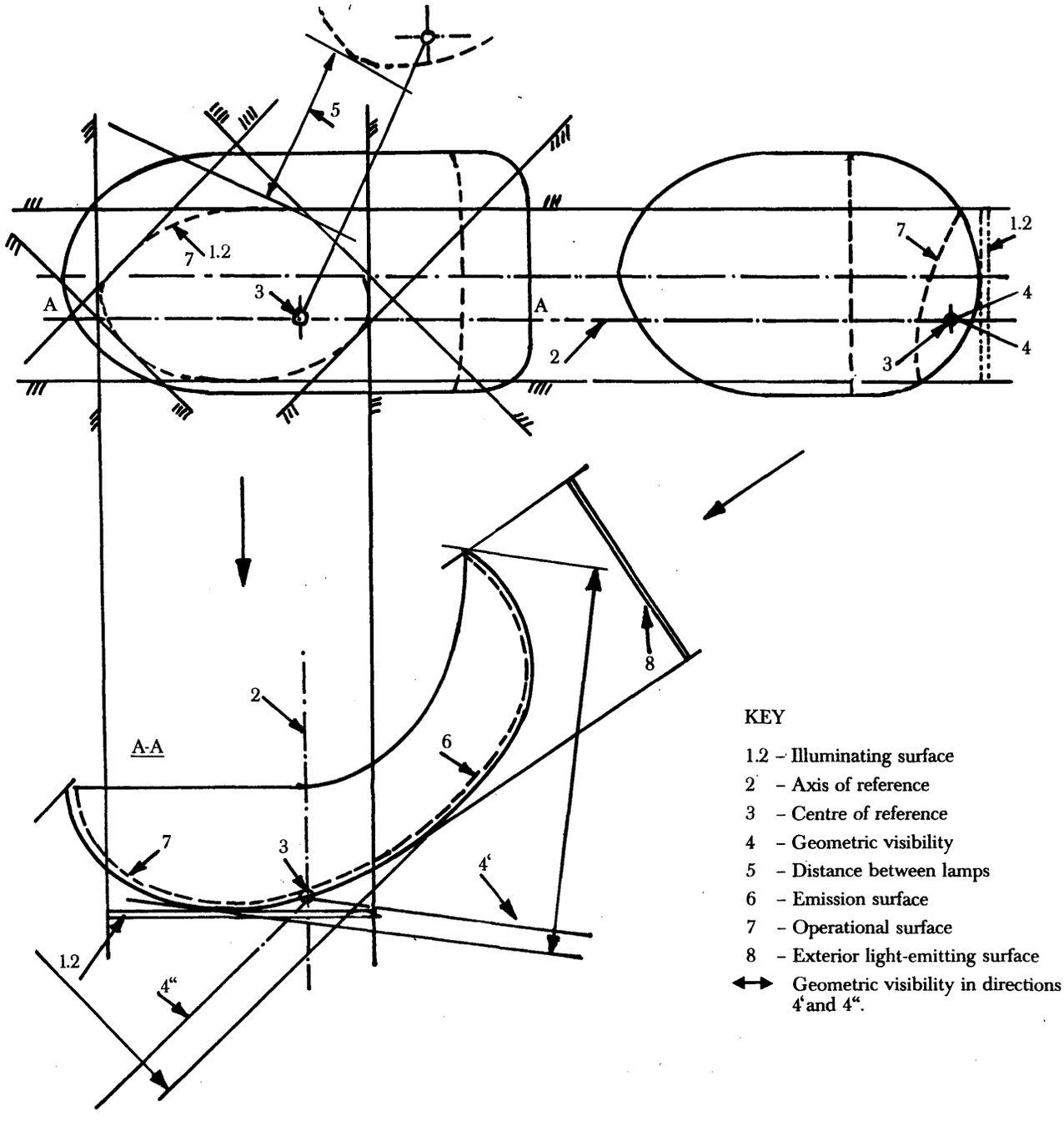
2.4.1.2. one person in the driver's seat; technically permissible load on the coupling attachment in the position of the attachment corresponding to the highest load on the rear axle.

2.4.2. Drawing vehicles for trailers:

2.4.2.1. vehicle unladen;

2.4.2.2. one person in the driver's seat, all the other places in the driving cabin being occupied.

Appendix 2



KEY

1.2 – Illuminating surface
2 – Axis of reference
3 – Centre of reference
4 – Geometric visibility
5 – Distance between lamps
6 – Emission surface
7 – Operational surface
8 – Exterior light-emitting surface
↔ Geometric visibility in directions 4' and 4".

Appendix 3

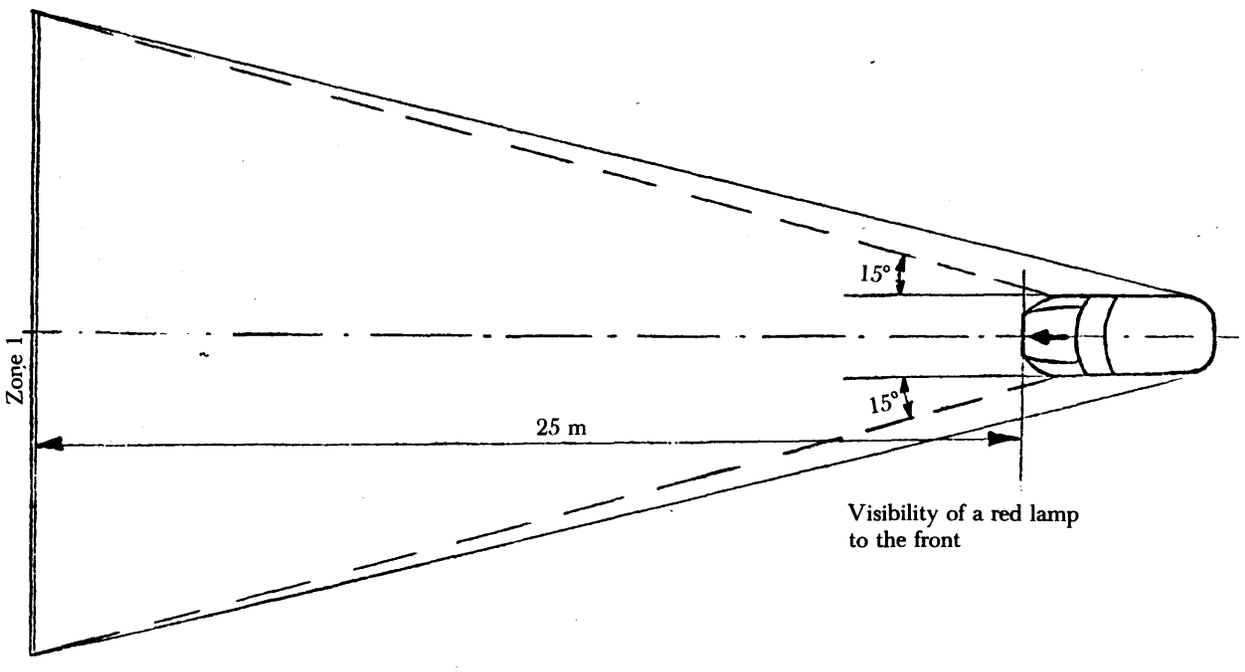


Figure 1

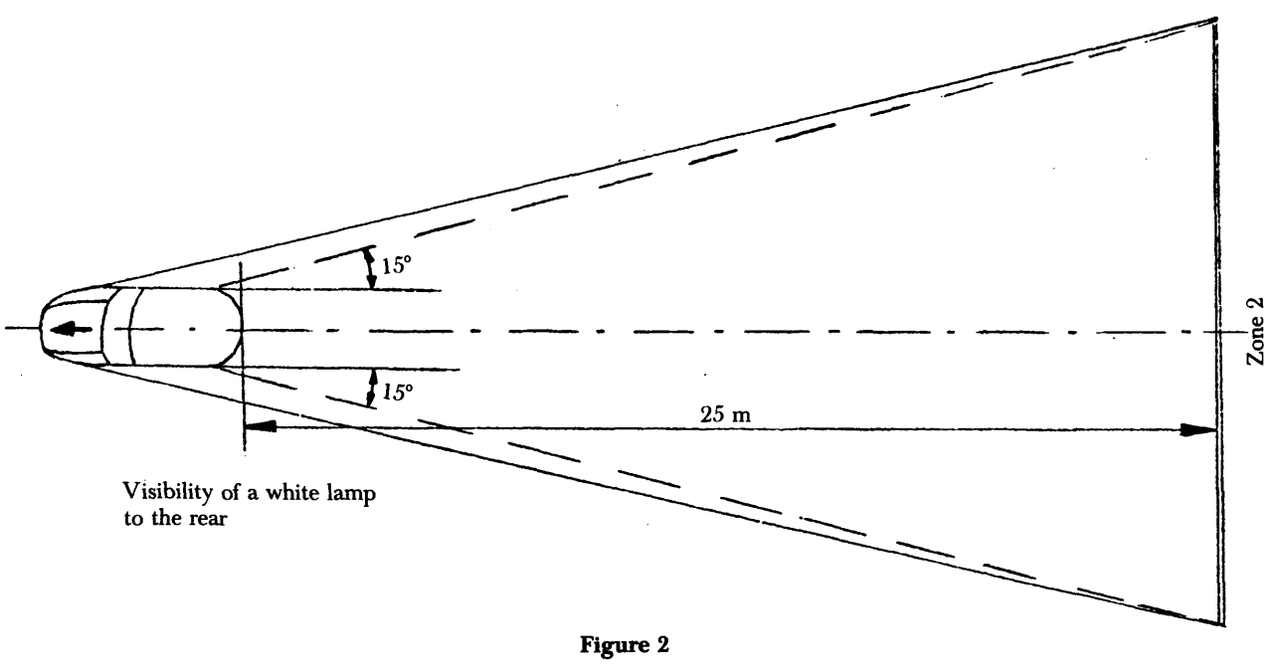
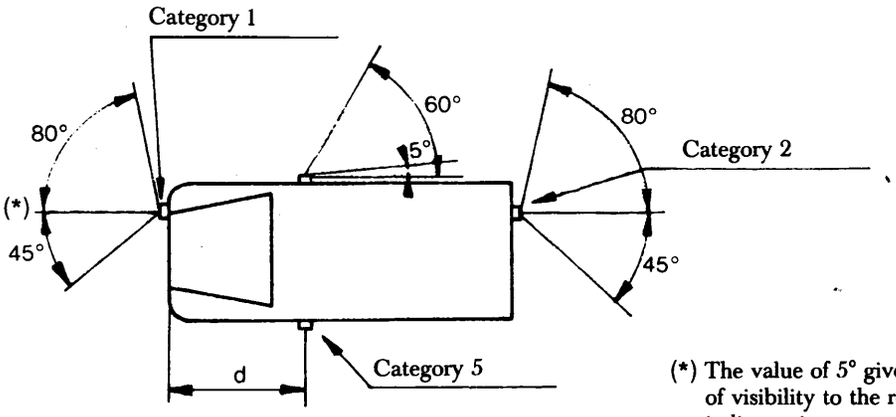


Figure 2

Appendix 4

DIRECTION INDICATOR LAMP
ANGLES OF GEOMETRIC VISIBILITY

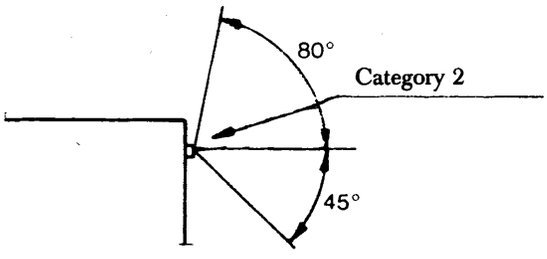
Arrangement A (*)



(*) The value of 5° given for the dead angle of visibility to the rear of the repeating side indicator is an upper limit.

$d \leq 1{\cdot}80$ m.

Arrangement B



ANNEX II

MODEL

Name of administration

ANNEX TO THE EEC TYPE-APPROVAL CERTIFICATE FOR A VEHICLE TYPE WITH REGARD TO THE INSTALLATION OF LIGHT-SIGNALLING DEVICES

(Articles 4 (2) and 10 of Council Directive 70/156/EEC of 6 February 1970 on the approximation of the laws of the Member States relating to the type-approval of motor vehicles and their trailers)

EEC type-approval No.....

1. Make (trade name) .....
2. Vehicle type and commercial description classification .....
.....
3. Manufacturer's name and address .....
.....
4. If applicable, name and address of manufacturer's representative .....
.....
5. Lighting equipment installed on the vehicle submitted for approval (1) .....
5.1. Main-beam headlamps: yes/no (*)
5.2. Dipped-beam headlamps: yes/no (*)
5.3. Front fog-lamps: yes/no (*)
5.4. Reversing lamps: yes/no (*)
5.5. Front direction indicator lamps: yes/no (*)
5.6. Rear direction indicator lamps: yes/no (*)
5.7. Repeating side indicator lamps: yes/no (*)
5.8. Hazard warning device: yes/no (*)
5.9. Stop lamps: yes/no (*)
5.10. Rear registration plate lamp: yes/no (*)
5.11. Front position (side) lamps: yes/no (*)
5.12. Rear position (side) lamps: yes/no (*)
5.13. Rear fog lamps: yes/no (*)
5.14. Parking lamps: yes/no (*)
5.15. End-outline marker lamps: yes/no (*)
5.16. Rear reflex reflectors, non-triangular: yes/no (*)
5.17. Rear reflex reflectors, triangular: yes/no (*)

(1) Annex the lay-out drawings for the vehicle, as mentioned in 2.2.3 of Annex I to Council Directive 76/756/EEC of 27 July 1976 on the approximation of the laws of the Member States relating to the installation of lighting and light-signalling devices on motor vehicles and their trailers.
(*) Delete where inapplicable.

5.18. Front reflex reflectors, non-triangular: yes/no (*)

5.19. Side reflex reflectors, non-triangular: yes/no (*)

5.20. Loading restrictions

6. Equivalent lamps: yes/no (*) (see 15) .....

.....

7. Vehicle submitted for approval on .....

8. Technical service conduction the EEC type-approval tests .....

.....

9. Date of report issued by that service .....

.....

10. Number of report issued by that service .....

11. EEC type-approval with regard to the lighting and light-signalling devices is granted/ refused (*)

12. Place .....

13. Date .....

14. Signature .....

15. The following document, bearing the type-approval mark indicated above, is annexed to this type-approval certificate:

.....List(s) of devices presented by the manufacturer for the lighting and light-signalling assembly; for each device the manufacturer's mark and the component type-approval mark are indicated.

This (these) list(s) include(s) a schedule of equivalent lamps (*).

16. Remarks .....

(*) Delete where inapplicable.

COUNCIL DIRECTIVE

of 27 July 1976

on the approximation of the laws of the Member States relating to reflex reflectors for motor vehicles and their trailers

(76/757/EEC)

THE COUNCIL OF THE EUROPEAN COMMUNITIES,

Having regard to the Treaty establishing the European Economic Community, and in particular Article 100 thereof,

Having regard to the proposal from the Commission,

Having regard to the opinion of the European Parliament (1),

Having regard to the opinion of the Economic and Social Committee (2),

Whereas the technical requirements which motor vehicles must satisfy pursuant to national laws relate *inter alia* to their reflex reflectors;

Whereas those requirements differ from one Member State to another; whereas it is therefore necessary that all Member States adopt the same requirements either in addition to or in place of their existing rules in order, in particular, to allow the EEC type-approval procedure, which was the subject of Council Directive 70/156/EEC of 6 February 1970 on the approximation of the laws of the Member States relating to the type-approval of motor vehicles and their trailers (3), to be introduced in respect of each type of vehicle;

Whereas, in Directive 76/756/EEC (4), the Council laid down common requirements for the installation of lighting and light-signalling devices on motor vehicles and their trailers;

Whereas a harmonized type-approval procedure for reflectors makes it possible for each Member State to check compliance with the common construction and testing requirements and to inform the other Member States of its findings by sending a copy of the component type-approval certificate completed for each type of reflex reflector; whereas the placing of an EEC component type-approval mark on all reflex reflectors manufactured in conformity with the approved type obviates any need for technical checks on these reflex reflectors in the Member States;

Whereas it is desirable to take into account the technical requirements adopted by the UN Economic Commission for Europe in its Regulation No 3 ('Uniform provisions for the approval of reflex reflecting devices for motor vehicles') (5), which is annexed to the Agreement of 20 March 1958 concerning the adoption of uniform conditions for approval and reciprocal recognition of approval for motor vehicle equipment and parts;

Whereas the approximation of national laws relating to motor vehicles entails reciprocal recognition by Member States of the checks carried out by each of them on the basis of the common requirements,

HAS ADOPTED THIS DIRECTIVE:

Article 1

1. Each Member State shall grant EEC component type-approval for any type of reflex reflector which satisfies the construction and testing requirements laid down in Annexes 0, I, III, V, VI, VII, VIII, IX, X, XI and XII.

2. The Member State which has granted EEC component type-approval shall take the measures required in order verify that production models conform to the approved type, in so far as this is necessary and if need be in cooperation with the competent authorities in the other Member States. Such verification shall be limited to spot checks.

Article 2

Member States shall, for each type of reflex reflector which they approve pursuant to Article 1, issue to the

(1) OJ No C 55, 13. 5. 1974, p. 14.
(2) OJ No C 109, 19. 9. 1974, p. 26.
(3) OJ No L 42, 23. 2. 1970, p. 1.
(4) See page 1 of this Official Journal.

(5) Economic Commission for Europe, Document E/ECE/324 / E/ECE/TRANS/505 } Addendum 2.

manufacturer, or to his authorized representative, an EEC component type-approval mark conforming to the model shown in Annex III.

Member States shall take all appropriate measures to prevent the use of marks liable to create confusion between reflex reflectors which have been type-approved pursuant to Article 1, and other devices.

Article 3

1. No Member State may prohibit the placing on the market of reflex reflectors on grounds relating to their construction or method of functioning if they bear the EEC component type-approval mark.

2. Nevertheless, a Member State may prohibit the placing on the market of reflex reflectors bearing the EEC component type-approval mark which consistently fail to conform to the approved type.

That State shall forthwith inform the other Member States and the Commission of the measures taken, specifying the reasons for its decision.

Article 4

The competent authorities of each Member State shall within one month send to the competent authorities of the Member States a copy of the component type-approval certificates, an example of which is given in Annex II, completed for each type of reflex reflector which they approve or refuse to approve.

Article 5

1. If the Member State which has granted EEC component type-approval finds that a number of reflex reflectors bearing the same EEC component type-approval mark do not conform to the type which it has approved, it shall take the necessary measures to ensure that production models conform to the approved type. The competent authorities of that State shall advise those of the other Member States of the measures taken which may, where there is consistent failure to conform, extend to withdrawal of EEC component type-approval. The said authorities shall take the same measures if they are informed by the competent authorities of another Member State of such failure to conform.

2. The competent authorities of the Member States shall within one month inform each other of any withdrawal of EEC component type-approval and of the reasons for such a measure.

Article 6

Any decision taken pursuant to the provisions adopted in implementation of this Directive, to refuse or withdraw type-approval for a reflex reflector or prohibit its placing on the market or use shall set out in detail the reasons on which it is based. Such decision shall be notified to the party concerned, who shall at the same time be informed of the remedies available to him under the laws in force in the Member States and of the time limits allowed for the exercise of such remedies.

Article 7

No Member State may refuse to grant EEC type-approval or national type-approval of a vehicle on grounds relating to its reflex reflectors if these bear the EEC component type-approval mark and are fitted in accordance with with the requirements laid down in Directive 76/756/EEC.

Article 8

No Member State may refuse or prohibit the sale, registration, entry into service or use of any vehicle on grounds relating to its reflex reflectors if these bear the EEC component type-approval mark and are fitted in accordance with the requirements laid down in Directive 76/756/EEC.

Article 9

For the purposes of this Directive, 'vehicle' means any motor vehicle intended for use on the road, with or without bodywork, having at least four wheels and a maximum design speed exceeding 25 km/h, and its trailers, with the exception of vehicles which run on rails, agricultural tractors and machinery and public works vehicles.

Article 10

Any amendments necessary to adjust the requirements of the Annexes to take account of technical progress shall be adopted in accordance with the procedure laid down in Article 13 of Directive 70/156/EEC.

Article 11

1. Member States shall adopt and publish the provisions necessary in order to comply with this

Directive before 1 July 1977 and shall forthwith inform the Commission thereof. They shall apply these provisions from 1 October 1977 at the latest.

2. Once this Directive has been notified, the Member States shall also ensure that the Commission is informed, in sufficient time for it to submit its comments, of any draft laws, regulations or administrative provisions which they propose to adopt in the field covered by this Directive.

Article 12

This Directive is addressed to the Member States.

Done at Brussels, 27 July 1976.

For the Council

The President

M. van der STOEL

List of Annexes

(*) The technical requirements of this Annex are similar to those of Regulation No 3 of the Economic Commission for Europe. In particular, the breakdown into sections is the same. For this reason, where a section of Regulation No 3 has no counterpart in this Directive, its number is given in brackets for the record.

ANNEX 0

DEFINITIONS, CONFORMITY OF PRODUCTION, GENERAL SPECIFICATIONS, SPECIAL SPECIFICATIONS

(1.)

2. DEFINITIONS

2.1. The definitions of the technical terms used in this Directive are given in Annex I.

2.2. A type of reflex reflector is defined by the models and descriptive literature submitted with the application for EEC component type-approval. Reflex reflectors may be considered as belonging to a type if they have one or more 'reflex reflecting optical units' which are identical with those of the standard model of that type, and if their other parts differ from those of the standard model only in ways not affecting the properties to which this Directive applies.

2.3. Reflex reflectors are divided into two classes according to their photometric characteristics: 'Class I' and 'Class III' (see 4.3 of Annex III).

(3.)

(4.)

5. CONFORMITY OF PRODUCTION

5.1. Every device bearing an EEC component type-approval mark must conform to the type approved under that mark. The competent authority issuing the EEC component type-approval mark shall retain two samples which together with the EEC component type-approval certificate shall serve to establish whether reflex reflectors put on the market bearing the EEC component type-approval mark satisfy this condition.

(5.2.)

(5.3.)

6. GENERAL SPECIFICATIONS

6.1. Reflex reflectors must be so constructed that they function satisfactorily under normal conditions of use. In addition, they must not have any defect in design or manufacture which is detrimental to their efficient operation or maintenance in good condition.

6.2. The components of reflex reflectors must not be capable of being easily dismantled.

6.3. The optical units of reflex reflectors must not be replaceable.

6.4. The outer surface of reflex reflectors must be easy to clean. Hence it must not be a rough surface. It may however, have protuberances, provided cleaning remains easy.

7. SPECIAL SPECIFICATIONS (TESTS)

7.1. Reflex reflectors must also satisfy the conditions as to dimensions and shape, and the colorimetric, photometric, physical and mechanical requirements set forth in Annexes VI to XII.

7.2. Depending on the nature of the materials of which the reflex reflectors and in particular their optical units are made, the competent authorities may authorize laboratories to omit certain unnecessary tests, subject to the express reservation that such omission must be mentioned under 'Remarks' on the EEC component type-approval certificate.

ANNEX I

DEFINITIONS OF TECHNICAL TERMS

I.1. REFLEX REFLECTION

'Reflex reflection' means reflection in which light is reflected in directions close to the direction from which it came. This property is maintained over wide variations of the illumination angle.

I.2. REFLEX REFLECTING OPTICAL UNIT

'Reflex reflecting optical unit' means the combination of optical components producing reflex reflection.

I.3. REFLEX REFLECTOR

'Reflex reflector' means a device used to indicate the presence of a vehicle by the reflection of light emanating from a light source not connected to the vehicle, the observer being situated near the source.

For the purposes of this Directive, the following are not considered as reflex reflectors:

— retro-reflecting number plates;

— the retro-reflecting signals mentioned in the ADR;

— other plates and retro-reflecting signals which must be used to comply with a Member State's specifications for use as regards certain categories of vehicles or certain methods of operation.

I.4. ILLUMINATING SURFACE OF A REFLEX REFLECTOR

'Illuminating surface of a reflex reflector' means the illuminating surface of a reflex reflector in a plane perpendicular to the axis of reference and bounded by planes touching the outer edges of the light projection surface of the reflex reflector and parallel to this axis. To determine the lower, upper and lateral limits of the illuminating surface, only vertical and horizontal planes shall be used.

I.5. AXIS OF REFERENCE

'Axis of reference' means the characteristic axis of the light signal, determined by the manufacturer for use as the direction of reference ($H = 0°$, $V = 0°$) for photometric measurements and when fitting the reflex reflector to the vehicle.

I.6. CENTRE OF REFERENCE

'Centre of reference' means the intersection of the axis of reference with the exterior light-emitting surface, specified by the manufacturer of the reflex reflector.

I.7. ANGLE OF DIVERGENCE

'Angle of divergence' means the angle between the straight lines connecting the centre of reference to the centre of the receiver and to the centre of the source of illumination.

I.8. ILLUMINATION ANGLE

'Illumination angle' means the angle between the axis of reference and the straight line connecting the centre of reference to the centre of the source of illumination.

I.9. ANGLE OF ROTATION

'Angle of rotation' means the angle through which the reflex reflector is rotated about its axis of reference starting from one given position.

I.10. ANGULAR DIAMETER OF THE REFLEX REFLECTOR

'Angular diameter of the reflex reflector' means the angle subtended by the greatest dimension of the visible area of the illuminating surface, either at the centre of the source of illumination or at the centre of the receiver.

I.11. ILLUMINATION OF THE REFLEX REFLECTOR

'Illumination of the reflex reflector' means the illumination measured in a plane perpendicular to the incident rays and passing through the centre of reference.

I.12. COEFFICIENT OF LUMINOUS INTENSITY (CIL)

'Coefficient of luminous intensity' means the luminous intensity reflected in the direction considered, divided by the illumination of the reflex reflector for given angles of illumination, divergence and rotation.

Appendix 1

SYMBOLS AND UNITS

A = Area of the illuminating surface of the reflex reflector (cm^2)

C = Centre of reference.

NC = Axis of reference.

Rr = Receiver, observer or measuring device.

Cr = Centre of receiver.

Ør = Diameter of receiver Rr if circular (cm).

Se = Source of illumination.

Cs = Centre of source of illumination.

Øs = Diameter of source of illumination (cm).

De = Distance from centre Cs to centre C (m).

D'e = Distance from centre Cr to centre C (m).

Note: De and D'e are generally very nearly the same and under normal conditions of observation it shall be assumed that De = D'e.

D = Observation distance from and beyond which the illuminating surface appears to be continuous.

α = Angle of divergence.

= Illumination angle. With respect to the line CsC which is always considered to be horizontal, this angle is prefixed with signs — (left), + (right), + (up) or — (down), according to the position of the source Se in relation to the axis NC, as seen when looking towards the reflex reflector.

For any direction defined by two angles, vertical and horizontal, the vertical angle is always given first.

γ = Angular diameter of the measuring device Rr as seen from point C.

δ = Angular diameter of the source Se as seen from point C.

ε = Angle of rotation. This angle is positive when the rotation is clockwise as seen when looking towards the illuminating surface.

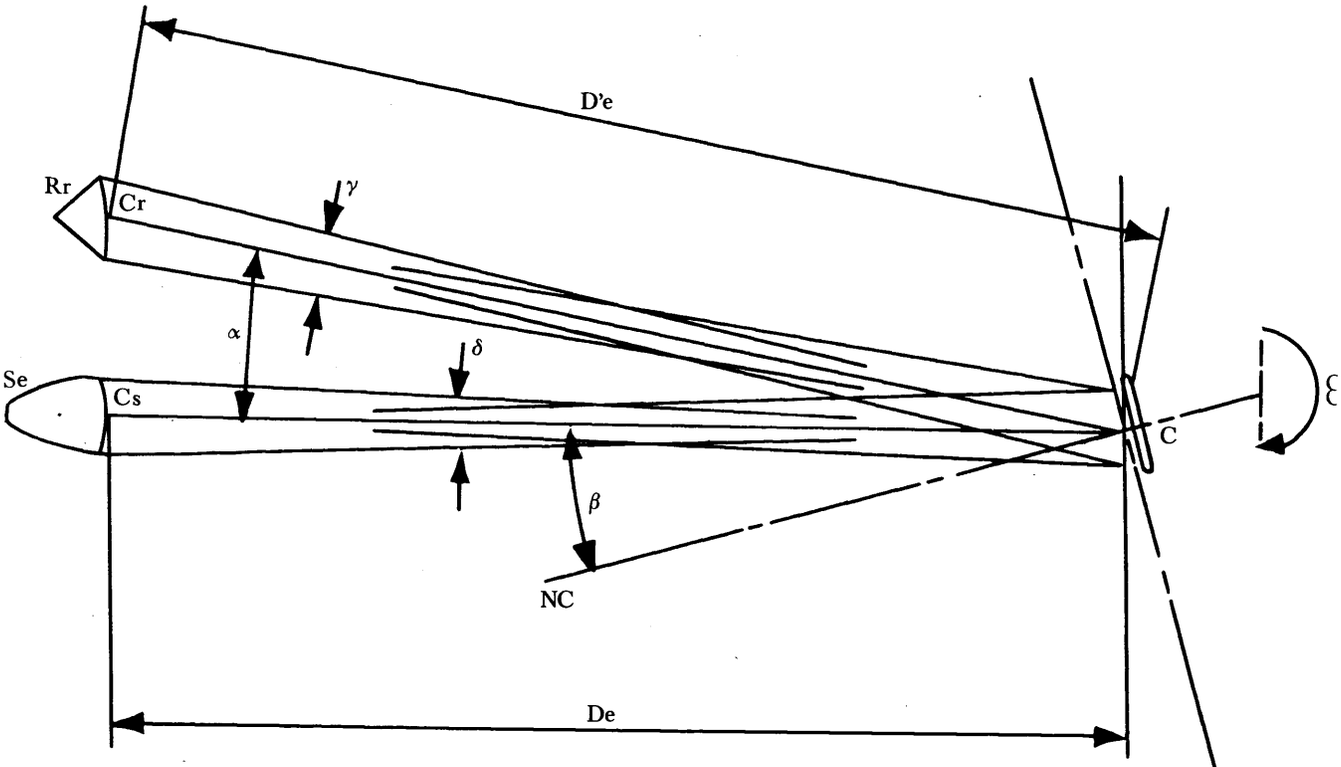
If the reflex reflector is marked 'TOP', the position thus indicated is taken as the origin.

E = Illumination of the reflex reflector (lux).

CIL = Coefficient of luminous intensity (millicandelas/lux). Angles are expressed in degrees and minutes.

Appendix 2

SYMBOLS



ELEVATION

ANNEX II

MODEL EEC COMPONENT TYPE-APPROVAL CERTIFICATE
(Maximum format: A4 (210×297 mm))

Name of administration

Notification concerning the granting, refusal, or withdrawal of EEC component type-approval or the granting, refusal, or withdrawal of an extension of the EEC component type-approval for a type of reflex reflector

Component type-approval No .....

1. Trade name or mark .....
2. Name and address of manufacturer .....
   .....
3. If applicable, name and address of manufacturer's authorized representative .....
   .....
4. Submitted for EEC component type-approval on .....
5. Technical service conducting EEC component type-approval tests .....
6. Date of report issued by that service .....
7. Number of report issued by that service .....
8. Extension of EEC component type-approval: amber/colourless (*)
9. Date of granting/refusal/withdrawal of EEC component type-approval (*)
   .....
10. Date of granting/refusal/withdrawal of extension of EEC component type-approval (*) .....
    .....
11. Single EEC component type-approval granted on the basis of 3.3 of Annex III for a lighting and light-signalling device comprising several lamps, and in particular .....
    .....
    .....
12. Date of refusal/withdrawal of single EEC component type-approval (*) .....
    .....
13. Place .....
14. Date .....
15. Signature .....
16. The following documents bearing the EEC component type-approval number indicated above are appended hereto:
    .....
    .....
17. Remarks .....
    .....
    .....

(*) Delete where inapplicable.

ANNEX III

EEC COMPONENT TYPE-APPROVAL AND MARKING REQUIREMENTS

1. APPLICATION FOR EEC COMPONENT TYPE-APPROVAL

1.1. The application for EEC component type-approval shall be submitted by the holder of the trade name or mark or by his authorized representative.

1.2. In the case of each type of reflex reflector, the application shall be accompanied by:

1.2.1. a brief description of the technical specifications of the materials constituting the reflex reflecting optical unit;

1.2.2. drawings (three copies) in sufficient detail to permit identification of the type, showing geometrically the position in which the reflex reflector is to be fitted to the vehicle. The drawings shall indicate the intended position of the component type-approval number and the additional symbol in relation to the rectangle surrounding the EEC component type-approval mark;

1.2.3. samples of the reflex reflector in red. The number of samples to be submitted is indicated in Annex V;

1.2.4. possibly, two amber and/or colourless samples for situations where component type-approval is to be simultaneously or subsequently extended to amber and/or colourless devices.

2. MARKINGS

2.1. Reflex reflectors submitted for EEC component type-approval must bear:

— the trade name or mark of the applicant, which must be clearly legible and indelible,

— the mark or marks 'TOP', appearing horizontally at the top of the illuminating surface, if required to determine unequivocally the angle or angles of rotation specified by the manufacturer.

2.2. Each reflex reflector shall have sufficient space for the EEC component type-approval mark. This space shall be indicated on the drawings referred to in 1.2.2.

3. EEC COMPONENT TYPE-APPROVAL

3.1. If all the samples submitted in accordance with section 1 meet the requirements of sections 6 and 7 of Annex 0, EEC component type-approval shall be granted and a component type-approval number issued.

3.2. This number shall not be allocated to any other type of reflex reflector except where EEC component type-approval is extended to another type differing only in colour.

3.3. If EEC component type-approval is requested for a type of lighting and light-signalling device comprising a reflex reflector and other lamps, a single EEC component type-approval mark may be allocated provided that the reflex reflector complies with the requirements of this Directive and that each of the other lamps forming part of the type of lighting and light-signalling device for which EEC component type-approval is requested, complies with the specific Directive applying to it.

4. MARKS

4.1. Every reflex reflector conforming to a type approved pursuant to this Directive shall bear an EEC component type-approval mark.

4.2. This mark shall consist of a rectangle surrounding the lower case letter 'e', followed by the distinguishing letter(s) or number of the Member State which has granted the component type-approval:

1 for Germany,

2 for France,

3 for Italy,

4 for the Netherlands,

6 for Belgium,

11 for the United Kingdom,

13 for Luxembourg,

DK for Denmark,

IRL for Ireland.

It must also include the EEC component type-approval number which corresponds to the number of the EEC component type-approval certificate issued for the type of reflex reflector in question.

4.3. The EEC component type-approval mark must be supplemented by the additional symbol, consisting of the roman numeral I or III indicative of the class in which the reflex reflector is classified when EEC component type-approval is granted.

4.4. The EEC component type-approval number must be placed in any convenient position near the rectangle surrounding the letter 'e'.

4.5. The EEC component type-approval mark and the additional symbol shall be affixed to the lens of the lamp or one of the lenses in such a way as to be indelible and clearly legible even when the reflex reflectors are fitted on the vehicle.

4.6. An example of the EEC component type-approval mark together with the additional symbol is shown in the Appendix.

4.7. Where a single EEC component type-approval number is issued, as under 3.3, for a type of lighting and light-signalling device comprising a reflex reflector and other lamps, a single EEC component type-approval mark may be affixed, consisting of:

— a rectangle surrounding the letter 'e', followed by the distinguishing letter(s) or number of the Member State which has granted the component type-approval,

— an EEC component type-approval number,

— the additional symbols required by the various Directives under which EEC component type-approval was granted.

4.8. The dimensions of the various components of this mark must not be less than the largest of the minimum dimensions specified for individual markings by the various Directives under which the EEC component type-approval was granted.

Appendix

EXAMPLE OF EEC COMPONENT TYPE-APPROVAL MARK

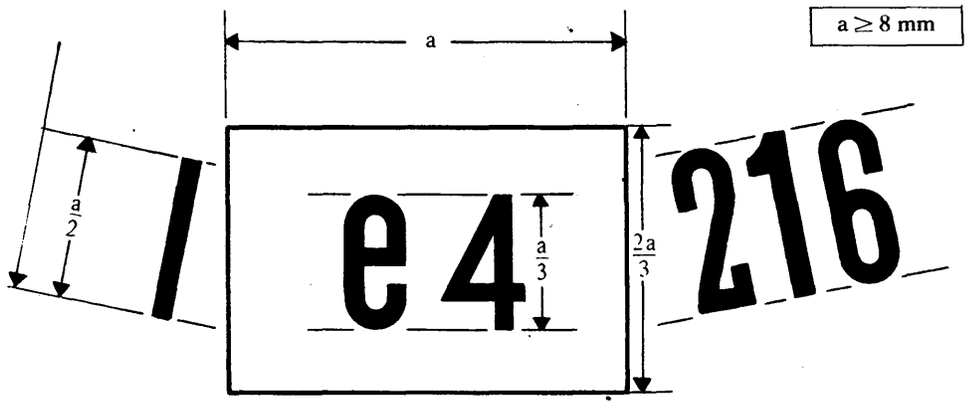


Figure 1

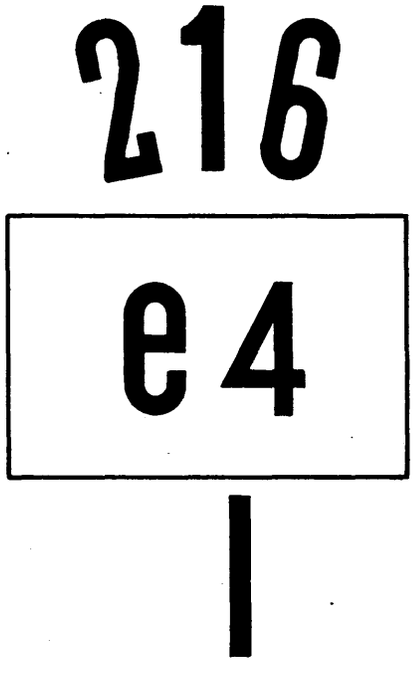


Figure 2

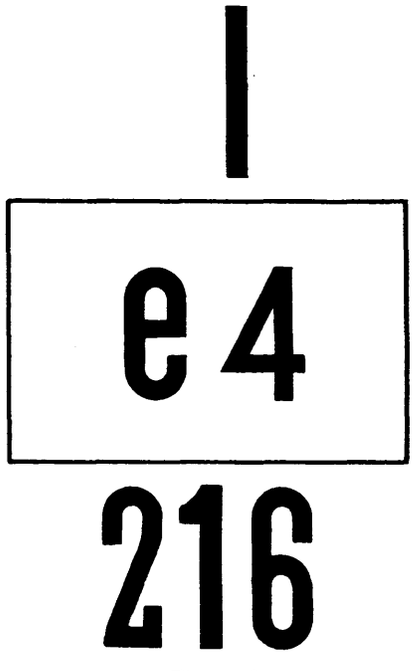


Figure 3

The reflex reflector bearing the EEC component type-approval mark shown above is a Class I reflector EEC type-approved in the Netherlands (4) under the number 216.

(ANNEX IV)

ANNEX V

TEST PROCEDURE

V.1. The applicant shall submit 10 samples for EEC component type-approval.

V.2. After verification of the general specifications (section 6 of Annex 0) and the specifications of shape and dimensions (Annex VI), the 10 samples shall be examined as to their colorimetric characteristics (Annex VII) and CIL (Annex VIII) for an angle of divergence of 20′ and an illumination angle V = H = 0° or if necessary, in the position defined in VIII.4 and VIII.4.1. The two reflex reflectors giving the minimum and maximum values shall then be fully tested as shown in VIII.3. These two samples shall be kept by the laboratories as provided in 5.1 of Annex 0 for any further checks which may be found necessary. The other eight samples shall be divided into four groups of two:

First group — The two samples are subjected to the water penetration test (IX.1) and then, if the result of this test is satisfactory, to the tests for resistance to motor fuels and lubricants (IX.3 and IX.4).

Second group — The two samples are, if necessary, subjected to the corrosion test (IX.2) and then to the resistance test for the reverse side of the reflex reflector (IX.5). The same two samples are then subjected to the heat test (Annex XI).

Third group — The two samples are subjected to the test for stability of the optical properties with ageing (Annex X).

Fourth group — The two samples are subjected to the colour-fastness test (Annex XII).

V.3. After undergoing the tests referred to in V.2, the reflex reflectors in each group must have:

3.1. a colour which satisfies the conditions laid down in Annex VII. This shall be verified by a qualitative method, and, in case of doubt, confirmed by a quantitative method;

3.2. a CIL which satisfies the conditions laid down in Annex VIII and after the test reaches at least 60% of the value previously obtained with the same sample. The test shall be made only with an angle of divergence of 20′ and an illumination angle of V = H = 0° or, if necessary, in the position defined in VIII.4 and VIII.4.1.

ANNEX VI

SPECIFICATIONS OF SHAPE AND DIMENSIONS

VI.1. SHAPE AND DIMENSIONS OF REFLEX REFLECTORS IN CLASS I

1.1. The illuminating surfaces of reflex reflectors in Class I must be capable of being inscribed within a circle 200 mm in diameter.

1.2. The shape of the illuminating surfaces must be simple and not easily confused with a letter, figure or triangle at normal observation distances.

1.3. As an exception to 1.2, a shape resembling the simply formed letters or figures 0, I, U or 8 is permissible.

VI.2. SHAPE AND DIMENSIONS OF REFLEX REFLECTORS IN CLASS III

2.1. The illuminating surfaces of reflex reflectors in Class III must have the shape of an equilateral triangle. If the word 'TOP' is inscribed in one angle, this means that that angle must form the apex of the triangle.

2.2. The illuminating surface may or may not have at its centre a triangular, non-reflecting area, the sides of which are parallel to those of the outer triangle.

2.3. The illuminating surface may or may not be continuous. In any case, the shortest distance between two adjacent reflex reflecting optical units must not exceed 15 mm.

2.4. The illuminating surface of a reflex reflector shall be considered to be continuous if the edges of the illuminating surfaces of adjacent separate optical units are parallel and if the said optical units are evenly distributed over the whole solid surface of the triangle.

2.5. If the illuminating surface is not continuous, the number of separate reflex reflecting optical units may not be less than four on each side of the triangle including the corner units.

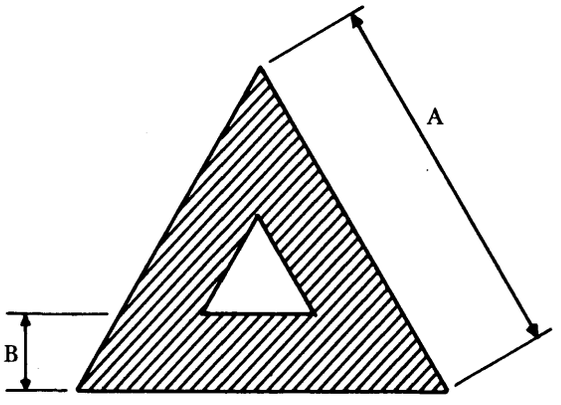
2.5.1. The separate reflex reflecting optical units must not be replaceable unless they consist of approved reflex reflectors in Class I.

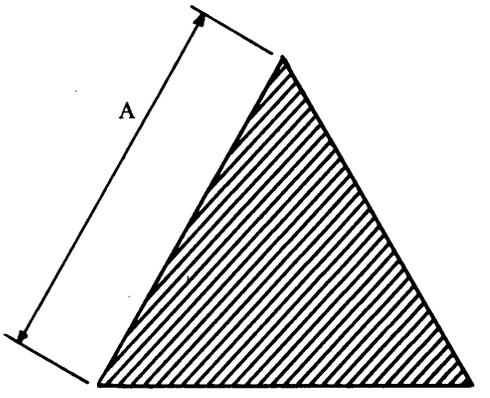
2.6. The outside edges of the illuminating surfaces of triangular reflex reflectors in Class III must be between 150 and 200 mm long. In the case of hollow-type devices, the minimum width of the sides, measured at right angles to them, shall be at least 20% of the effective length between the extremities of the illuminating surfaces.

VI.3. Compliance with the above specifications may where appropriate be visually established.

Appendix

REFLEX REFLECTORS FOR TRAILERS – CLASS III

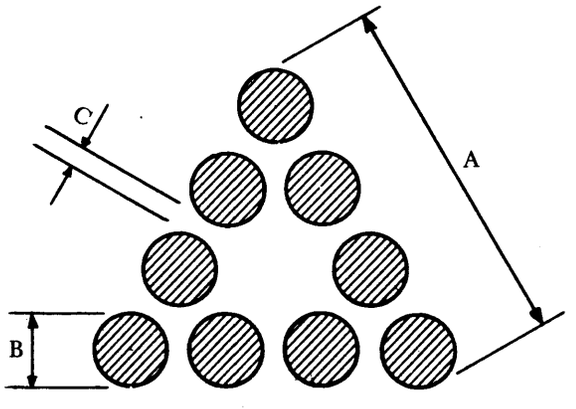


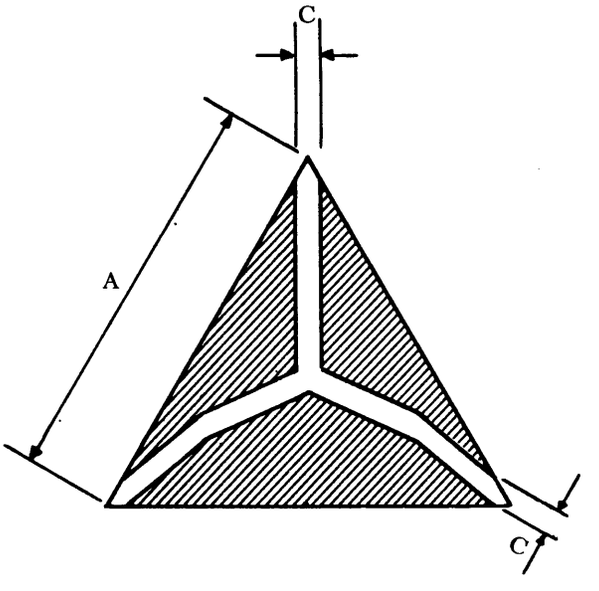


$150\ mm \leqslant A \leqslant 200\ mm$

$B \geqslant \frac{A}{5}$

$C \leqslant 15\ mm$





Note: These sketches are given as examples.

ANNEX VII

COLORIMETRIC SPECIFICATIONS

VII.1. These specifications shall apply only to colourless, red or amber reflex reflectors.

1.1. Reflex reflectors may consist of a combined reflex reflecting optical unit and filter, which must be so designed that they cannot be separated under normal conditions of use.

1.2. The colouring of reflex reflecting optical units and filters by means of paint or varnish is not permitted.

VII.2. When the reflex reflector is illuminated by CIE standard illuminant A, with an angle of divergence of 20′ and an illumination angle V = H = 0°, or, if this produces a colourless surface reflection, an angle V = ± 5°, H = 0°, the trichromatic coordinates of the reflected luminous flux must be within the following limits:

RED:	limit towards yellow:	$y \leq 0{\cdot}335$,
	limit towards purple:	$z \leq 0{\cdot}008$.
AMBER:	limit towards yellow:	$y \leq 0{\cdot}429$,
	limit towards red:	$y \geq 0{\cdot}398$,
	limit towards white:	$z \leq 0{\cdot}007$.

2.1. In the case of red and amber, compliance with the colorimetric specifications shall be verified by a visual comparison test.

2.2. If any doubt remains after this test, compliance with the colorimetric specifications shall be verified by determining the trichromatic coordinates of the most doubtful sample.

VII.3. Colourless reflex reflectors must not produce a selective reflection; that is to say, the trichromatic coordinates 'x' and 'y' of the standard illuminant A used to illuminate the reflex reflector must not undergo a change of more than 0·01 after reflection by the reflex reflector.

3.1. This shall be verified by the visual comparison test indicated in 2.1 the control field being illuminated by a light source of which the trichromatic coordinates differ by 0·01 from that of standard illuminant A.

3.2. In case of doubt, the trichromatic coordinates for the sample with the greatest selective reflection shall be determined.

ANNEX VIII

PHOTOMETRIC SPECIFICATIONS

VIII.1. When applying for EEC component type-approval, the applicant shall specify the axis of reference. This corresponds to the illumination angle V = H = 0° in the table of coefficients of luminous intensity (CIL).

VIII.2. For photometric measurements, only the illuminating surface contained within a circle of 120 mm diameter for Class I shall be considered, and the illuminating surface itself shall be limited to 100 cm² for Class I although the surface of the reflex reflecting optical units need not necessarily attain this area. The manufacturer shall specify the perimeter of the area to be used. In the case of Class III, the whole of the illuminating surfaces shall be considered without limitation as to size.

VIII.3. The CIL values for red reflex reflectors must be not less than those in the table below expressed in millicandelas per lux, for the angles of divergence and illumination shown:

Class	Angle of divergence α	Illumination angles β			
		vert ical V horizontal H	0° 0°	+ and —10° 0°	+ and —5° + and —20°
I	20′ 1° 30′		100 5	50 2·5	50 2·5
(II)					
III	20′ 1° 30′		150 7·5	75 3·75	75 3·75

CIL values lower than those shown in the last two columns of the above table are not permissible within the solid angle having the reference centre as its apex and bounded by the planes intersecting along the following lines:

(V = + and — 10°, H = 0°) (V = + and — 5°, H = + and — 20°)

VIII.4. When the CIL of a reflex reflector is measured for an angle β of V = H = 0°, it shall be ascertained whether any mirror effect is produced by slightly turning the device. If there is any such effect, a reading shall be taken with an angle β of V = between —5 and + 5 , H = 0°. The position adopted shall be that corresponding to the minimum CIL for one of these positions.

4.1. With an illumination angle β of V = H = 0°, or the angle specified in VIII.4, and an angle of divergence of 20′, reflex reflectors which are not marked 'TOP' shall be rotated about their axes of reference to the position of minimim CIL, which must conform to the value specified in VIII.3. When the CIL is measured for the other angles of illumination and divergence, the reflex reflector shall be placed in the position corresponding to the specified value of the angle of rotation ε. If the specified values are not attained, the device may be rotated about its axis of reference between — 5 and + 5° from that position.

4.2. With an illumination angle β of V = H = 0°, or the angle specified in VIII.4, and an angle of divergence of 20′, reflex reflectors marked 'TOP' shall be rotated between

— 5 and + 5° about their axis of reference. The CIL must not fall below the prescribed value in any position assumed by the device during this rotation.

4.3. If for the direction V = H = 0°, and for $\varepsilon = 0°$ the CIL exceeds the specified value by 50 % or more, all measurements for all angles of illumination and divergence shall be made for $\varepsilon = 0°$.

VIII.5. For making the necessary measurements, the method recommended by CIE for the photometry of reflex reflectors shall be adopted.

ANNEX IX

RESISTANCE TO EXTERNAL AGENTS

IX.1. RESISTANCE TO PENETRATION OF WATER

Reflex reflectors, whether or not grouped or reciprocally incorporated with a lamp, shall be stripped of all removable parts and immersed for 10 minutes in water at a temperature of 25 ± 5 °C, the highest point of the upper part of the illuminating surface being about 20 mm below the surface of the water. This test shall be repeated after turning the reflex reflector through 180°, so that the illuminating surface is at the bottom and the reverse side covered by about 20 mm of water.

1.1. No water must penetrate to the reflecting surface of the reflex reflecting optical unit. If inspection clearly reveals the presence of water, the device shall be considered to have failed the test.

1.2. If inspection does not reveal the presence of water, or in case of doubt, the CIL shall be measured by the method described in V.3.2 after lightly shaking the reflex reflecting device to remove excess water from the outside.

IX.2. RESISTANCE TO CORROSION

Reflex reflecting devices must be so designed that they retain the prescribed photometric and colorimetric characteristics despite the humidity and corrosive influences to which they are normally exposed. The resistance of the front surface to tarnishing and that of the protective rear surface to deterioration shall be checked when an essential metal component appears susceptible to corrosion.

The reflex reflector, stripped of all removable parts, or the lamp with which the reflex reflector is grouped or reciprocally incorporated, shall be subjected to the action of a saline mist for a period of 50 hours, comprising two periods of exposure of 24 hours each, separated by an interval of two hours during which the sample is allowed to dry.

The saline mist shall be produced by atomizing, at a temperature of 35 ± 2 °C, a saline solution obtained by dissolving 20 + 2 parts by weight of sodium chloride in 80 parts of distilled water containing not more than 0·02 % of impurities.

Immediately after completion of the test, the sample must not show signs of excessive corrosion liable to impair the efficiency of the device.

IX.3. RESISTANCE TO MOTOR FUELS

The outer surface of the reflex reflector and, in particular, of the illuminating surface, shall be lightly wiped with a cotton cloth soaked in a mixture of petrol and benzol (proportion 90 : 10). After about five minutes, the surface shall be inspected. It must not show any visible change.

IX.4. RESISTANCE TO LUBRICATING OILS

The outer surface of the reflex reflector and, in particular, the illuminating surface, shall be lightly wiped with a cotton cloth soaked in a detergent lubricating oil. After about five minutes, the surface shall be cleaned. The CIL shall then be measured (V.3.2.).

IX.5. RESISTANCE OF THE ACCESSIBLE REVERSE SIDE OF MIRROR-BACKED REFLEX REFLECTORS

The reverse side of the reflex reflector shall be brushed with a hard nylon brush and then covered or thoroughly wetted with a mixture of petrol and benzol (proportion 90 : 10) for one minute. The mixture shall then be removed and the reflex reflector allowed to dry.

As soon as evaporation is completed, an abrasion test shall be carried out by brushing the reverse side with the same nylon brush as before.

The CIL shall then be measured (V.3.2) after the whole surface of the mirror-backed reverse side has been covered with indian ink.

ANNEX X

STABILITY OF THE OPTICAL PROPERTIES WITH AGEING

X.1. The administration which granted EEC component type-approval may check the stability of the optical properties of a type of reflex reflector in service as ageing takes place.

X.2. The competent authorities of Member States other than the State in which EEC component type-approval was granted may carry out similar checks in their territory. If a type of reflex reflector displays a consistent failure to conform when in use, they shall send any parts selected for testing to the authority which granted EEC component type-approval, with a request for its opinion.

X.3. In the absence of other criteria, the concept of 'consistent failure to conform' of a type of reflex reflector when in use shall be interpreted in accordance with 6.1 of Annex 0.

ANNEX XI

RESISTANCE TO HEAT

XI.1. The reflex reflector shall be kept for a period of 12 hours in a dry atmosphere at a temperature of 65 ± 2 °C.

XI.2. After this test, no cracking or appreciable distortion of the reflex reflector, and in particular, of its optical units must be visible.

XI.3. The colorimetric and photometric characteristics shall be checked in accordance with V.3.1 and V.3.2.

ANNEX XII

COLOUR-FASTNESS

XII.1. The authority which granted EEC component type-approval may check the colour-fastness of a type of reflex reflector in service.

XII.2. The competent authorities of Member States other than the State in which EEC component type-approval was granted may carry out similar checks in their territory. If a type of reflex reflector displays a consistent failure to conform when in use, they shall send any parts selected for testing to the administration which granted EEC component type-approval, with a request for its opinion.

XII.3. In the absence of other criteria, the concept of 'consistent failure to conform' of a type of reflex reflector when in use shall be interpreted in accordance with 6.1 of Annex 0.

Appendix to Annexes

CHRONOLOGICAL ORDER OF TESTS

Section	Test	Samples									
		a	b	c	d	e	f	g	h	i	j
0.6	General specifications: visual examination	X	X	X	X	X	X	X	X	X	X
VI.	Shapes and dimensions: visual examination	X	X	X	X	X	X	X	X	X	X
VII.	Colorimetry: visual examination	X	X	X	X	X	X	X	X	X	X
	trichromatic coordinates in case of doubt										
VIII.	Photometry: limited to 20′ and V = H = 0°	X	X	X	X	X	X	X	X	X	X
VIII.3.	Complete			X	X						
IX.1.	Water: 10 minutes in normal position							X	X		
	10 minutes in inverted position							X	X		
	visual examination							X	X		
V.3.1.	Colorimetry: visual examination							X	X		
	trichromatic coordinates in case of doubt							X	X		
V.3.2.	Photometry: limited to 20′ and V = H = 0°							X	X		
IX.3.	Motor fuels: five minutes							X	X		
	visual examination							X	X		
IX.4.	Oils: five minutes							X	X		
	visual examination							X	X		
V.3.1.	Colorimetry: visual examination							X	X		
	trichromatic coordinates in case of doubt							X	X		
V.3.2.	Photometry: limited to 20′ and V = H = 0°							X	X		
IX.2.	Corrosion: 24 hours					X	X				
	two hours' interval					X	X				
	24 hours					X	X				
	visual examination					X	X				
IX.5.	Reverse side: one minute					X	X				
	visual examination					X	X				
XI.	Heat: 12 hours at 65 ± 2 °C					X	X				
	visual examination for distortion					X	X				
V.3.1.	Colorimetry: visual examination					X	X				
	trichromatic coordinates in case of doubt					X	X				
V.3.2.	Photometry: limited to 20′ and V = H = 0°					X	X				
X.	Stability of optical properties with ageing										
V.3.1.	Colorimetry: visual examinations										
	or trichromatic coordinates										
V.3.2.	Photometry: limited to 20′ and V = H = 0°										
XII.	Colour-fastness										
V.3.1.	Colorimetry: visual examination										
	or trichromatic coordinates										
V.3.2.	Photometry: limited to 20′ and V = H = 0°										
0.5.1.	Deposit of samples with administration			X	X						

COUNCIL DIRECTIVE

of 27 July 1976

on the approximation of the laws of the Member States relating to the end-outline marker lamps, front position (side) lamps, rear position (side) lamps and stop lamps for motor vehicles and their trailers

(76/758/EEC)

THE COUNCIL OF THE EUROPEAN COMMUNITIES,

Having regard to the Treaty establishing the European Economic Community, and in particular Article 100 thereof,

Having regard to the proposal from the Commission,

Having regard to the opinion of the European Parliament (1),

Having regard to the opinion of the Economic and Social Committee (2),

Whereas the technical requirements which motor vehicles must satisfy pursuant to national laws relate *inter alia* to their end-outline marker lamps, front position (side) lamps, rear position (side) lamps and stop lamps;

Whereas those requirements differ from one Member State to another; whereas it is therefore necessary that all Member States adopt the same requirements either in addition to or in place of their existing rules, in order, in particular, to allow the EEC type-approval procedure which was the subject of Council Directive 70/156/EEC of 6 February 1970 on the approximation of the laws of the Member States relating to the type-approval of motor vehicles and their trailers (3), to be introduced in respect of each type of vehicle;

Whereas in Directive 76/756/EEC (4), the Council laid down the common requirements for the installation of lighting and light-signalling devices on motor vehicles and their trailers;

Whereas a harmonized type-approval procedure for front position (side) lamps, rear position (side) lamps and stop lamps makes it possible for each Member State to check compliance with the common construction and testing requirements and to inform the other Member States of its findings by sending a copy of the component type-approval certificate completed for each type of front position (side) lamp, rear position (side) lamp and stop lamp; whereas the placing of an EEC component type-approval mark on all lamps manufactured in conformity with the approved type obviates any need for technical checks on these front position (side) lamps, rear position (side) lamps and stop lamps in the other Member States;

Whereas it is desirable to take into account the technical requirements adopted by the UN Economic Commission for Europe in its Regulation No 7 ('Uniform provisions for the approval of position (side) lights, red rear lights and stop lights for motor vehicles (except motor cycles) and their trailers') (5), which is annexed to the Agreement of 20 March 1958 concerning the adoption of uniform conditions for approval and reciprocal recognition of approval for motor vehicle equipment and parts;

Whereas the approximation of national laws relating to motor vehicles entails reciprocal recognition by Member States of the checks carried out by each of them on the basis of the common requirements,

HAS ADOPTED THIS DIRECTIVE:

Article 1

1. Member States shall grant EEC component type-approval in respect of any type of front position (side) lamp, rear position (side) lamp and stop lamp which satisfies the construction and testing requirements laid down in Annexes 0, I, III, IV and V.

2. The Member State which has granted EEC component type-approval shall take the measures required in order to verify that production models

(1) OJ No C 76, 7. 4. 1975, p. 37.
(2) OJ No C 255, 7. 11. 1975, p. 3.
(3) OJ No L 42, 23. 2. 1970, p. 1.
(4) See page 1 of this Official Journal.
(5) Economic Commission for Europe, Document E/ECE/324, Addendum 6 of 22 May 1967 plus Correction 1 of 9 February 1971.

conform to the approved type, in so far as this is necessary and if need be in cooperation with the competent authorities in the other Member States. Such verification shall be limited to spot checks.

Article 2

Member States shall for each type of front position (side) lamp, rear position (side) lamp and stop lamp which they approve pursuant to Article 1, issue to the manufacturer, or to his authorized representative, an EEC component type-approval mark conforming to the models shown in Annex III.

Member States shall take all appropriate measures to prevent the use of marks liable to create confusion between front position (side) lamps, rear position (side) lamps and stop lamps which have been type-approved pursuant to Article 1, and other devices.

Article 3

1. No Member State may prohibit the placing on the market of front position (side) lamps, rear position (side) lamps and stop lamps on grounds relating to their construction or method of functioning if they bear the EEC component type-approval mark.

2. Nevertheless, a Member State may prohibit the placing on the market of front position (side) lamps, rear position (side) lamps and stop lamps bearing the EEC component type-approval mark which consistently fail to conform to the approved type.

That State shall forthwith inform the other Member States and the Commission of the measures taken, specifying the reasons for its decision.

Article 4

The competent authorities of each Member State shall within one month send to the competent authorities of the other Member States a copy of the component type-approval certificates, an example of which is given in Annex II, completed for each type of front position (side) lamp, rear position (side) lamp and stop lamp which they approve or refuse to approve.

Article 5

1. If the Member State which has granted EEC component type-approval finds that a number of front position (side) lamps, rear position (side) lamps and stop lamps bearing the same EEC component type-approval mark do not conform to the type which it has approved, it shall take the necessary measures to ensure that production models conform to the approved type. The competent authorities of that State shall advise those of the other Member States of the measures taken, which may, where there is consistent failure to conform, extend to withdrawal of EEC component type-approval. The said authorities shall take the same measures if they are informed by the competent authorities of another Member State of such failure to conform.

2. The competent authorities of Member States shall within one month inform each other of any withdrawal of EEC component type-approval, and of the reasons for such a measure.

Article 6

Any decision taken pursuant to the provisions adopted in implementation of this Directive, to refuse or withdraw EEC component type-approval for front position (side) lamps, rear position (side) lamps and stop lamps or prohibit their placing on the market or use shall set out in detail the reasons on which it is based. Such decisions shall be notified to the party concerned, who shall at the same time be informed of the remedies available to him under the laws in force in the Member States and of the time limits allowed for the exercise of such remedies.

Article 7

No Member State may refuse to grant EEC type-approval or national type-approval of any vehicle on grounds relating to its end-outline marker lamps, front position (side) lamps, rear position (side) lamps and stop lamps if these bear the EEC component type-approval mark and are fitted in accordance with the requirements laid down in Directive 76/756/EEC.

Article 8

No Member State may refuse or prohibit the sale, registration, entry into service or use of any vehicle on grounds relating to its end-outline marker lamps, front position (side) lamps, rear position (side) lamps and stop lamps if these bear the EEC component type-approval mark and are fitted in accordance with the requirements laid down in Directive 76/756/EEC.

Article 9

For the purposes of this Directive, 'vehicle' means any motor vehicle intended for use on the road, with or without bodywork, having at least four wheels and a maximum design speed exceeding 25 km/h, and its trailers, with the exception of vehicles which run on rails, agricultural tractors and machinery and public works vehicles.

Article 10

Any amendments necessary to adjust the requirements of the Annexes to take account of technical progress shall be adopted in accordance with the procedure laid down in Article 13 of Directive 70/156/EEC.

Article 11

1. Member States shall adopt and publish the provisions necessary in order to comply with this Directive before 1 July 1977 and shall forthwith inform the Commission thereof. They shall apply these provisions with effect from 1 October 1977 at the latest.

2. Once this Directive has been notified, the Member States shall also ensure that the Commission is informed, in sufficient time for it to submit its comments, of any draft laws, regulations or administrative provisions which they propose to adopt in the field covered by this Directive.

Article 12

This Directive is addressed to the Member States.

Done at Brussels, 27 July 1976.

For the Council

The President

M. van der STOEL

List of Annexes

(*) The technical requirements of this Annex are similar to those of Regulation No 7 of the Economic Commission for Europe. In particular, the breakdown into sections is the same. For this reason, where a section of that Regulation has no counterpart in this Directive, its number is given in brackets for the record.

ANNEX 0

DEFINITIONS, GENERAL SPECIFICATIONS, INTENSITY OF LIGHT EMITTED, TEST PROCEDURE, COLOUR OF LIGHT EMITTED, CONFORMITY OF PRODUCTION, NOTE CONCERNING COLOUR

1. DEFINITIONS

For the purposes of this Directive:

1.0. **End-outline marker lamp**

'End-outline marker lamp' means the lamps fitted to the extreme outer edge as close as possible to the top of the vehicle and intended clearly to indicate the vehicle's overall width. This signal is intended, for certain vehicles and trailers, to complement the vehicle's front and rear position (side) lamps by drawing particular attention to its bulk.

1.1. **Front position (side) lamp**

'Front position (side) lamp' means the lamp used to indicate the presence and the width of the vehicle when the latter is viewed from the front.

1.2. **Rear position (side) lamp**

'Rear position (side) lamp' means the lamp used to indicate the presence and the width of the vehicle when the latter is viewed from the rear.

1.3. **Stop lamp**

'Stop lamp' means the lamp used to indicate to other road users to the rear of the vehicle that the latter's driver is applying the service brake.

1.4. **Device**

'Device' means a lighting or signalling device comprising a light source (and in certain cases, an optical system), a lens and a housing. A device may comprise one or more lamps; if it comprises several lamps, they may be grouped, combined or reciprocally incorporated.

1.4.1. *Grouped lamps*

'Grouped lamps' means devices having seperate lenses and separate light sources, but a common lamp housing.

1.4.2. *Combined lamps*

'Combined lamps' means devices having seperate lenses, but a common light source and a common lamp housing.

1.4.3. *Reciprocally incorporated lamps*

'Reciprocally incorporated lamps' means devices having seperate light sources (or a single light source operating under different conditions), totally or partially common lenses and a common lamp housing.

1.5. **A single lamp**

'A single lamp' means any combination of two or more lamps, whether identical or not, having the same function and emitting light of the same colour, if it comprises devices, the projection of whose aggregate light-emitting surfaces in a given transverse plane occupies 60 % or more of the area of the smallest rectangle circumscribing the projections of those light-emitting surfaces, provided that such combination is, where approval is required, approved as a single lamp.

1.6. **Two lamps or an even number of lamps**

'Two lamps' or 'an even number of lamps' means a single light-emitting surface in the shape of a band if placed symmetrically in relation to the median longitudinal plane of the vehicle and extending on both sides to within not less than 400 mm of the extreme outer edge of the vehicle, and being not less than 800 mm long. The illumination of such a surface shall be provided by not less than two light sources placed as close as possible to its ends. The light-emitting surface may be constituted by a number of juxtaposed elements on condition that the projections of the several individual light-emitting surfaces on the same transverse plane occupy not less than 60 % of the area of the smallest rectangle circumscribing the projections of those individual light-emitting surfaces.

(2.)

(3.)

(4.)

5. GENERAL SPECIFICATIONS

5.1. Each sample shall conform to the specifications set forth in sections 6 and 8.

5.2. The devices shall be so designed and constructed that under normal conditions of use, notwithstanding any vibration to which they may be subjected during such use, their satisfactory operation remains assured and they retain the characteristics prescribed by this Directive.

5.3. Lamps approved as front position (side) lamps shall also be regarded as end-outline marker lamps.

5.4. Lamps approved as rear position (side) lamps shall also be regarded as end-outline marker lamps.

5.5. Combinations of front and rear position (side) lamps housed in a common lamp housing may also be used as end-outline marker lamps.

6. INTENSITY OF LIGHT EMITTED

6.1. In the reference axis, the light emitted by each of the two samples shall be of not less than the minimum intensity and of not more than the maximum intensity specified below:

		minimum (cd)	*maximum* (cd)
6.1.1.	Front position (side) lamps	4	60
6.1.2.	Rear position (side) lamps	2	12
6.1.3.	Stop lamps	40	100

6.2. Outside the reference axis and within the angular fields defined in the diagrams in Annex I, the intensity of the light emitted by each of the two samples must:

6.2.1. in each direction corresponding to the points in the luminous intensity distribution table reproduced in Annex IV be not less than the value shown in the said table for the direction in question, expressed as a percentage of the minimum specified in 6.1;

6.2.2. in any direction within the space from which the lamp in question is visible, not exceed the maximum specified in 6.1;

6.2.3. however, a luminous intensity of 60 cd shall be permitted for rear position (side) lamps incorporated with stop lamps (see 6.1.2) below a plane forming an angle of 5^0 with and downward from the horizontal plane;

6.2.4. moreover,

6.2.4.1. throughout the fields defined in Annex I, the intensity of the light emitted must be not less than 0·05 cd for front position (side) lamps and rear position (side) lamps, and 0·3 cd for stop lamps;

6.2.4.2. if a rear position (side) lamp is incorporated with a stop lamp, the ratio between the luminous intensities actually measured of the two lamps when turned on simultaneously and the intensity of the rear position (side) lamp when turned on alone must be at least 5:1 in the field delimited by the straight horizontal lines passing through + 5 and — 5° V and the straight vertical lines passing through + 10 and — 10° H of the light distribution table;

6.2.4.3. the requirements of 2.2 of Annex IV on local variations of intensity must be observed.

6.3. The intensities must be measured with the filament lamp(s) continuously alight and, in the case of devices emitting selctive yellow, or red light, in coloured light.

6.4. Annex IV, to which reference is made in 6.2.1, gives particulars of the methods of measurement to be used.

7. TEST PROCEDURE

All measurements shall be carried out with colourless standard filament lamps of the types recommended for the device, and so regulated as to produce the normal luminous flux prescribed for those types of lamp.

8. COLOUR OF LIGHT EMITTED

The colour of the light emitted, measured by using a source of light with a colour temperature of 2854 K, corresponding to illuminant A of the International Commission on Illumination (CIE), must be within the limits of the coordinates prescribed for the colour in question in Annex V.

9. CONFORMITY OF PRODUCTION

Every device bearing an EEC component type-approval mark must conform to the approved type and comply with the photometric conditions specified in sections 6 and 8. Nevertheless, in the case of a device picked at random from series production,

the requirements as to minimum intensity of the light emitted (measured with a standard filament lamp as referred to in section 7) may be limited in each relevant direction to 80 % of the minimum values specified in 6.1 and 6.2.

(10.)

11. NOTE CONCERNING COLOUR

EEC component type-approval shall be granted if the colour of the light emitted is that laid down in 3.13 of Annex I to Directive 76/756/EEC.

(12.)

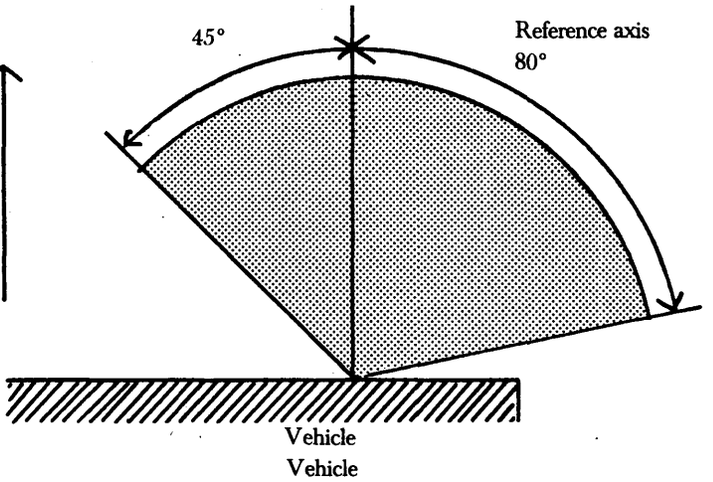
ANNEX I

FRONT POSITION (SIDE) LAMPS, REAR POSITION (SIDE) LAMPS AND STOP LAMPS MINIMUM ANGLES REQUIRED FOR THE LIGHT DISTRIBUTION IN SPACE (*)

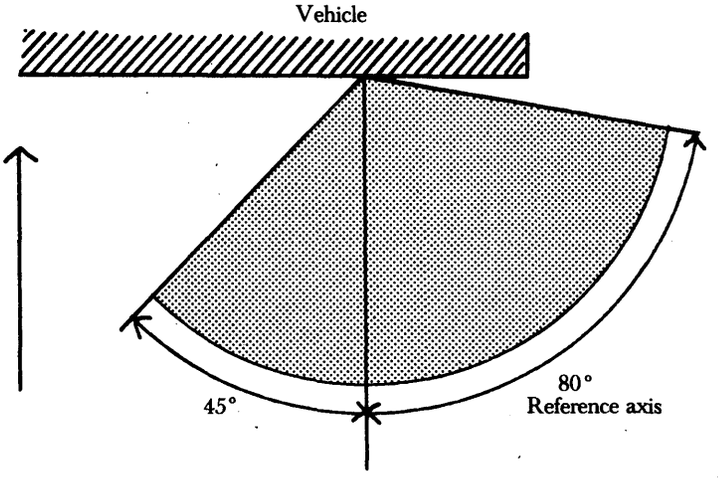
In all cases, the minimum vertical angles of light distribution in space are 15° above and 15° below the horizontal.

Minimum horizontal angles of light distribution in space

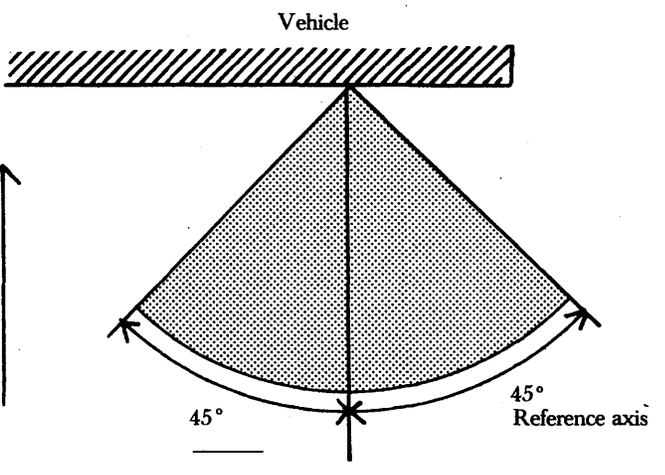
Front position (side) lamps



Rear position (side) lamps



Stop lamps



(*) The angles shown in these diagrams are correct for devices to be mounted on the right side of the vehicle. The arrows point to the front of the vehicles.

ANNEX II

MODEL EEC COMPONENT TYPE-APPROVAL CERTIFICATE

(Maximum format: A4 (210×297 mm))

Name of administration

Notification concerning the granting, refusal or withdrawal of EEC component type-approval, or the granting, refusal or withdrawal of an extension of EEC component type-approval for a type of end-outline marker lamp, front position (side) lamp, rear position (side) lamp or stop lamp

Component type-approval No .....

1. Device (*)
   — end-outline marker lamp
   — front position (side) lamp
   — rear position (side) lamp
   — stop lamp
2. Type and number of filament lamps .....
3. Colour of light emitted: red/selective yellow/white (*)
4. Trade name or mark .....
5. Name and address of manufacturer .....
6. If applicable, name and address of manufacturer's authorized representative .....
7. Submitted for EEC component type-approval on .....
8. Technical service conducting EEC component type-approval tests .....
9. Date of report issued by that service .....
10. Number of report issued by that service .....
11. Date of granting/refusal/withdrawal of EEC component type-approval (*) .....
12. Extension of EEC component type-approval to devices emitting a red/selective yellow/white light (*) .....
13. Date of granting/refusal/withdrawal of the extension of EEC component type-approval (*) .....
14. Single EEC component type-approval granted on the basis of 3.3 of Annex III for a lighting and light-signalling device comprising several lamps, and in particular: .....
15. Date of refusal/withdrawal of single EEC component type-approval (*) .....
16. Place .....
17. Date .....
18. Signature .....
19. The attached drawing No ..... shows the geometrical position in which the device is to be mounted on the vehicle and the axis of reference and centre of reference of the device.
20. Remarks .....

(*) Delete where inapplicable.

ANNEX III

EEC COMPONENT TYPE-APPROVAL AND MARKING REQUIREMENTS

1. APPLICATION FOR EEC COMPONENT TYPE-APPROVAL

1.1. The application for EEC component type-approval shall be submitted by the holder of the trade name or mark by his authorized representative.

1.2. In the case of a front position (side) lamp, the application for EEC component type-approval shall specify whether it is intended to emit white or selective yellow light.

1.3. For each type of front or rear position (side) lamp and stop lamp, the application shall be accompanied by the following:

1.3.1. a brief technical specification stating, in particular, the type of filament lamp or lamps prescribed;

1.3.2. drawings, (three copies), in sufficient detail to permit identification of the type of the lamp and showing geometrically the position in which the lamp is to be mounted on the vehicle, the axis of observation to be taken as the axis of reference in the tests (horizontal angle H = 0°, vertical angle V = 0°), and the point to be taken as the centre of reference in the said tests;

1.3.3. two samples; if the lamps are such that they can be mounted only on one side of the vehicle, the two samples submitted may be identical and be suitable for mounting only on the right or only on the left side of the vehicle.

2. MARKINGS

2.1. Devices submitted for EEC component type-approval must bear:

2.1.1. the trade name or mark of the applicant, which must be clearly legible and indelible;

2.1.2. a clearly legible and indelible marking indicating the type or types of filament lamp recommended;

2.1.3. and incorporate a space large enough to contain the EEC component type-approval mark and the additional symbols prescribed in 4.3; this space shall be shown in the drawings mentioned in 1.3.2.

3. EEC COMPONENT TYPE-APPROVAL

3.1. If all the samples submitted in accordance with section 1 meet the requirements of sections 5, 6, 7 and 8 of Annex 0, EEC component type-approval shall be granted and a type-approval number assigned.

3.2. This number shall not be assigned to any other type of front position (side) lamp, rear position (side) lamp or stop lamp, except where EEC component type-approval is extended to another type of device differing only in the colour of the light emitted.

3.3. Where EEC component type-approval is requested for a type of lighting and light-signalling device comprising a front position (side) lamp, rear position (side) lamp or a stop lamp and other lamps, a single EEC component type-approval mark may be issued provided that the lamp in question complies with the requirements of this Directive and that each of the other lamps forming part of the lighting and light-signalling device for which EEC component type-approval is requested, complies with the specific Directive applying to it.

4. MARKS

4.1. Every front position (side) lamp, rear position (side) lamp or stop lamp conforming to a type approved under this Directive shall bear an EEC component type-approval mark.

4.2. This mark shall consist of a rectangle surrounding the lower-case letter 'e' followed by the distinguishing letter(s) or number of the Member State which has granted the component type-approval:

1 for Germany,
2 for France,
3 for Italy,
4 for the Netherlands,
6 for Belgium,
11 for the United Kingdom,
13 for Luxembourg,
DK for Denmark,
IRL for Ireland.

It must also include the EEC component type-approval number which corresponds to the number of the EEC component type-approval certificate issued for the type of illuminating device in question.

4.3. In the following cases the EEC component type-approval mark shall be supplemented by an additional symbol or symbols:

4.3.1. the letter 'A', on devices meeting the requirements relating to front position (side) lamps laid down by this Directive;

4.3.2. the letter 'R', on devices meeting the requirements relating to rear position (side) lamps laid down by this Directive;

4.3.3. the letter 'S', on devices meeting the requirements relating to stop lamps laid down by this Directive;

4.3.4. the letters 'R' and 'S' separated by a horizontal dash, on devices comprising both a rear position (side) lamp and a stop lamp meeting the requirements relating to such lamps laid down by this Directive;

4.3.5. an arrow pointing towards the side on which the photometric specifications are satisfied up to an angle of 80° H, on front position (side) lamps or rear position (side) lamps whose geometric angles of visibility are asymmetrical in relation to the reference axis in a horizontal direction.

4.4. The EEC component type-approval number must be placed in any convenient position near to the rectangle surrounding the letter 'e'.

4.5. The EEC component type-approval mark and the additional symbols must be affixed on the lens of the lamp or one of the lenses in such a way as to be indelible and clearly legible even when the lamps are fitted on the vehicle.

4.6. Examples of EEC component type-approval marks and additional symbols are shown in the Appendix.

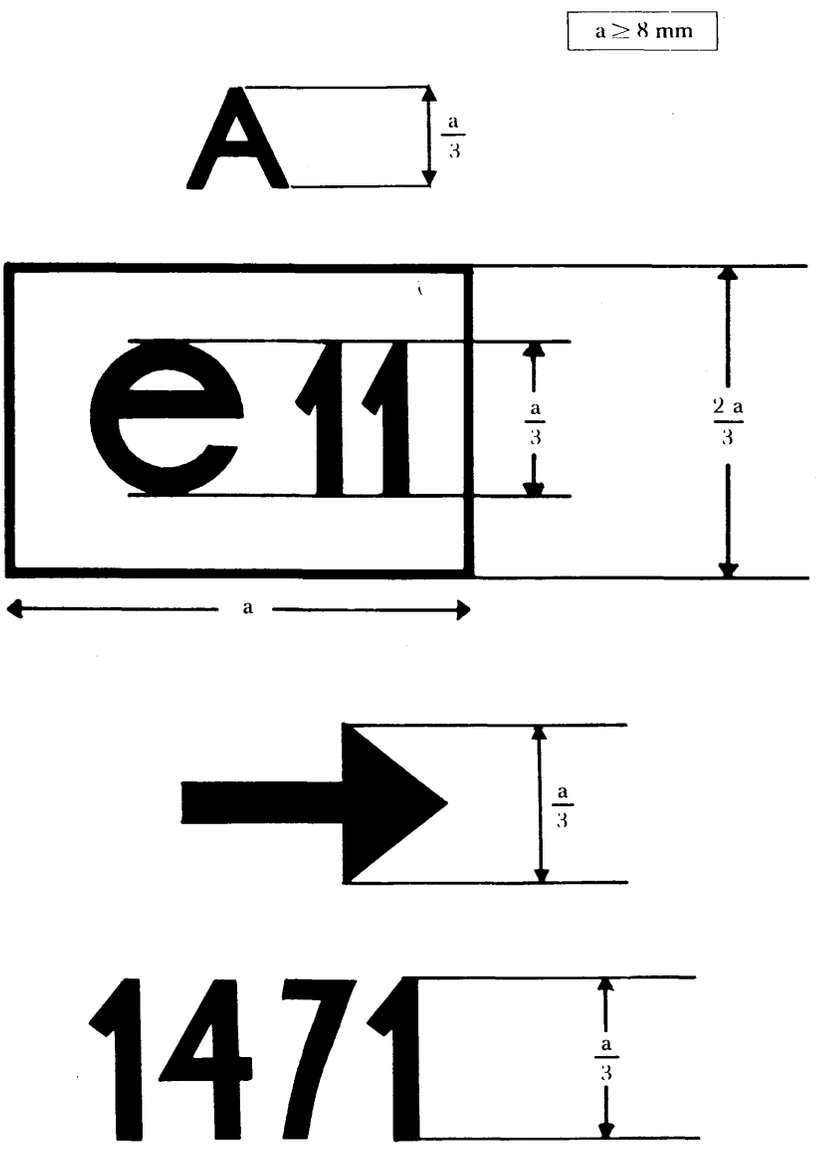
4.7. Where a single EEC component type-approval number is issued, as under 3.3, for a type of lighting and light-signalling device comprising a front position (side) lamp, rear position (side) lamp or stop lamp and other lamps, a single EEC component type-approval mark may be affixed, consisting of:

— a rectangle surrounding the letter 'e' followed by the distinguishing letter(s) or number of the Member State which has granted the EEC component type-approval,
— the EEC component type-approval number,
— the additional symbols required by the various Directives under which EEC component type-approval was granted.

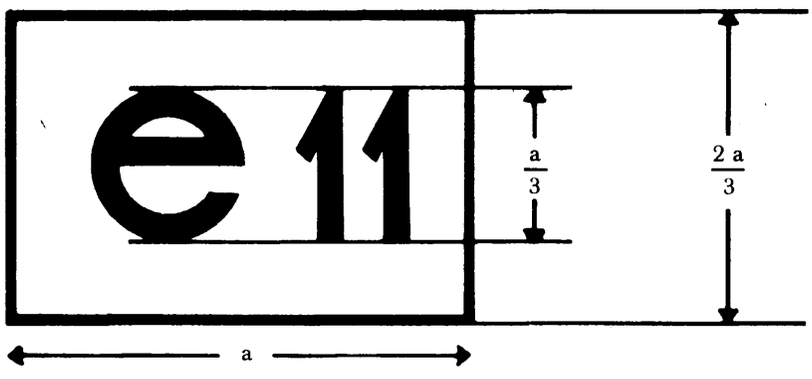
4.8. The dimensions of the various components of this mark must not be less than the largest of the minimum dimensions specified for individual markings by the various Directives under which the EEC component type-approval was granted.

Appendix

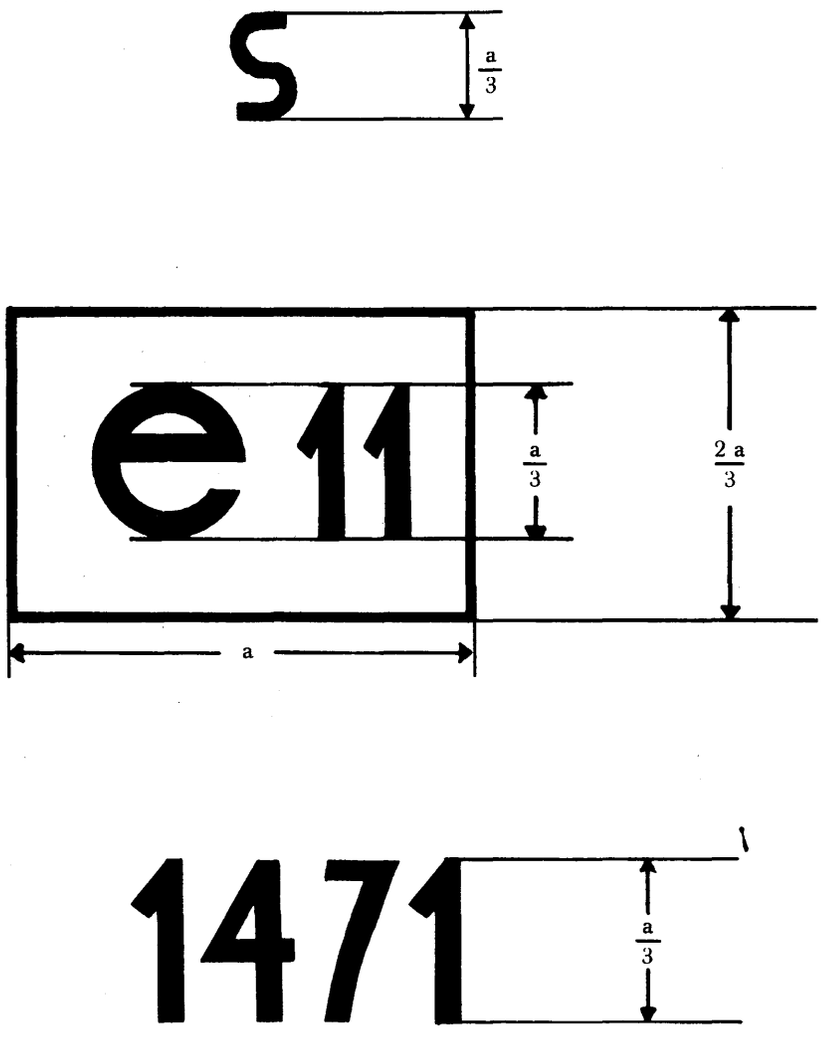
EXAMPLES OF EEC COMPONENT TYPE-APPROVAL MARKS



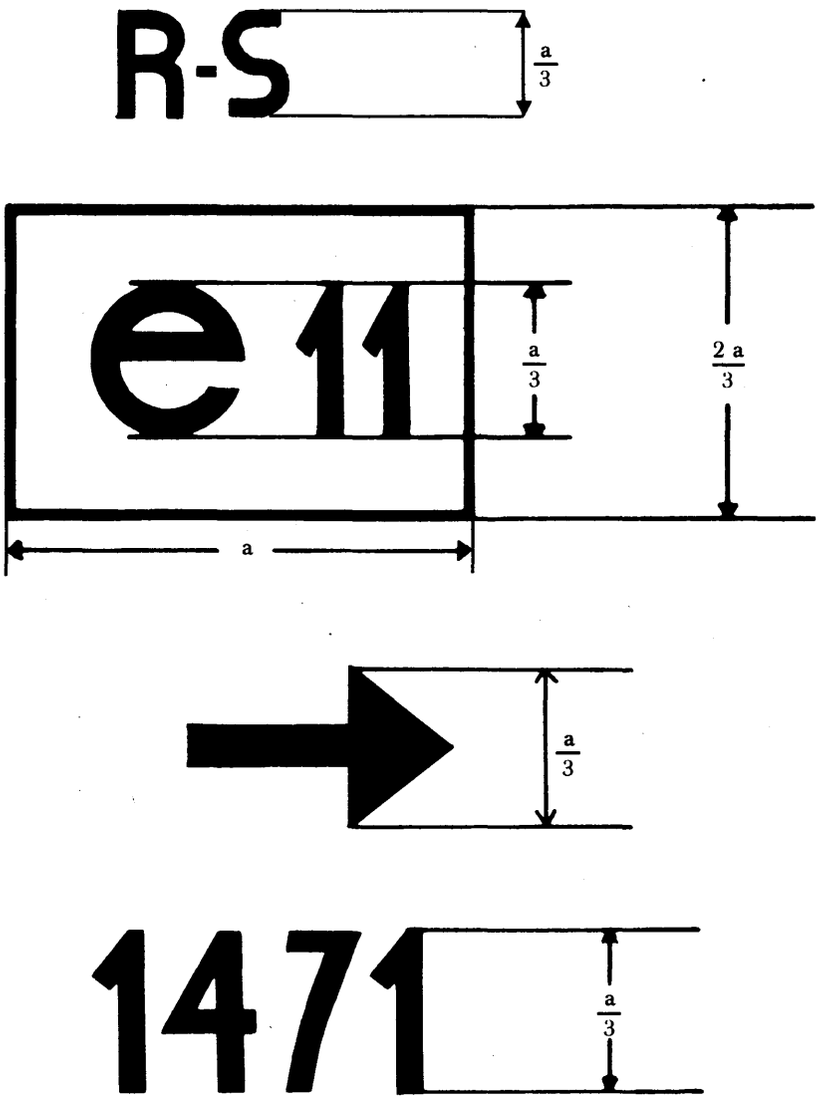
The device bearing the EEC component type-approval mark shown above is a front position (side) lamp, EEC type-approved in the United Kingdom (e 11) under the number 1471. The arrow indicates the side on which the photometric specifications are satisfied up to an angle of 80° H.



The device bearing the EEC type-approval mark shown above is a rear position (side) lamp, EEC type-approved in the United Kingdom (e 11) under the number 1471. The absence of an arrow means that, both right and left, the photometric specifications are satisfied up to an angle of 80° H.



The device bearing the EEC type-approval mark shown above is a stop lamp, EEC type-approved in the United Kingdom (e 11) under the number 1471.



The device bearing the EEC type-approval mark shown above is a device comprising both a rear position (side) lamp and a stop lamp, EEC type-approved in the United Kingdom (e 11) under the number 1471. The arrow means that, on the side to which it points, the photometric specifications are satisfied up to an angle of 80° H.

ANNEX IV

PHOTOMETRIC MEASUREMENTS

1. MEASUREMENT METHODS

1.1. During photometric measurements, stray reflections shall be prevented by appropriate masking.

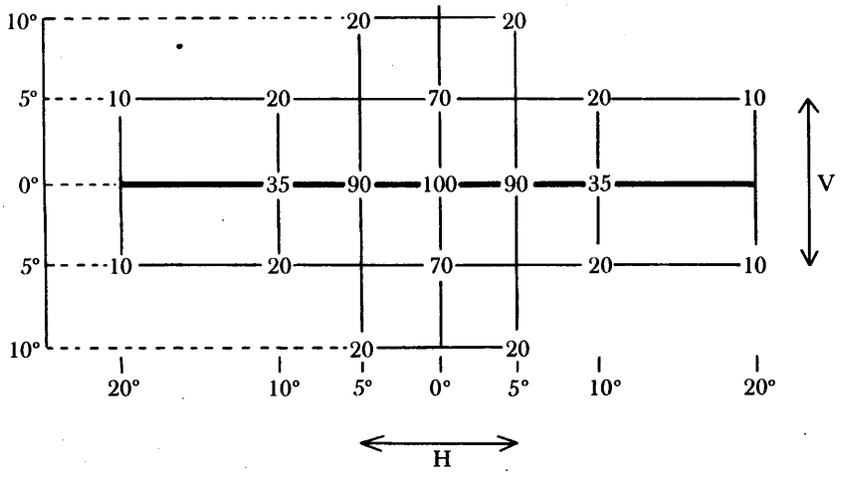
1.2. Should the results of measurements be challenged, measurements shall be carried out in such a way as to meet the following requirements:

1.2.1. the distance of measurement shall be such that the law of the inverse of the square of the distance is applicable;

1.2.2. the measuring equipment shall be such that the angular aperture of the receiver viewed from the reference centre of the light is between 10′ and one degree;

1.2.3. the intensity requirement for a particular direction of observation shall be deemed to be satisfied if that requirement is met in a direction deviating by not more than 15′ from the direction of observation.

2. STANDARD LUMINOUS INTENSITY DISTRIBUTION TABLE



2.1. The direction H = 0° and V = 0° corresponds to the reference axis. (On the vehicle it is horizontal, parallel to the median longitudinal plane of the vehicle and oriented in the required direction of visibility). It passes through the centre of reference. The values shown in the table give, for the various directions of measurement, the minimum intensities as a percentage of the minimum required in the axis for each lamp (in the direction H = 0° and V = 0°).

2.2. If visual examination of a lamp appears to reveal substantial local variations of intensity, a check shall be made to ensure that no intensity measured between two of the directions of measurement referred to in 2.1 is:

2.2.1. for a minimum specification, below 50% of the lower of the two minimum intensities prescribed for these directions of measurements;

2.2.2. for a maximum specification, above the lower of the two maximum intensities prescribed for these directions of measurement, increased by a fraction, expressed as a linear function, of the difference between the intensities prescribed for the said directions of measurement.

ANNEX V

COLOUR OF LIGHT EMITTED
TRICHROMATIC COORDINATES

RED:	limit towards yellow:	$y \leq 0{\cdot}335$
	limit towards purple:	$z \leq 0{\cdot}008$
WHITE:	limit towards blue:	$x \geq 0{\cdot}310$
	limit towards yellow:	$x \leq 0{\cdot}500$
	limit towards green:	$y \leq 0{\cdot}150 + 0{\cdot}640x$
	limit towards green:	$y \leq 0{\cdot}440$
	limit towards purple:	$y \geq 0{\cdot}050 + 0{\cdot}750x$
	limit towards red:	$y \geq 0{\cdot}382$
SELECTIEV YELLOW:	limit towards red:	$y \geq 0{\cdot}138 + 0{\cdot}580x$
	limit towards green:	$y \leq 1{\cdot}29x - 0{\cdot}100$
	limit towards white:	$y \geq -x + 0{\cdot}966$
	limit towards the spectral value:	$y \leq -x + 0{\cdot}992$

For checking those colorimetric characteristics, a source of light at a colour temperature of 2854 K corresponding to illuminant A of the International Commission on Illumination (CIE) shall be used.

COUNCIL DIRECTIVE

of 27 July 1976

on the approximation of the laws of the Member States relating to direction indicator lamps for motor vehicles and their trailers

(76/759/EEC)

THE COUNCIL OF THE EUROPEAN COMMUNITIES,

Having regard to the Treaty establishing the European Economic Community, and in particular Article 100 thereof,

Having regard to the proposal from the Commission,

Having regard to the opinion of the European Parliament (1),

Having regard to the opinion of the Economic and Social Committee (2),

Whereas the technical requirements which motor vehicles must satisfy pursuant to national laws relate *inter alia* to their direction indicator lamps;

Whereas those requirements differ from one Member State to another; whereas it is therefore necessary that all Member States adopt the same requirements either in addition to or in place of their existing rules, in order, in particular, to allow the EEC type-approval procedure which was the subject of Council Directive 70/156/EEC of 6 February 1970 on the approximation of the laws of the Member States relating to the type-approval of motor vehicles and their trailers (3), to be introduced in respect of each type of vehicle;

Whereas in Directive 76/756/EEC (4), the Council laid down the common requirements for the installation of lighting and light-signalling devices on motor vehicles and their trailers;

Whereas a harmonized type-approval procedure for direction indicator lamps makes it possible for each Member State to check compliance with the common construction and testing requirements and to inform the other Member States of its findings by sending a copy of the component type-approval certificate completed for each type of direction indicator lamp;

whereas the placing of an EEC component type-approval mark on all direcction indicator lamps manufactured in conformity with the approved type obviates any need for technical checks on these direction indicator lamps in the other Member States;

Whereas, it is desirable to take into account the technical requirements adopted by the UN Economic Commission for Europe in its Regulation No 6 ('Uniform provisions for the approval of direction indicators for motor vehicles (except motor cycles) and their trailers') (5), which is annexed to the Agreement of 20 March 1958 concerning the adoption of uniform conditions for approval and reciprocal recognition of approval for motor vehicle equipment and parts;

Whereas the approximation of national laws relating to motor vehicles entails reciprocal recognition by Member States of the checks carried out by each of them on the basis of the common requirements,

HAS ADOPTED THIS DIRECTIVE:

Article 1

1. Each Member State shall grant EEC component type-approval for any type of direction indicator lamp which satisfies the construction and testing requirements laid down in Annexes 0, I, III, IV and V.

2. The Member State which has granted EEC component type-approval shall take the measures required in order to verify that production models conform to the approved type, in so far as this is necessary and if need be in cooperation with the competent authorities in the other Member States. Such verification shall be limited to spot checks.

(1) OJ No 28, 17. 2. 1967, p. 458/67.
(2) OJ No 224, 5. 12. 1966, p. 3802/66.
(3) OJ No L 42, 23. 2. 1970, p. 1.
(4) See page 1 of this Official Journal.

(5) Economic Commission for Europe, Document E/ECE/324, Addendum 5 of 22 May 1967.

Article 2

Member States shall, for each type of direction indicator lamp which they approve pursuant to Article 1, issue to the manufacturer, or to his authorized representative, an EEC component type-approval mark conforming to the model shown in Annex III.

Member States shall take all appropriate measures to prevent the use of marks liable to create confusion between direction indicator lamps which have been type-approved pursuant to Article 1, and other devices.

Article 3

1. No Member State may prohibit the placing on the market of direction indicator lamps on grounds relating to their construction or method of functioning if they bear the EEC component type-approval mark.

2. Nevertheless, a Member State may prohibit the placing on the market of direction indicator lamps bearing the EEC component type-approval mark which consistently fail to conform to the approved type.

That State shall forthwith inform the other Member States and the Commission of the measures taken, specifying the reasons for its decision.

Article 4

The competent authorities of each Member State shall within one month send to the competent authorities of the other Member States a copy of the component type-approval certificates, an example of which is given in Annex II, completed for each type of direction indicator lamp which they approve or refuse to approve.

Article 5

1. If the Member State which has granted EEC component type-approval finds that a number of direction indicator lamps bearing the same EEC component type-approval mark do not conform to the type which it has approved, it shall take the necessary measures to ensure that production models conform to the approved type. The competent authorities of that State shall advise those of the other Member States of the measures taken, which may, where there is consistent failure to comform, extend to withdrawal of EEC component type-approval. The said authorities shall take the same measures if they are informed by the competent authorities of another Member State of such failure to conform.

2. The competent authorities of Member States shall within one month inform each other of any withdrawal of EEC component type-approval, and of the reasons for such a measure.

Article 6

Any decision taken pursuant to the provisions adopted in implementation of this Directive to refuse or withdraw component type-approval for a direction indicator lamp or prohibit its placing on the market or use shall set out in detail the reasons on which it is based. Such decisions shall be notified to the party concerned, who shall at the time be informed of the remedies available to him under the laws in force in the Member States and of the time limits allowed for the exercise of such remedies.

Article 7

No Member State may refuse to grant EEC type-approval or national type-approval of a vehicle on grounds relating to its direction indicator lamps if these bear the EEC component type-approval mark and are fitted in accordance with the requirements laid down in Directive 76/756/EEC.

Article 8

No Member State may refuse or prohibit the sale, registration, entry into service or use of any vehicle on grounds relating to its direction indicator lamps if these bear the EEC component type-approval mark and are fitted in accordance with the requirements laid down in Directive 76/756/EEC.

Article 9

For the purposes of this Directive, 'vehicle' means any motor vehicle intended for use on the road, with or without bodywork, having at least four wheels and a maximum design speed exceeding 25 km/h, and its trailers, with the exception or vehicles which run on rails, agricultural tractors and machinery and public works vehicles.

Article 10

Any amendments necessary to adjust the requirements of the Annexes to take account of technical progress shall be adopted in accordance with the procedure laid down in Article 13 of Directive 70/156/EEC.

Article 11

1. Member States shall adopt and publish the provisions necessary in order to comply with this Directive before 1 July 1977 and shall forthwith inform the Commission thereof. They shall apply these provisions from 1 October 1977 at the latest.

2. Once this Directive has been notified, the Member States shall also ensure that the Commission is informed, in sufficient time for it to submit its comments, of any draft laws, regulations or administrative provisions which they propose to adopt in the field covered by this Directive.

Article 12

This Directive is addressed to the Member States.

Done at Brussels, 27 July 1976.

For the Council

The President

M. van der STOEL

List of Annexes

(*) The technical requirements of this Annex are similar to those of Regulation No 6 of the Economic Commission for Europe. In particular, the breakdown into sections is the same. For this reason, where a section of Regulation No 6 has no counterpart in this Directive, its number is given in brackets for the record.

ANNEX 0

DEFINITION, GENERAL SPECIFICATIONS, INTENSITY OF LIGHT EMITTED, TEST PROCEDURE, COLOUR OF LIGHT EMITTED, CONFORMITY OF PRODUCTION

1. DEFINITION

1.1. **Direction indicator lamp**
'Direction indicator lamp' means the lamp used to indicate to other road-users that the driver intends to change direction to the right or to the left.

(2.)

(3.)

(4.)

5. GENERAL SPECIFICATIONS

5.1. Each sample shall conform to the specifications set forth in sections 6 and 8.

5.2. The devices shall be so designed and constructed that under normal conditions of use, notwithstanding any vibration to which they may be subjected during such use, their satisfactory operation remains assured and they retain the characteristics prescribed by this Directive.

6. INTENSITY OF LIGHT EMITTED

6.1. In the reference axis, the light emitted by each of the two samples must be of not less than the minimum intensity and of not more than the maximum intensity specified below:

Category of indicator	Minimum (cd)	Maximum (cd)
1	175	700 (1)
2	50	200
5	0·3	200

(1) However, see 6.2.3.2 of this Annex and Annex IV.

6.2. Outside the reference axis, within the fields specified in the arrangement diagrams in Annex I, intensity of the light emitted by each of the two samples must:

6.2.1. in each direction corresponding to the points in the luminous intensity distribution table reproduced in Annex IV, be not less than the value shown in the said table for the direction in question, expressed as a percentage of the minimum specified in 6.1;

6.2.2. in any direction within the space from which the indicator lamp is visible, nor exceed the maximum specified in 6.1.

6.2.3. Moreover,

6.2.3.1. throughout the fields defined in the diagrams in Annex I, the intensity of the light emitted must be not less than 0·3 cd for devices in categories 1, 2 and 5;

6.2.3.2. for devices in category 1, the intensity of the light emitted in the directions corresponding to the points of measurement in the luminous intensity distribution table other than 0 to 5° to the right and 0 to 5° to the left, must not exceed 400 cd;

6.2.3.3. the requirements of 2.2 of Annex IV on local variations of intensity must be observed.

6.3. The intensities shall be measured with the filament lamps continuously alight and in coloured light.

6.4. Annex IV, referred to in 6.2.1, gives particulars of the measurement methods to be used.

7. TEST PROCEDURE

7.1. All measurements shall be carried out with colourless standard filament lamps of the types recommended for the device, and so regulated as to produce the normal luminous flux prescribed for those types of lamp.

(7.2.)

8. COLOUR OF LIGHT EMITTED

The device must emit an amber light. The colour of the light emitted, measured by using a source of light with a colour temperature of 2854 K, corresponding to illuminant A of the International Commission on Illumination (CIE), must be within the limits of the coordinates prescribed in Annex V.

9. CONFORMITY OF PRODUCTION

Every device bearing an EEC component type-approval mark must conform to the approved type and comply with the photometric conditions specified in sections 6 and 8. Nevertheless, in the case of a device picked at random from series production, the requirements as to minimum intensity of the light emitted (measured with a standard filament lamp as referred to in section 7) shall be limited in each relevant direction to 80% of the minimum values specified in 6.1 and 6.2.

(10.)

(11.)

(12.)

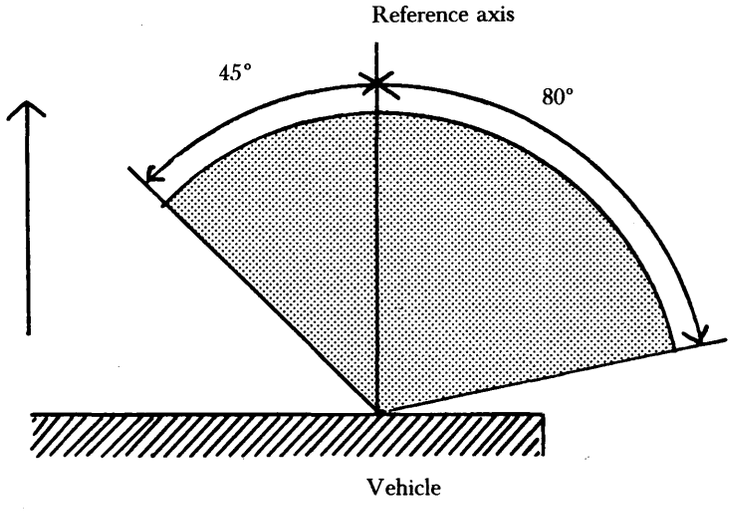
ANNEX I

CATEGORIES OF DIRECTION INDICATOR LAMPS
MINIMUM ANGLES REQUIRED FOR LIGHT DISTRIBUTION IN SPACE (*)

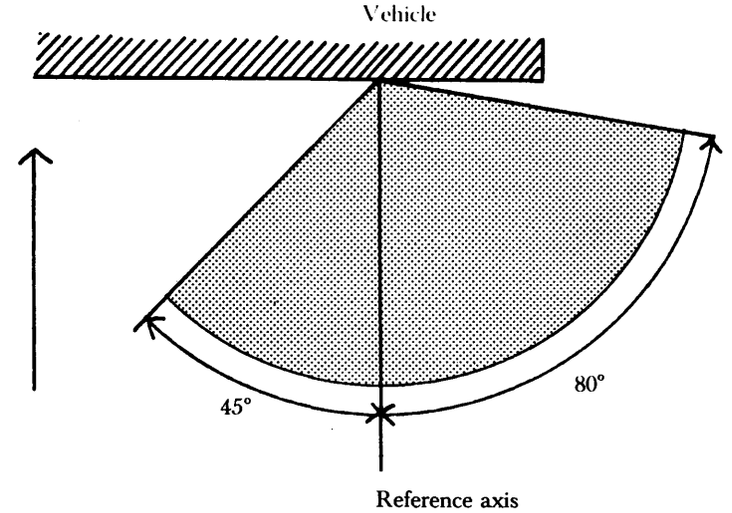
In all cases, the minimum vertical angles of light distribution in space of direction indicator lamps are 15° above and 15° below the horizontal.

Minimum horizontal angles of light distribution in space

Category 1: Direction indicators for the front of the vehicle

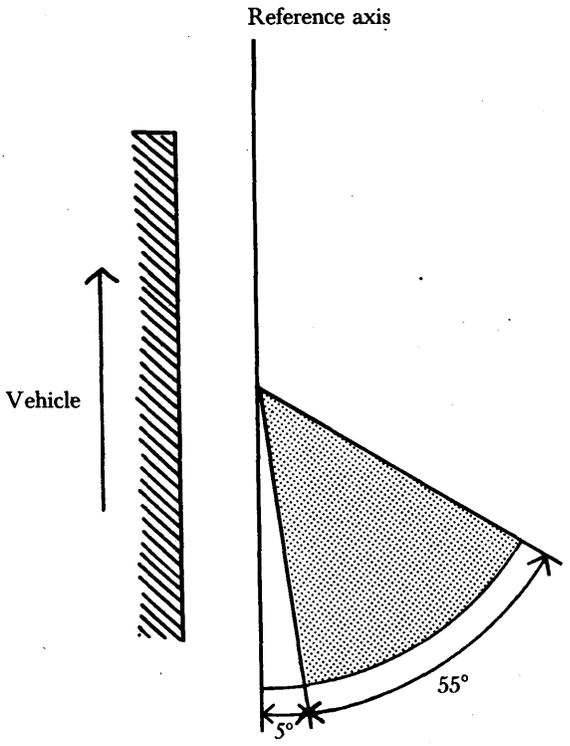


Category 2: Direction indicators for the rear of the vehicle



(*) The angles shown in these arrangements are correct for devices to be mounted on the right side of the vehicle. The arrows in these diagrams point towards the front of the vehicle.

Category 5: Repeating side indicators for use on a vehicle also equipped with category 1 and 2 direction indicators



ANNEX II

MODEL EEC COMPONENT TYPE-APPROVAL CERTIFICATE
(Maximum format: A4 (210 × 297 mm))

Name of administration

Notification concerning the granting, refusal or withdrawal of EEC component type-approval for a type of direction indicator lamp

Component type-approval No .....

1. Device (*)
   — in category 1
   — in category 2
   — in category 5
2. Type and number of filament lamps .....
3. Trade name or mark .....
4. Name and address of manufacturer .....
5. If applicable, name and address of manufacturer's authorized representative .....
   .....
6. Submitted for EEC component type-approval on .....
7. Technical service conducting EEC component type-approval tests .....
8. Date of report issued by that service .....
9. Number of report issued by that service .....
10. Date of granting/refusal/withdrawal of EEC component type-approval (*) .....
    .....
11. Single EEC component type-approval granted on the basis of 3.3 of Annex III for a lighting and light-signalling device comprising several lamps, and in particular: .....
    .....
12. Date of refusal/withdrawal (*) of single EEC component type-approval .....
    .....
13. Place .....
14. Date .....
15. Signature .....
17. The attached drawing No ..... shows the geometrical position in which the device is to be mounted on the vehicle, and the axis of reference and centre of reference of the device
17. Remarks .....
    .....

(*) Delete where inapplicable.

ANNEX III

EEC COMPONENT TYPE-APPROVAL AND MARKING REQUIREMENTS

1. APPLICATION FOR EEC COMPONENT TYPE-APPROVAL

1.1. The application for EEC component type-approval shall be submitted by the holder of the trade name or mark or by his authorized representative.

1.2. For each type of direction indicator lamp, the application shall be accompanied by the following:

1.2.1. an indication of which of the categories 1, 2 or 5, the device belongs to;

1.2.2. a brief technical specification stating, in particular, the type of filament lamp or lamps prescribed;

1.2.3. drawings, (three copies), in sufficient detail to permit identification of the type and category and showing, geometrically, the position in which the device is to be mounted on the vehicle, the axis of observation to be taken as the axis of reference in the tests (horizontal angle H = 0°, vertical angle V = 0°), and the point to be taken as the centre of reference in the said tests;

1.2.4. two samples; even if the sample devices are such that they can be remounted only on one side of the vehicle, the two samples submitted may be identical and be suitable for mounting only on the right or only on the left side of the vehicle.

2. MARKINGS

2.1. Devices submitted for EEC component type-approval must bear:

2.1.1. the trade name or mark of the applicant, which shall be clearly legible and indelible;

2.1.2. a clearly legible and indelible marking indicating the type or types of filament lamp recommended;

2.1.3. and incorporate a space large enough to contain the EEC component type-approval mark and the additional symbols prescribed in section 4; this space shall be shown in the drawings mentioned in 1.2.3.

3. EEC COMPONENT TYPE-APPROVAL

3.1. If all the samples submitted in accordance with section 1 meet the requirements of Annexes 0, I, III, IV and V, EEC component type-approval shall be granted and a component type-approval number assigned.

3.2. This number shall not be assigned to any other type of direction indicator lamp.

3.3. Where EEC type-approval is requested for a type of lighting and light-signalling device comprising a direction indicator lamp and other lamps, a single EEC type-approval mark may be issued provided that the direction indicator lamp complies with the requirements of this Directive and that each of the other lamps forming part of the lighting and light-signalling device for which EEC type-approval is requested, complies with the specific Directive applying to it.

4. MARKS

4.1. Every direction indicator lamp conforming to a type approved under this Directive shall bear an EEC component type-approval mark.

4.2. This mark shall consist of a rectangle surrounding the lower case letter 'e' followed by the distinguishing letter(s) or number of the Member State which has granted the type-approval:

1 for Germany,

2 for France,

3 for Italy,
4 for the Netherlands,
6 for Belgium,
11 for the United Kingdom,
13 for Luxembourg,
DK for Denmark,
IRL for Ireland.

It must also include the EEC component type-approval number which corresponds to the number of the EEC component type-approval certificate issued for the type of direction indicator lamp in question.

4.3. The EEC component type-approval mark shall be supplemented by the following additional symbols:

4.3.1. one or more of the numbers 1, 2 or 5, according to whether the device belongs to one or more of the categories 1, 2 or 5, as referred to in 1.2.1, placed above the rectangle;

4.3.2. an arrow shall be placed, showing in what position the device is to be mounted on devices which are such that they can be mounted only on one side of the vehicle. The arrow shall be directed outwards from the vehicle in the case of devices in categories 1 and 2 and towards the front of the vehicle in the case of devices in category 5.

4.4. The EEC component type-approval number must be placed in any convenient position near the rectangle surrounding the letter 'e'.

4.5. The EEC component type-approval mark and the additional symbol(s) must be affixed to the lens or one of the lenses in such a way as to be indelible and clearly legible even when the direction indicator lamps are fitted on the vehicle.

4.6. An example of an EEC component type-approval mark is shown in the Appendix.

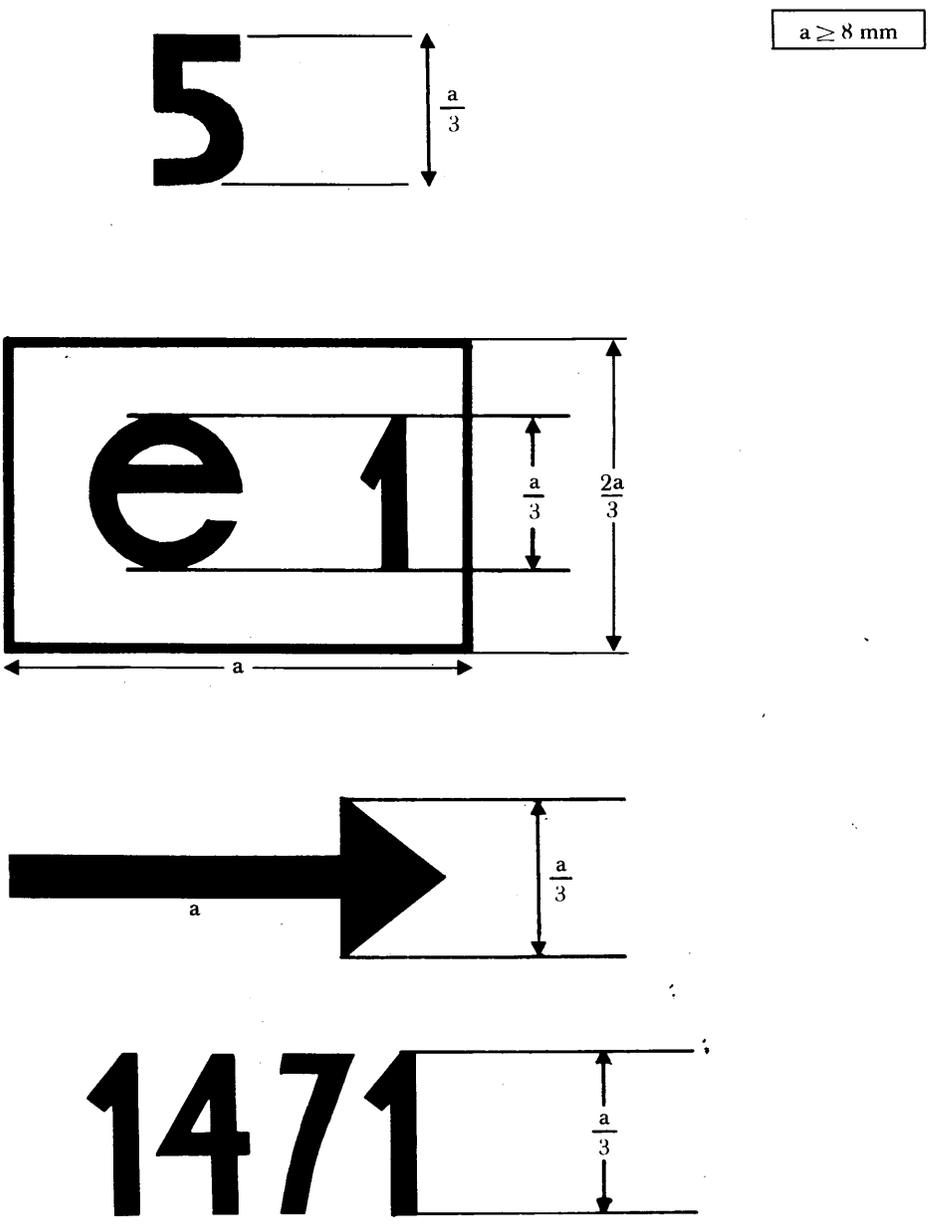
4.7. Where a single EEC-type-approval number is issued, as under 3.3, for a type of lighting and light-signalling device comprising a direction indicator lamp and other lamps, one EEC type-approval mark only may be affixed, consisting of:

— a rectangle surrounding the letter 'e' followed by the distinguishing letter(s) or number of the Member State which has granted the EEC component type-approval,
— the EEC component type-approval number,
— the additional symbols required by the various Directives under which EEC component type-approval was granted.

4.8. The dimensions of the various components of this mark must not be less than the largest of the minimum dimensions specified for individual markings as appended to this Annex.

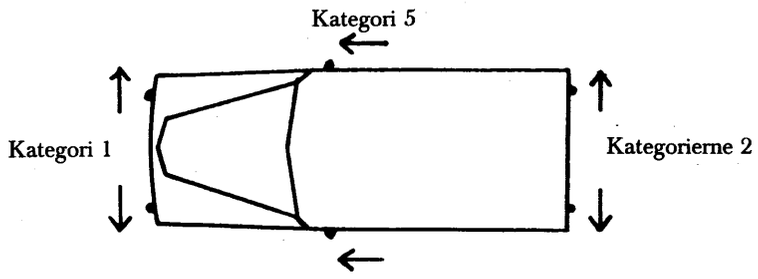
Appendix

EXAMPLE OF AN EEC COMPONENT TYPE-APPROVAL MARK



The device bearing the EEC component type-approval mark shown above is a direction indicator lamp in category 5 EEC type-approved in Germany (e 1) under the number 1471. The arrow shows in what position this device, which can be mounted only on one side of the vehicle, is to be mounted. The arrow points towards the front of the vehicle.

Direction in which the arrows on the approval mark point, according to the category of device



ANNEX IV

PHOTOMETRIC MEASUREMENTS

1. MEASUREMENT METHODS

1.1. During photometric measurements, stray reflections shall be prevented by appropriate masking.

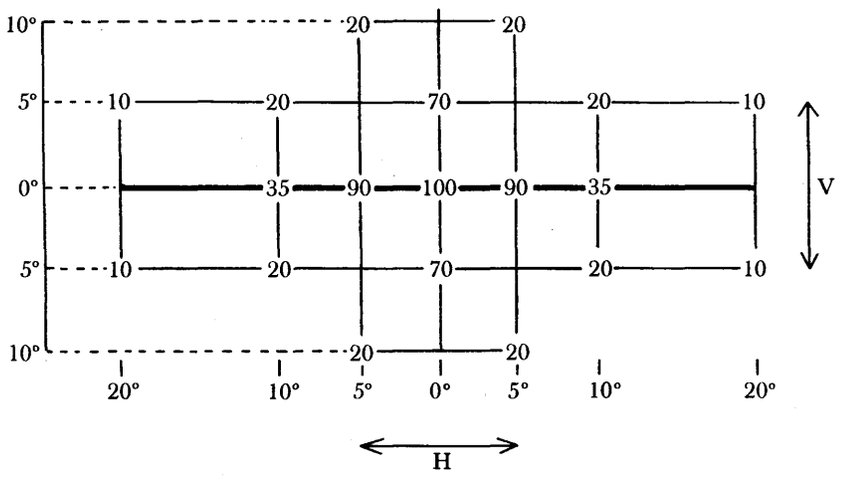
1.2. Should the results of measurements be challenged, measurements shall be carried out in such a way as to meet the following requirements:

1.2.1. the distance of measurement shall be such that the law of the inverse of the square of the distance is applicable;

1.2.2. the measuring equipment shall be such that the angular aperture of the receiver viewed from the reference centre of the light is between 10′ and 1°.

1.2.3. the intensity requirement for a particular direction of observation shall be deemed to be satisfied if that requirement is met in a direction deviating by not more than 15′ from the direction of observation.

2. STANDARD LUMINOUS INTENSITY DISTRIBUTION TABLE



2.1. The direction H = 0° and V = 0° corresponds to the reference axis. (On the vehicle, it is horizontal, parallel to the median longitudinal plane of the vehicle and oriented in the required direction of visibility). It passes through the centre of reference. The values shown in the table give, for the various directions of measurement, the minimum intensities as a percentage of the minimum required in the axis for each light (in the direction H = 0° and V = 0°).

2.2. If visual examination of a light appears to reveal substantial local variations of intensity, a check shall be made to ensure that no intensity measured between two of the directions of measurement referred to above is:

2.2.1. for a minimum specification, below 50% of the lower of the two minimum intensities prescribed for these directions of measurement;

2.2.2. for a maximum specification, above the lower of the two maximum intensities prescribed for these directions of measurement, increased by a fraction, expressed as a linear function of the difference between the intensities prescribed for the said directions of measurement.

ANNEX V

COLOUR OF LIGHT EMITTED
TRICHROMATIC COORDINATES

AMBER:	limit towards yellow:	$y \leq 0{\cdot}429$
	limit towards red:	$y \geq 0{\cdot}398$
	limit towards white:	$z \leq 0{\cdot}007$

For checking these colorimetric characteristics, a source of light at a colour temperature of 2854 K corresponding to illuminant A of the International Commission on Illumination (CIE) shall be used.

COUNCIL DIRECTIVE

of 27 July 1976

on the approximation of the laws of the Member States relating to the rear registration plate lamps for motor vehicles and their trailers

(76/760/EEC)

THE COUNCIL OF THE EUROPEAN COMMUNITIES,

Having regard to the Treaty establishing the European Economic Community, and in particular Article 100 thereof,

Having regard to the proposal from the Commission,

Having regard to the opinion of the European Parliament (1),

Having regard to the opinion of the Economic and Social Committee (2),

Whereas the technical requirements which motor vehicles must satisfy pursuant to national laws relate *inter alia* to their rear registration plate lamps;

Whereas those requirements differ from one Member State to another; whereas it is therefore necessary that all Member States adopt the same requirements either in addition to or in place of their existing rules, in order, in particular, to allow the EEC type-approval procedure which was the subject of Council Directive 70/156/EEC of 6 February 1970 on the approximation of the laws of the Member States relating to the type-approval of motor vehicles and their trailers (3), to be introduced in respect of each type of vehicle;

Whereas in Directive 76/756/CEE (4), the Council laid down the common requirements for the installation of lighting and light-signalling devices on motor vehicles and their trailers;

Whereas a harmonized type-approval procedure for rear registration plate lamps makes it possible for each Member State to check compliance with the common construction and testing requirements and to inform the other Member States of its findings by sending a copy of the component type-approval certificate completed for each type of rear registration plate lamp; whereas the placing of an EEC component type-approval mark on all rear registration plate lamps manufactured in conformity with the approved type obviates any need for technical checks on these rear registration plate lamps in the other Member States;

Whereas it is desirable to take into account the technical requirements adopted by the UN Ecconomic Commission for Europe in its Regulation No 4 ('Uniform provisions for the approval of devices for the illumination of rear registration plates of motor vehicles (except motor cycles) and their trailers') (5), which is annexed to the Agreement of 20 March 1958 concerning the adoption of uniform conditions for approval and reciprocal recognition of approval for motor vehicle equipment and parts;

Whereas the approximation of national laws relating to motor vehicles entails reciprocal recognition by Member States of the checks carried out by each of them on the basis on the common requirements,

HAS ADOPTED THIS DIRECTIVE:

Article 1

1. Member States shall grant EEC component type-approval for any type of rear registration plate lamp which satisfies the construction and testing requirements laid down in Annexes 0, I, III and IV.

2. The Member State which has granted EEC component type-approval shall take the measures required in order to verify that production models conform to the approved type, in so far as this is necessary and if need be in cooperation with the competent authorities in the other Member States. Such verification shall be limited to spot checks.

(1) OJ No C 76, 7. 4. 1975, p. 37.
(2) OJ No C 248, 29. 10. 1975, p. 23.
(3) OJ No L 42, 23. 2. 1970, p. 1.
(4) See page 1 of this Official Journal.
(5) Economic Commission for Europe, Document E/ECE/324, Addendum 3, Amendment 1 of 29 October 1975.

Article 2

Member States shall for each type of rear registration plate lamp which they approve pursuant to Article 1, issure to the manufacturer, or to his authorized representative, an EEC component type-approval mark conforming to the model shown in Annex I.

Member States shall take all appropriate measures to prevent the use of marks liable to create confusion between rear registration plate lamps which have been type-approved pursuant to Article 1, and other devices.

Article 3

1. No Member State may prohibit the placing on the market of rear registration plate lamps on grounds relating to their construction or method of functioning if they bear the EEC component type-approval mark.

2. Nevertheless, a Member State may prohibit the placing on the market of rear registration plate lamps bearing the EEC component type-approval mark which consistently fail to conform to the approved type.

That State shall forthwith inform the other Member States and the Commission of the measures taken, specifying the reasons for its decision.

Article 4

The competent authorities of each Member State shall within one month send to the competent authorities of the other Member States a copy of the component type-approval certificates, an example of which is given in Annex II, completed for each type of rear registration plate lamp which they approve or refuse to approve.

Article 5

1. If the Member State which has granted EEC component type-approval finds that a number of rear registration plate lamps bearing the same EEC component type-approval mark do not conform to the type which it has approved, it shall take the necessary measures to ensure that production models conform to the approved type. The competent authorities of that State shall advise those of the other Member States of the measures taken, which may, where there is consistent failure to conform, extend to withdrawal of EEC component type-approval. The said authorities shall take the same measures if they are informed by the competent authorties of another Member State of such failure to conform.

2. The competent authorities of Member States shall within one month inform each other of any withdrawal of EEC component type-approval, and of the reasons for such a measure.

Article 6

Any decision taken pursuant to the provisions adopted in implementation of this Directive to refuse or withdraw EEC type-approval for a rear registration plate lamp or prohibit its placing on the market or use shall set out in detail the reasons on which it is based. Such decisions shall be notified to the party concerned, who shall at the same time be informed of the remedies available to him under the laws in force in the Member States and of the time limits allowed for the exercise of such remedies.

Article 7

No Member State may refuse to grant EEC type-approval or national type-approval of a vehicle on grounds relating to its rear registration plate lamps if these bear the EEC component type-approval mark and are fitted in accordance with the requirements laid down in Directive 76/756/EEC.

Article 8

No Member State may refuse or prohibit the sale or registration, entry into service or use of a vehicle on grounds relating to its rear registration plate lamps if these bear the EEC component type-approval mark and are fitted in accordance with the requirements laid down in Directive 76/756/EEC.

Article 9

For the purposes of this Directive, 'vehicle' means any motor vehicle intended for use on the road, with or without bodywork, having at least four wheels and a maximum design speed exceeding 25 km/h, and its trailers, with the exception of vehicles which run on rails, agricultural tractors and machinery and public works vehicles.

Article 10

Any amendments necessary to adjust the requirements of the Annexes to take account of technical

progress shall be adopted in accordance with the procedure laid down in Article 13 of Directive 70/156/EEC.

Article 11

1. Member States shall adopt and publish the provisions necessary in order to comply with this Directive before 1 July 1977 and shall forthwith inform the Commission thereof. They shall apply these provisions with effect from 1 October 1977 at the latest.

2. Once this Directive has been notified, the Member States shall also ensure that the Commission is informed, in sufficient time for it to submit its comments, of any draft laws, regulations or administrative provisions which they propose to adopt in the field covered by this Directive.

Article 12

This Directive is addressed to the Member States.

Done at Brussels, 27 July 1976.

For the Council

The President

M. van der STOEL

List of Annexes

(*) The technical requirements of this Annex are similar to the requirements of Regulation No 4 of the Economic Commission for Europe. In particular, the breakdown into sections is the same. For this reason, where a section of Regulation No 4 has no counterpart in this Directive, its number is given in brackets for the record.

ANNEX 0

DEFINITION, GENERAL SPECIFICATIONS, COLOUR OF LIGHT EMITTED, ANGLE OF INCIDENCE, MEASURING PROCEDURE, PHOTOMETRIC CHARACTERISTICS, CONFORMITY OF PRODUCTION

1. DEFINITION

1.1. **Rear registration plate lamp**

'Rear registration plate lamp' means the device used to illuminate the space intended to accommodate the rear registration plate; it may consist of different optical elements.

(2.)

(3.)

(4.)

5. GENERAL SPECIFICATIONS

Each sample shall conform to the specifications set forth in section 9 (1).

These lamps shall be so designed that the entire surface to be illuminated is visible from the rear within the field of vision indicated in the drawing in Annex IV.

All measurements shall be carried out by adjusting the filament lamp or lamps of the device to the minimum light flux prescribed for the test voltage in the specification of the filament lamp or lamps for the device.

6. COLOUR OF LIGHT EMITTED

The colour of the light emitted by the lamp used in the device must be white, but sufficiently neutral so as not to cause any appreciable change in the colour of the registration plate.

(1) These specifications are such as to ensure good visibility if the inclination of the registration plate does not exceed 30° on either side of the vertical.

7. ANGLE OF INCIDENCE

The manufacturer of the device shall specify the position in which the device is to be fitted in relation to the space for the registration plate; the device must be so placed that the angle of incidence of the light on the surface of the plate does not exceed 82° at any point on the surface to be illuminated, this angle being measured from the edge of the illuminating surface of the device furthest from the surface of the plate. Where a device incorporates several lamps, the foregoing requirement shall apply only to that part of the plate intended to be illuminated by the device concerned.

The device must be so designed that no light is emitted directly towards the rear, with the exception of red light if the device is combined or grouped with a rear lamp.

8. MEASURING PROCEDURE

Luminance measurements shall be made on a piece of matte white blotting paper with a minimum diffuse reflection factor of 70%, of the same dimensions as the registration plate, and placed in the position normally occupied by it 2 mm in front of its holder.

Luminance measurements shall be made perpendicularly to the surface of the paper, at the points shown in Annex III according to the type of plate for which the device is intended, each point representing a circular area 25 mm in diameter.

9. PHOTOMETRIC CHARACTERISTICS

At each of the points of measurement shown in Annex III, the luminance B shall be at least equal to 2·5 cd/m².

The gradient of the luminance between the values B_1 and B_2, measured at any two points 1 and 2 selected from among those mentioned above, shall not exceed $2 \times B_0$/cm, B_0 being the minimum luminance measured at the various points, that is to say:

$$\frac{B_2 - B_1}{\text{Distance 1—2 in cm}} \leq 2 \times B_0/\text{cm}$$

10. CONFORMITY OF PRODUCTION

Every rear registration plate lamp bearing an EEC component type-approval mark shall conform to the type approved.

The luminance B of any device picked at random from a series produced batch shall not be lower than 2 cd/m² and, in the formula for the radient, the factor 2 may be replaced by 3.

(11.)

ANNEX I

EEC COMPONENT TYPE-APPROVAL AND MARKING REQUIREMENTS

1. APPLICATION FOR EEC COMPONENT TYPE-APPROVAL

1.1. The application for EEC component type-approval shall be submitted by the holder of the trade name or mark or by his authorized representative.

1.2. For each type of rear registration plate lamp, the application shall be accompanied by the following:

1.2.1. an indication as to whether the device is intended to illuminate a wide plate (520 × 120 mm), tall plate (340 × 240 mm) or both a wide and a tall plate;

1.2.2. a brief technical specification stating the type and power of the filament lamp or lamps recommended by the manufacturer;

1.2.3. drawings (three copies), in sufficient detail to permit identification of the type and showing geometrically the position in which the device is to be mounted in relation to the space to be occupied by the registration plate, and the outlines of the surface to be illuminated;

1.2.4. two samples, equipped with the filament lamp or lamps recommended.

2. MARKINGS

2.1. The samples of a type of rear registration plate lamp submitted for EEC component type-approval must bear the applicant's trade name or mark, which must be clearly legible and indelible.

2.2. Each device shall include on both the lens and the lamp housing a space of sufficient size for the EEC component type-approval mark; this space must be shown on the drawings mentioned in 1.2.3.

3. EEC COMPONENT TYPE-APPROVAL

3.1. If all the samples submitted in accordance with section 1 meet the requirements of sections 5, 6, 7, 8 and 9 of Annex 0, EEC component type-approval shall be granted and a component type-approval number assigned.

3.2. This number shall not be assigned to any other type of rear registration plate lamp.

3.3. Where EEC component type-approval is requested for a type of lighting and light-signalling device comprising a rear registration plate lamp and other lamps, a single EEC component type-approval mark may be issued provided that the rear registration plate lamp complies with the requirements of this Directive and that each of the other lamps forming part of the lighting and light-signalling device for which EEC type-approval is requested, complies with the specific Directive applying to it.

4. MARKS

4.1. Every rear registration plate lamp conforming to a type approved under this Directive shall bear an EEC component type-approval mark.

4.2. This mark shall consist of a rectangle surrounding the lower case letter 'e' followed by the distinguishing letter(s) or number of the Member State which has granted the type-approval:

1 for Germany,
2 for France,
3 for Italy,

4 for the Netherlands,
6 for Belgium,
11 for the United Kingdom,
13 for Luxembourg,
DK for Denmark,
IRL for Ireland.

It must also include the EEC component type-approval number corresponding to the number of the EEC component type-approval certificate issued for the type of device in question.

4.3. The EEC component type-approval number must be placed in any convenient position near the rectangle surrounding the letter 'e'.

4.4. The EEC component type-approval mark must be affixed on the lens of the lamp or on one of the lenses in such a way as to be indelible and clearly legible even when the rear registration plate lamps are fitted on the vehicle.

4.5. An example of an EEC component type-approval mark is shown in the Appendix.

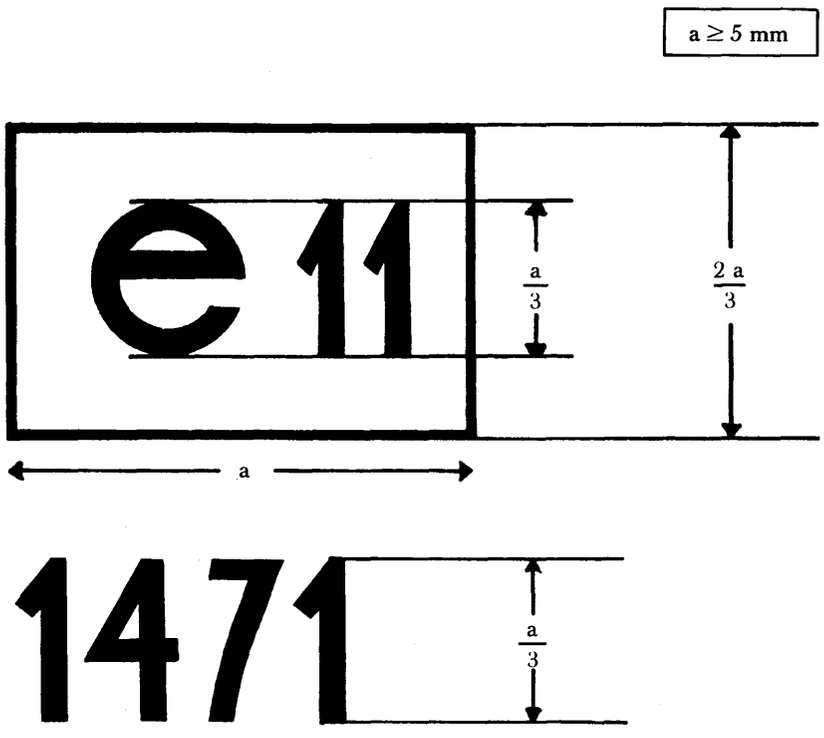
4.6. Where a single EEC type-approval number is issued, as under 3.3, for a type of lighting and light-signalling device comprising a rear registration plate lamp and other lamps, one EEC type-approval mark only may be affixed, consisting of:

— a rectangle surrounding the letter 'e' followed by the distinguishing letter(s) or number of the Member State which has granted the EEC component type-approval,
— the EEC component type-approval number,
— the additional symbols required by the various Directives under which EEC component type-approval was granted.

4.7. The dimensions of the various components of this mark must not be less than the largest of the minimum dimensions specified for individual markings by the various Directives under which the EEC component type-approval was granted.

Appendix

EXAMPLE OF AN EEC COMPONENT TYPE-APPROVAL MARK



The device bearing the EEC component type-approval mark shown above is a rear registration plate lamp EEC type-approved in the United Kingdom (e 11) under the number 1471.

ANNEX II

MODEL EEC TYPE-APPROVAL CERTIFICATE
(Maximum format: A4 (210 × 297 mm))

Name of administration

Notification concerning the granting, refusal or withdrawal of EEC component type-approval for a type of rear registration plate lamp

Component type-approval No .....

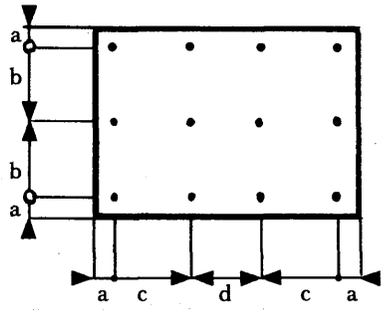
1. Device (*) for illuminating
   — a tall plate
   — a wide plate
   — a tall plate and a wide plate alike
2. Trade name or mark .....
3. Name and address of manufacturer .....
4. If applicable, name and address of manufacturer's authorized representative .....
   .....
5. Type, number and power of filament lamps .....
6. Submitted for EEC component type-approval on .....
7. Technical service conducting EEC component type-approval tests .....
   .....
8. Date of report issued by that service .....
9. Number of report issued by that service .....
10. Date of granting/refusal/withdrawal of EEC component type-approval (*) .....
    .....
11. Single EEC component type-approval granted on the basis of 3.3 of Annex I, for a lighting and light-signalling device comprising several lamps, and in particular .....
    .....
12. Date of refusal/withdrawal of the single EEC component type-approval (*) .....
13. Place .....
14. Date .....
15. Signature .....
16. The attached drawing No ..... shows the geometric position in which the device is to be fitted in relation to the space to be occupied by the registration plate, and the outlines of the surface to be illuminated. The size of this drawing should be of maximum format A4 (210 × 297 mm)
17. Remarks .....
    .....

(*) Delete where inapplicable.

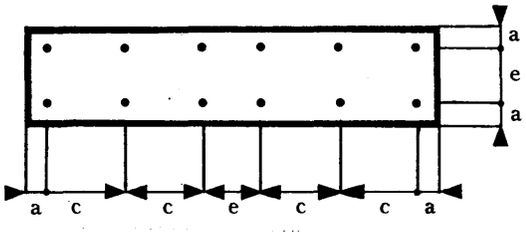
ANNEX III

MEASUREMENT POINTS FOR TEST PURPOSES

(a) Devices for illuminating a tall plate (340 × 240 mm)



(b) Devices for illuminating a wide plate (520 × 120 mm)

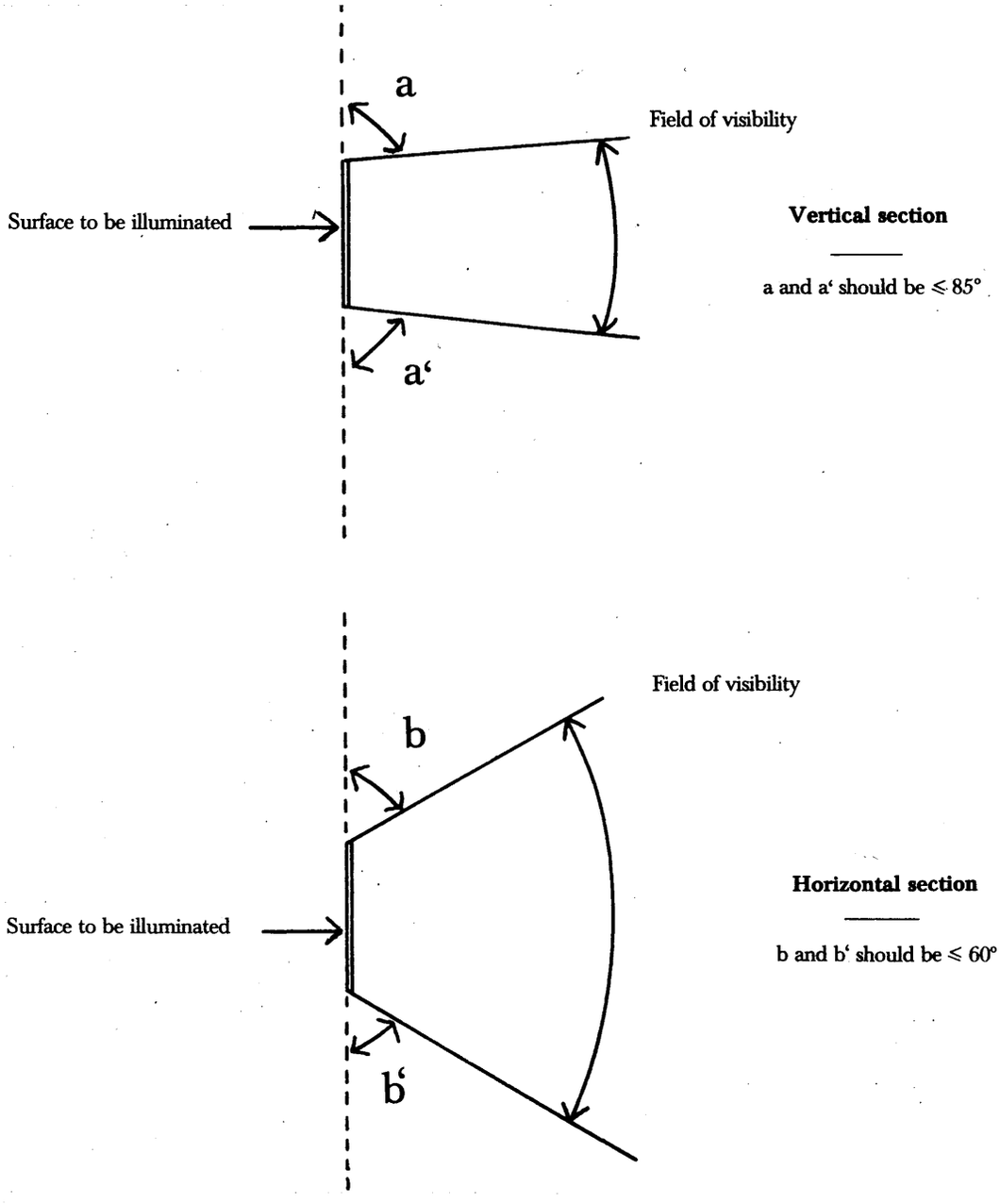


a = 25 mm b = 95 mm c = 100 mm d = 90 mm e = 70 mm

Note: In the case of devices for illuminating both tall and wide plates the measurement points used are obtained by combining the two drawings above in accordance with the outline indicated by the maker or manufacturer; however, if two measurement points are less than 30 mm apart, only one shall be used.

ANNEX IV

MINIMUM FIELD OF VISIBILITY OF THE SURFACE TO BE ILLUMINATED



1. The field of visibility angles shown above relate only to the relative positions of the device and the space for the registration plate.

(2.)

3. The angles shown take account of the partial occultation caused by the device. These must be adhered to in the directions in which there is most occultation. The devices must be such as to reduce the areas partly occulted to the strict minimum necessary.

COUNCIL DIRECTIVE

of 27 July 1976

on the approximation of the laws of the Member States relating to motor-vehicle headlamps which function as main-beam and/or dipped-beam headlamps and to incandescent electric filament lamps for such headlamps

(76/761/EEC)

THE COUNCIL OF THE EUROPEAN COMMUNITIES,

Having regard to the Treaty establishing the European Economic Community, and in particular Article 100 thereof,

Having regard to the proposal from the Commission,

Having regard to the opinion of the European Parliament (1),

Having regard to the opinion of the Economic and Social Committee (2),

Whereas the technical requirements which motor vehicles must satisfy pursuant to national laws relate *inter alia* to headlamps which function as main-beam and/or dipped-beam headlamps and their filament lamps;

Whereas these requirements differ from one Member State to another; whereas it is therefore necessary that all Member States adopt the same requirements either in addition to or in place of their existing rules, in order, in particular, to allow the EEC type-approval procedure which was the subject of Council Directive 70/156/EEC of 6 February 1970 on the approximation of the laws of the Member States relating to the type-approval of motor vehicles and their trailers (3), to be introduced in respect of each type of vehicle;

Whereas in Directive 76/756/EEC (4), the Council laid down the common requirements for the installation of lighting and light-signalling devices on motor vehicles and their trailers;

Whereas a harmonized type-approval procedure for headlamps which function as main-beam and/or dipped-beam headlamps and their filament lamps makes it possible for each Member State to check compliance with the common construction and testing requirements and to inform the other Member States of its findings by sending a copy of the component type-approval certificate completed for each type of such headlamp or filament lamp; whereas the placing of an EEC component type-approval mark on all headlamp devices manufactured in conformity with the approved type obviates any need for technical checks on these headlamp devices in the other Member States;

Whereas it is desirable to take into account the technical requirements adopted by the UN Economic Commission for Europe in its Regulations No 1 ('Uniform provisions for the approval of motor vehicle headlights emitting an asymmetrical passing beam or a driving beam or both') (5) and No 2 ('Uniform provisions concerning approval of incandescent electrical lamps for headlights emitting an asymmetrical passing beam or a driving beam or both') (5), which are annexed to the Agreement of 20 March 1958 concerning the adoption of uniform conditions for approval and reciprocal recognition of approval for motor vehicles equipment and parts;

Whereas the approximation of national laws relating to motor vehicles entails reciprocal recognition by Member States of the checks carried out by each of them on the basis of the common requirements,

HAS ADOPTED THIS DIRECTIVE:

Article 1

1. Each Member State shall grant EEC component type-approval for any type of headlamp which functions as a main-beam and/or dipped-beam headlamp and satisfies the construction and testing requirements laid down in Annexes I and VI, and any type of incandescent electric filament lamp for such headlamps which satisfies the construction and testing requirements laid down in Annexes III and VI.

(1) OJ No C 76, 7. 4. 1975, p. 37.
(2) OJ No C 255, 7. 11. 1975, p. 2.
(3) OJ No L 42, 23. 2. 1970, p. 1.
(4) See page 1 of this Official Journal.

(5) Economic Commission for Europe, Document E/ECE/324 / E/ECE/TRANS/505 } Addendum 1 of 24 March 1960.

2. The Member State which has granted EEC component type-approval shall take the measures required in order to verify that production models conform to the approved type, in so far as this is necessary and if need be in cooperation with the competent authorities in the other Member States. Such verification shall be limited to spot checks.

Article 2

Member States shall, for each type headlamp which functions as a main-beam and/or dipped-beam headlamp or filament lamp for such headlamp which they approve pursuant to Article 1, issue to the manufacturer, or to his authorized representative, an EEC component type-approval mark conforming to the model shown in Annex VI.

Member States shall take all appropriate measures to prevent the use of marks liable to create confusion between headlamps which function as main-beam and/or dipped-beam headlamps and filament lamps for such headlamps which have been type-approved pursuant to Article 1, and other devices.

Article 3

1. No Member State may prohibit the placing on the market of headlamps which function as main-beam and/or dipped-beam headlamps and filament lamps for such headlamps on grounds relating to their construction or method of functioning, if they bear the EEC component type-approval mark.

2. Nevertheless, a Member State may prohibit the placing on the market of headlamps which function as main-beam and/or dipped-beam headlamps and filament lamps for such headlamps bearing the EEC component type-approval mark which consistently fail to conform to the approved type.

That State shall forthwith inform the other Member States and the Commission of the measures taken, specifying the reasons for its decision.

Article 4

The competent authorities of each Member State shall within one month send to the competent authorities of the other Member States a copy of the component type-approval certificates, examples of which are given in Annexes II and IV, completed for each type of headlamp which functions as a main-beam and/or dipped-beam headlamp and each type of filament lamp for such headlamps which they approve or refuse to approve.

Article 5

1. If the Member State which has granted EEC component type-approval finds that a number of headlamps which function as main-beam and/or dipped-beam headlamps or filament lamps for such headlamps bearing the same EEC component type-approval mark do not conform to the type which it has approved, it shall take the necessary measures to ensure that production models conform to the approved type. The competent authorities of that State shall advise those of the other Member States of the measures taken, which may, where there is consistent failure to conform, extend to withdrawal of EEC component type-approval. The said authorities shall take the same measures if they are informed by the competent authorities of another Member State of such failure to conform.

2. The competent authorities of Member States shall within one month inform each other of any withdrawal of EEC component type-approval, and of the reasons for such a measure.

Article 6

Any decision taken pursuant to the provisions adopted in implementation of this Directive to refuse or withdraw EEC component type-approval for a main-beam or a dipped-beam headlamp or for a filament lamp for such headlamps or prohibit their placing on the market or use shall set out in detail the reasons on which it is based. Such decision shall be notified to the party concerned, who shall at the same time be informed of the remedies available to him under the laws in force in the Member States and of the time limits allowed for the exercise of such remedies.

Article 7

No Member State may refuse to grant EEC type-approval or national type-approval of a vehicle on grounds relating to its headlamps which function as main-beam and/or dipped-beam headlamps or to the filament lamps for such headlamps if these bear the EEC component type-approval mark and are fitted in accordance with the requirements laid down in Directive 76/756/EEC.

Article 8

No Member State may refuse or prohibit the sale or registration, entry into service or use of a vehicle on grounds relating to its headlamps which function as main-beam and/or dipped-beam headlamps or to the filament lamps for such headlamps if these bear the EEC component type-approval mark and are fitted in accordance with the requirements laid down in Directive 76/756/EEC.

Article 9

For the purposes of this Directive, 'vehicle' means any motor vehicle intended for use on the road, with or without bodywork, having at least four

wheels and a maximum design speed exceeding 25 km/h, with the exception of vehicles which run on rails, agricultural tractors and machinery and public works vehicles.

Article 10

Any amendments necessary to adjust the requirements of the Annexes to take account of technical progress shall be adopted in accordance with the procedure laid down in Article 13 of Directive 70/156/EEC.

Article 11

1. Member States shall adopt and publish the provisions necessary in order to comply with this Directive before 1 July 1977 and shall forthwith inform the Commission thereof. They shall apply these provisions from 1 October 1977 at the latest.

2. Once this Directive has been notified, the Member States shall also ensure that the Commission is informed, in sufficient time for it to submit its comments, of any draft laws, regulations or administrative provisions which they propose to adopt in the field covered by this Directive.

Article 12

This Directive is addressed to the Member States.

Done at Brussels, 27 July 1976.

For the Council

The President

M. van der STOEL

List of Annexes

(*) The technical requirements of this Annex are similar to those of Regulations No 1 and No 2 of the Economic Commission for Europe. In particular, the breakdown into sections is the same. For this reason, where a section in Regulations No 1 and No 2 has no counterpart in this Directive, its number is given in brackets for the record.

ANNEX I

REQUIREMENTS RELATING TO MOTOR VEHICLE HEADLAMPS WHICH FUNCTION AS MAIN-BEAM AND/OR DIPPED-BEAM HEADLAMPS

(DEFINITION, GENERAL SPECIFICATIONS, ILLUMINATION, CONFORMITY OF PRODUCTION, STANDARD HEADLAMP)

1. DEFINITION

1.1. **Type of headlamp**

'Type of headlamp' means headlamps which do not differ in such essential matters as:

1.1.1. the trade name or mark;

1.1.2. the characteristics of the optical system;

1.1.3. the inclusion of additional components capable of altering the optical effects by reflection, refraction or absorption;

1.1.4. suitability for right-hand or left-hand traffic or for both traffic systems;

1.1.5. ability to provide a dipped beam or a main beam or both.

(2.)

(3.)

(4.)

5. GENERAL SPECIFICATIONS

5.1. Each sample shall conform to the specifications set forth in sections 6 and 7.

5.2. Headlamps must be so designed and constructed that under normal conditions of use, notwithstanding any vibration to which they may be subjected during such use, their satisfactory operation remains assured and they retain the photometric characteristics prescribed by this Directive.

5.3. The components by which the filament lamp is fixed to the reflector shall be so made that, even in darkness, the filament lamp can be fixed in no position but the correct one (1).

5.4. Headlamps designed to satisfy the requirements both of Member States in which traffic moves on the right and of those in which it moves on the left may be adapted for traffic on a given side of the road either by an appropriate initial adjustment when the vehicle is fitted out or by selective setting by the driver. Such initial adjustment or selective setting shall consist, for example, of fixing either the optical unit at a given angle on the vehicle or the filament lamp at a given angle in relation to the optical unit. In all cases only two precisely differentiated setting positions, one for right-hand and one for left-hand traffic, shall be possible, and the design shall preclude inadvertent shifting of the headlamp from one position to another or its setting in an intermediate position. Where two different setting positions are provided for the filament lamp, the components attaching the filament lamp to the reflector must be so designed and manufactured that the filament lamp is fixed in each of its two positions with the same accuracy as that required for lamps intended for traffic on only one side of the road.

Conformity with the requirements of this section shall be verified visually and, where necessary, by a trial fitting.

6. ILLUMINATION

6.1. Headlamps must be so made that the dipped-beam filaments of suitable lamps give adequate illumination without dazzle, while the main-beam filaments of suitable lamps also give good illumination.

The illumination produced by the headlamp shall be checked on a vertical screen set at a distance of 25 m in front of the headlamp and at right angles to its axis (see Appendices 1 and 2 to Annex V), and with a standard filament lamp designed for a nominal voltage of 12 V, having a smooth and colourless glass envelope and exhibiting the following characteristics at that voltage:

	Consumption (watts)	Light flux (lumens)
Dipped-beam filament	40 ± 5 %	450 ± 10 %
Main-beam filament	45 ± 0 % — 10 %	700 ± 10 %

The dimensions determining the position of the filaments inside the standard filament lamp are shown in the figure in Appendix 3 to Annex V. The standard filament lamp shall be supplied with current at a voltage which gives the nominal light-flux values.

6.2. The dipped beam shall produce on the screen a 'cut-off' sufficiently sharp as to allow of satisfactory adjustment. The 'cut-off' shall be a horizontal straight line on the side opposite to the direction of the traffic for which the headlamp is intended; on the other side it should be horizontal or within an angle of 15% above the horizontal.

(1) It is considered that an arrangement satisfies the requirements of this section when the filament lamp can be easily fitted into the headlamp and the positioning lug can be correctly fitted into its slot even in darkness, the slot being of exactly the right size. It is considered that an arrangement whereby the filament lamp is perceptibly tilted when in the wrong position, but not when in the correct position, adequately satisfies the requirements of 5.3.

The headlamp shall be so adjusted that:

— in the case of headlamps designed to meet the requirements of right-hand traffic, the 'cut-off' on the left half of the screen (1) is horizontal and in the case of headlamps designed to meet the requirements of left-hand traffic, the 'cut-off' on the right half of the screen is horizontal,

— this horizontal part of the 'cut-off' is situated on the screen 25 cm below the outline of the horizontal plane passing through the focus of the headlamp (see Appendices 1 and 2 to Annex V),

— the screen is in the position indicated in Annex V, Appendices 1 and 2 (2).

When so adjusted, the headlamp shall, if it is intended to provide a dipped beam and a main beam, comply with the requirements set out in 6.3 and 6.4. If it is intended primarily to provide a dipped beam, it need comply only with the requirements of 6.3 (3).

Where a headlamp so adjusted does not meet the requirements referred to in 6.3 and 6.4, its adjustment may be changed, provided that the axis of the beam or the point of intersection H specified in Appendices 1 and 2 to Annex V is not laterally displaced by more than 1° (= 440 mm) to the right or left (4). To facilitate adjustment by means of the 'cut-off', the headlamp may be partially occulted in order to sharpen the 'cut-off'.

If the headlamp is designed solely to provide a main beam, it shall be so adjusted that the area of maximum illumination is centred on the point of intersection of the lines hh and vv. Such a headlamp need meet only the requirements of 6.4.

6.3. The illumination produced on the screen by the dipped beam shall meet the following requirements:

Point on measuring screen		Required illumination in lux
Headlamps for right-hand traffic	Headlamps for left-hand traffic	
Point B 50 L	Point B 50 R	≤ 0·3
Point B 75 R	Point B 75 L	≥ 6·0
Point B 50 R	Point B 50 L	≥ 6·0
Point B 25 L	Point B 25 R	≥ 1·5
Point B 25 R	Point B 25 L	≥ 1·5
Any point in Zone III		≤ 0·7
Any point in Zone IV		≥ 2·0
Any point in Zone I		≤20·0

Where the flux of the standard filament lamp used for measurement is other than 450 lumens, the measurements as taken must be corrected in proportion to the values of the fluxes.

There shall be no lateral variation detrimental to good visibility in any of Zones I, II, III and IV.

(1) The screen shall be sufficiently wide to allow examination of the 'cut-off' over a range of at least 5° from the line vv (see Appendices 1 and 2 to Annex V).
(2) If, in the case of a headlamp designed to satisfy the requirements of this Directive with respect to the dipped beam only, the focal axis diverges appreciably from the general direction of the beam, lateral adjustment shall be effected in the manner which best satisfies the requirements for illumination at points 75 and 50.
(3) A 'dipped-beam' headlamp of this kind may incorporate a main beam for which no specifications are laid down.
(4) The limit of non-adjustment of 1° to the right or left is not incompatible with vertical non-adjustment. The latter is limited only by the requirements of 6.4.

Headlamps designed to meet the requirements of both right-hand and left-hand traffic shall, in each of the two setting positions of the optical unit or of the filament lamp, meet the requirements set forth above for the corresponding traffic system.

6.4. Measurements of the illumination produced on the screen by the main beam shall be taken with the same headlamp adjustment as for measurements under 6.3, or, in the case of a headlamp providing a main beam only, in accordance with the final paragraph of 6.2.

The illumination produced on the screen by the main beam must satisfy the following requirements:

the point of intersection H of the lines hh and vv shall be situated within the isolux corresponding to 90% of maximum illumination. This maximum value shall not be less than 32 lux;

starting from point H, horizontally to the right and left, illumination shall be not less than 16 lux up to a distance of 1 125 mm and not less than four lux up to a distance of 2 250 mm. Where the flux of the standard filament lamp used for measurements is other than 700 lumens, the measurements as taken shall be corrected in proportion to the values of the fluxes.

6.5. The screen illumination values mentioned in 6.3 and 6.4 shall be measured by means of a photo-electric cell, the photo-sensitive area of which shall be contained within a square of side 65 mm.

(7.)

8. CONFORMITY OF PRODUCTION

Every headlamp bearing an EEC component type-approval mark shall conform to the approved type and comply with the photometric conditions specified in section 6.

(9.)

10. STANDARD HEADLAMP [1]

10.1. A 'standard headlamp' means a headlamp which:

— satisfies the above requirements for EEC component type-approval,

— has an effective diameter of not less than 160 mm,

— provides with a standard filament lamp, at the various points and in the various areas referred to in 6.3., illumination equal to:
  — not more than 90% of the maximum limits,
  — not less than 120% of the minimum limits prescribed in the table in 6.3.

(11.)

(12.)

[1] See Annex III, section 10.

ANNEX II

MODEL EEC COMPONENT TYPE-APPROVAL CERTIFICATE

(Maximum format: A4 (210 × 297 mm))

Name of administration

Notification concerning the granting, refusal or withdrawal of EEC component type-approval of a type of headlamp which functions as a main-beam and/or dipped-beam headlamp

Component type-approval No .....

1. Headlamp submitted for type-approval as type:
   CR, CR, CR, C, C, C, R (*)
   → ↔ → ↔
2. Trade name or mark .....
3. Name and address of manufacturer .....
4. If applicable, name and address of manufacturer's authorized representative .....
   .....
5. Submitted for EEC component type-approval on .....
6. Technical service conducting EEC component type-approval tests .....
   .....
7. Date of report issued by that service .....
8. Number of report issued by that service .....
9. Date of granting/refusal/withdrawal of EEC component type-approval (*) .....
   .....
10. Single EEC component type-approval granted on the basis of section 3.3 of Annex VI for a lighting and light-signalling device comprising several lamps, and in particular (*): .....
    .....
11. Date of refusal/withdrawal of the single EEC component type-approval (*): .....
    .....
12. Place .....
13. Date .....
14. Signature .....
15. The attached drawing No ..... shows a front view of the headlamp with the pattern of the lens moulding, and in cross-section
16. Remarks .....
    .....
    .....
    .....

(*) Delete where inapplicable.

ANNEX III

REQUIREMENTS RELATING TO INCANDESCENT ELECTRIC FILAMENT LAMPS FOR HEADLAMPS WHICH FUNCTION AS DIPPED-BEAM AND/OR MAIN-BEAM HEADLAMPS

(DEFINITION, GENERAL SPECIFICATIONS, NOMINAL VALUES, MANUFACTURE, WATTAGE AND LIGHT-FLUX VALUES, COLOUR, OPTICAL QUALITY CHECK, NOTE CONCERNING COLOUR, CONFORMITY OF PRODUCTION)

1. DEFINITION

1.1. **Type of filament lamp**

'Type of filament lamp' means filament lamps that do not differ in such essential respects as:

1.1.1. the trade name or mark;

1.1.2. the nominal voltage;

1.1.3. the nominal wattage;

1.1.4. the shape of one or more filaments;

1.1.5. the colour of the glass envelope;

1.1.6. the design of the glass envelope and its effect on the optical results.

(2.)

(3.)

(4.)

5. GENERAL SPECIFICATIONS

5.1. Each sample shall conform to the photometric specifications set out in section 8.

5.2. All measurements shall be carried out at the 'test voltage' (1) with the filament lamps lit under the conditions laid down in section 8.

5.3. Filament lamps must be so made that under normal conditions of use, their satisfactory operation is assured, and continues to be so. They shall, moreover, exhibit no fault in design or manufacture.

6. NOMINAL VALUES

The nominal voltage values are: 6, 12 and 24 volts.

The nominal wattage values are:

Main-beam filament	Dipped-beam filament	
45 watts	40 watts	for 6 and 12 volts
55 watts	50 watts	for 24 volts

(1) These test voltages are fixed as follows:
nominal voltage 6V, test voltage 6·0 V,
nominal voltage 12 V, test voltage 12·0 V,
nominal voltage 24 V, test voltage 24·0 V.

7. MANUFACTURE

7.1. The glass envelope of filament lamps shall have no scratches or spots which might impair their efficiency. No ray from the dipped-beam filament reflected by the sides of the glass envelope shall strike the axis of the filament lamp less than 6 mm (from the cap end) behind the first turn of that filament.

7.2. Filament lamp caps shall conform to the standard type shown in the figure in Appendix 4 to Annex V.

7.3. The position, shape and dimensions of the filaments and the ring inside the filament lamp shall conform to the specifications shown in the figure in Appendix 3 to Annex V.

7.4. The cap shall be strong and firmly secured to the glass envelope.

To ascertain whether filament lamps conform to the requirements of this section, a visual inspection, a dimension check and where necessary, a trial fitting, shall be carried out. The dimensions referred to in 7.3. shall be checked on filament lamps supplied with current at their test voltage, and, where necessary, by means of a projection system.

8. WATTAGE AND LIGHT-FLUX VALUES

The wattage of each filament shall not exceed the nominal wattage by more than 10 %. Light-flux values shall remain within the following limits:

Test voltage	Nominal wattage		Light flux in lumens			
	Filament		Dipped-beam filament		Main-beam filament	
	dipped beam	main beam	minimum	maximum	minimum	maximum
6·0						
12·0	40	45	400	550	600	Unspecified
24·0	50	55				

The check shall be made with the filament lamp in its normal position of use and supplied with current at its test voltage after having been lit for one hour under these conditions.

9. COLOUR

The filament lamp glass envelopes shall be colourless or of selective-yellow colour. In the latter case, the dominant wave-length of the light emitted shall be between 575 and 585 nm (nanometres); the purity factor shall be between 0·90 and 0·98, and the transmission factor shall be not less than 0·78 [1], the values being determined for light emitted by an electric lamp filament at a colour temperature of 2 800 K and on a fragment of a filament lamp glass envelope which has been used in a headlamp at its test voltage for 48 hours.

[1] These specifications correspond to the following trichromatic coordinates:

SELECTIVE-YELLOW COLOUR:
limit towards red: $y \geq 0{\cdot}138 + 0{\cdot}580x$
limit towards green: $y \leq 1{\cdot}29x - 0{\cdot}100$
limit towards white: $y \geq -x + 0{\cdot}966$
limit towards spectral value $y \leq -x + 0{\cdot}992$

10. OPTICAL QUALITY CHECK

The sample which most nearly meets the requirements laid down for the standard filament lamp shall be tested in a standard headlamp (1) to ensure that the assembly comprising this headlamp and the filament lamp being tested meet the component type-approval requirements for headlamps.

11. NOTE CONCERNING COLOUR

EEC component type-approval shall be granted if the colour of the light emitted is that laid down in 3.13 of Annex I to Directive 76/756/EEC.

12. CONFORMITY OF PRODUCTION

Every filament lamp bearing an EEC component type-approval mark shall conform to the approved type and comply with the photometric conditions specified above.

(13.)

(14.)

(1) See Annex I, section 10.

ANNEX IV

MODEL EEC COMPONENT TYPE-APPROVAL CERTIFICATE

(Maximum format: A4 (210 × 297 mm))

Name of administration

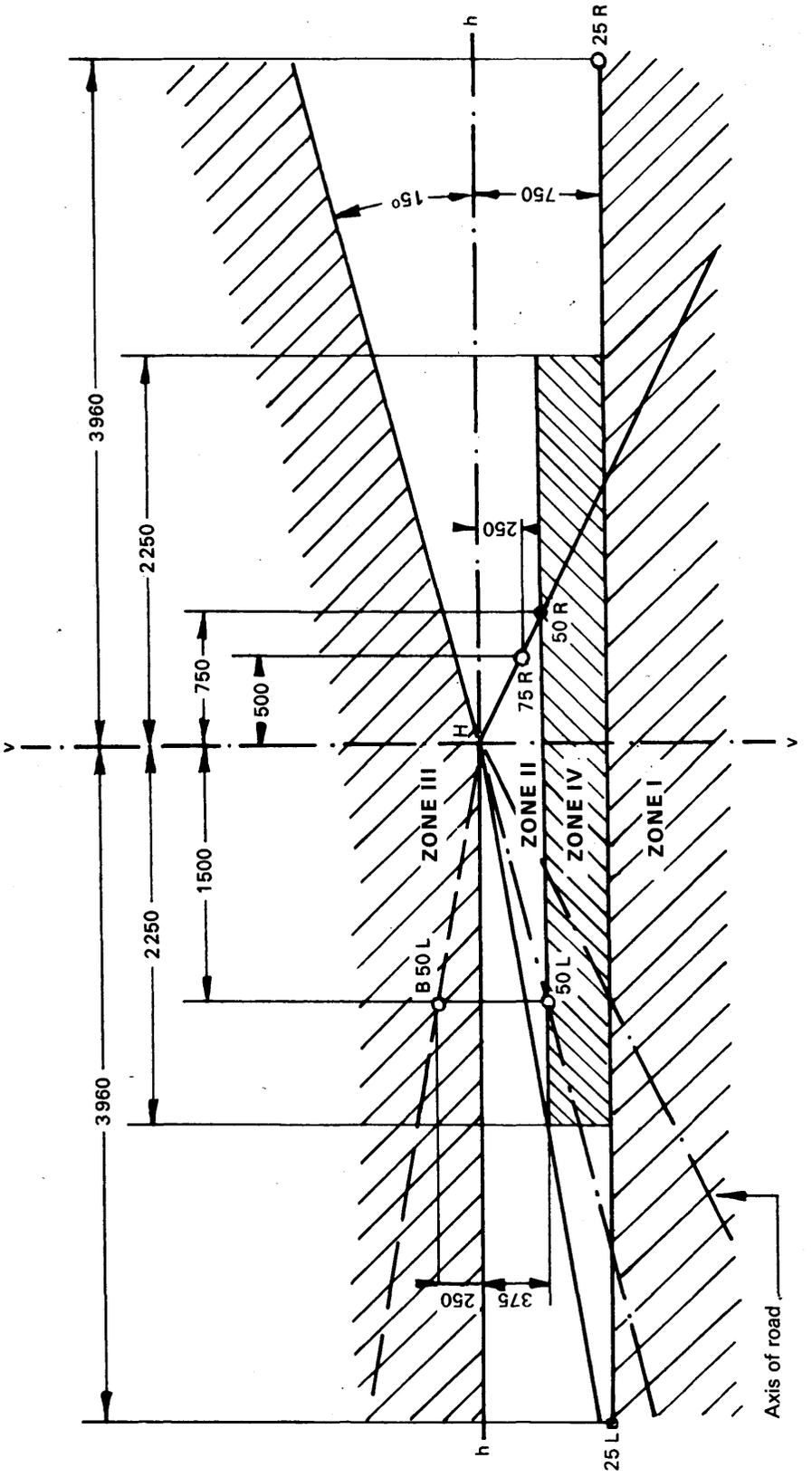
Notification concerning the granting, refusal or withdrawal of EEC component type-approval, or the granting, refusal or withdrawal of an extension of EEC component type-approval, in respect of a type of incandescent-electric filament lamp

Component type-approval No .....

1. Filament lamp with colourless/selective-yellow glass envelope (*):
   — nominal voltage .....
   — nominal wattage(s) .....
2. Trade name or mark .....
3. Name and address of manufacturer .....
4. If applicable, name and address of manufacturer's authorized representative .....
   .....
5. Submitted for EEC component type-approval on .....
6. Technical service conducting the EEC component type-approval tests .....
   .....
7. Date of report issued by that service .....
8. Number of report issued by that service .....
9. Date of granting/refusal/withdrawal of EEC component type-approval (*) .....
   .....
10. Extension of EEC component type-approval .....
11. Date of refusal/withdrawal of extension of EEC component type-approval (*) .....
    .....
12. Place .....
13. Date .....
14. Signature .....
15. The attached drawing No ..... shows the entire filament lamp
16. Remarks .....
    .....
    .....

(*) Delete where inapplicable.

Appendix 1



MEASURING SCREEN

HEADLAMP FOR RIGHT-HAND TRAFFIC

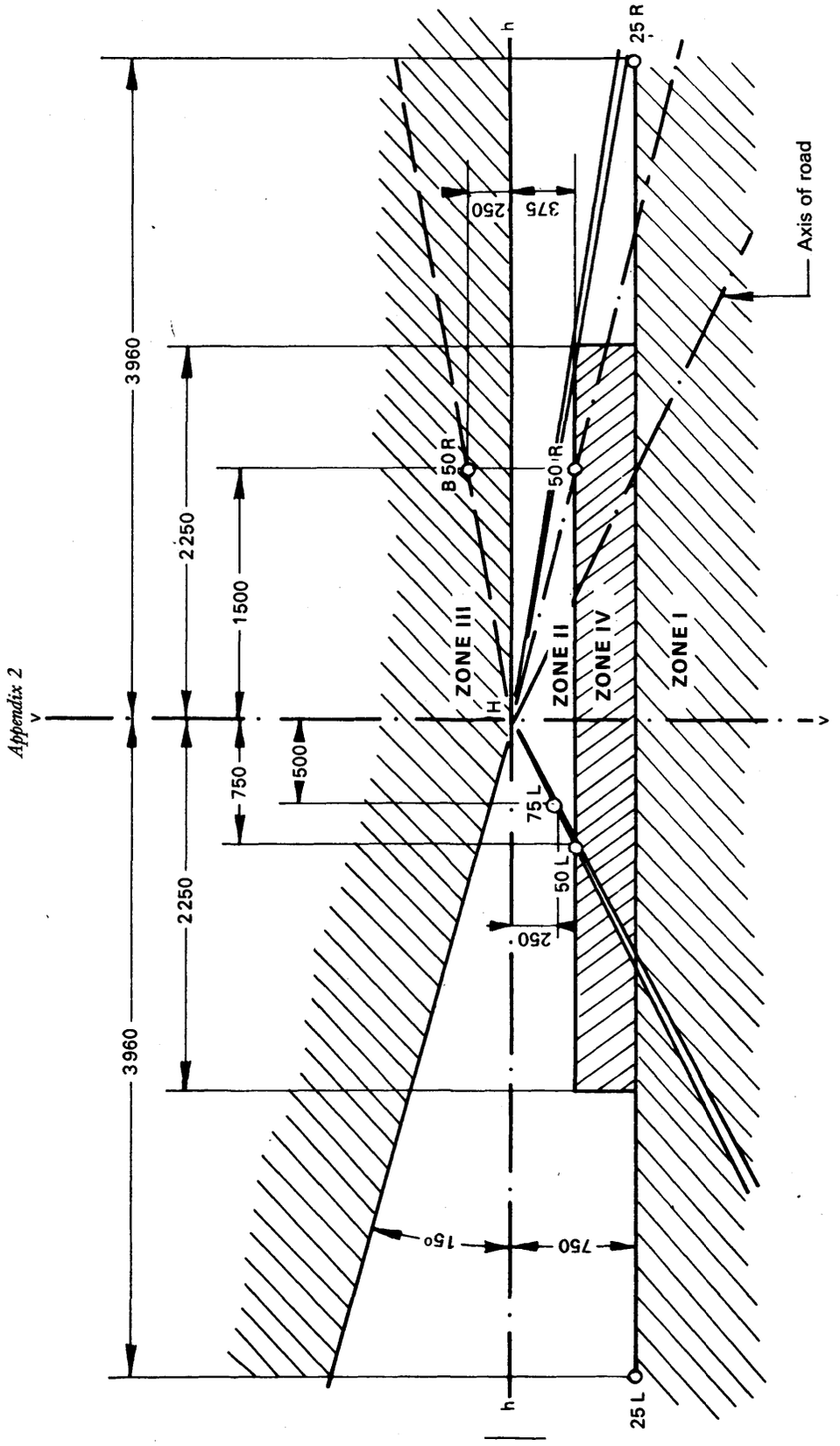
h-h: horizontal plane
v-v: vertical plane
} passing through the focal point of headlamp

Dimensions in mm

ANNEX V

Appendix 1

Appendix 2



MEASURING SCREEN

HEADLAMP FOR LEFT-HAND TRAFFIC

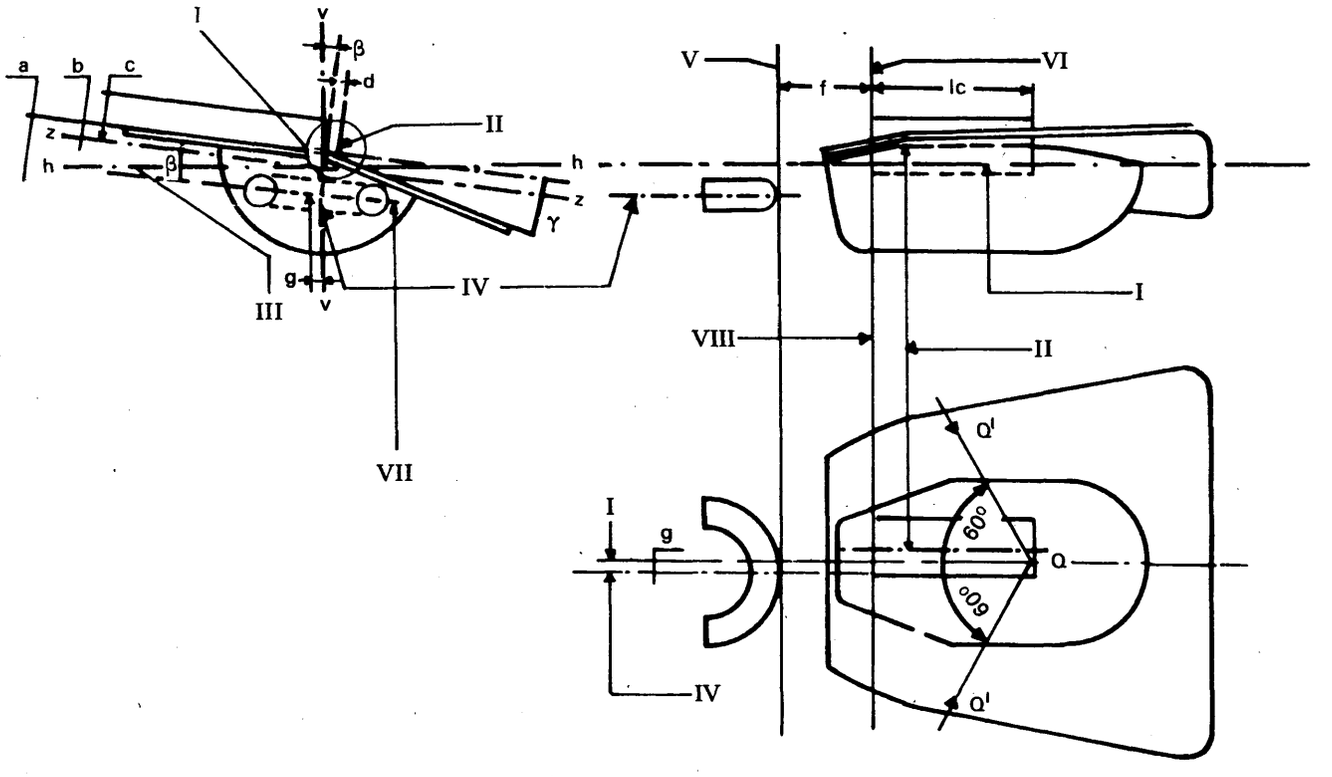
h-h: horizontal plane } passing through the focal point of headlamp
v-v: vertical plane }

Dimensions in mm

Appendix 3

DOUBLE-FILAMENT: INTERNAL ELEMENTS

1. Figure



Key

I. Filament lamp axis.

II. Axis of dipped-beam filament.

III. Plane passing through the axis of the filament lamp perpendicular to the median plane of the positioning lug of reference plane 1.

IV. Axis of main-beam filament.

V. Last turn of main-beam filament.

VI. First bright turn of dipped-beam filament.

VII. The plane passing through the axis of the main-beam filament need not be parallel either with the plane h - h or with the plane z - z.

VIII. Distance e from reference plane.

2. Table

Reference points	Nominal values (mm or degrees)	Tolerances (mm or degrees)	
		Standard filament lamp	Production sample
a	0·6	± 0·15	± 0·35
b	0·2	± 0·15	± 0·35
c	0·5	± 0·15	± 0·30
d	0	± 0·3	± 0·5
e	28·5 (1)	± 0·15	± 0·35
f	1·8 (2)	± 0·2	± 0·4
g	0	± 0·3	± 0·5
l_c	5·5	± 0·5	± 1·5
β	0°	± 0° 30'	± 1° 30'
γ	15°	± 0° 30'	± 1° 30'
Q-Q'	$3/4(l_c+f)$		

(1) 28·8 for 24-volt filament lamps.
(2) 2·2 for 24-volt filament lamps.

3. Notes

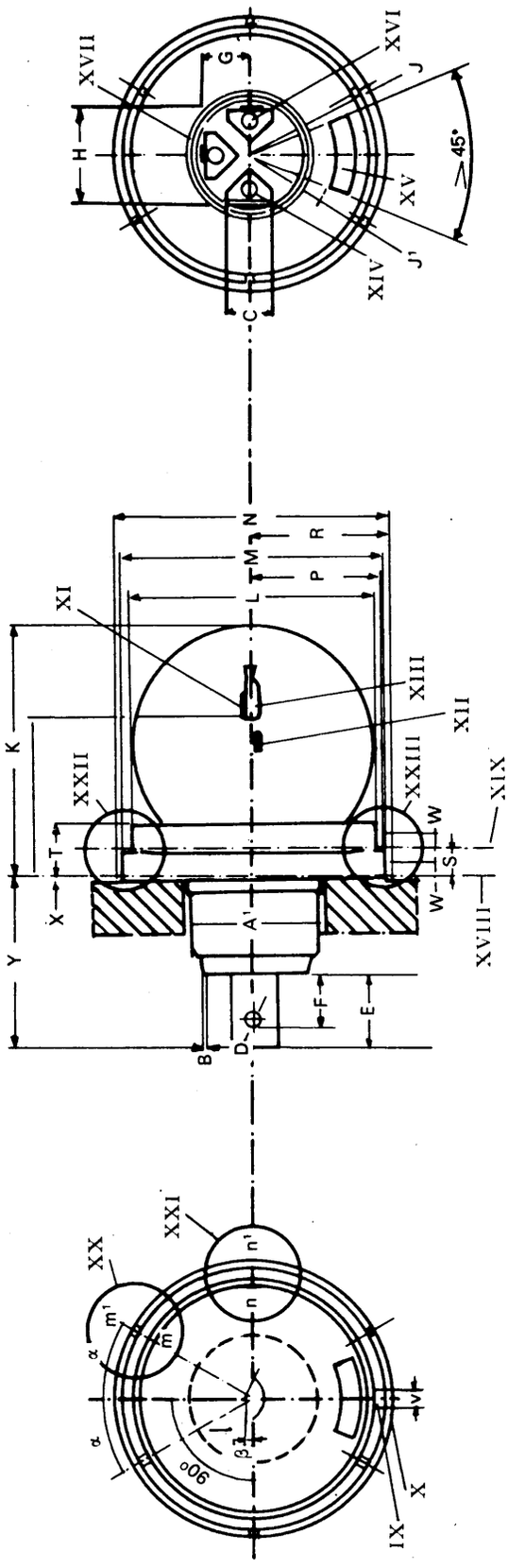
1. The axis of the filament lamp is the perpendicular to reference plane 1 (see figure in Appendix 4) drawn through the intersection of this plane with the axis of the corresponding centering cylinder.

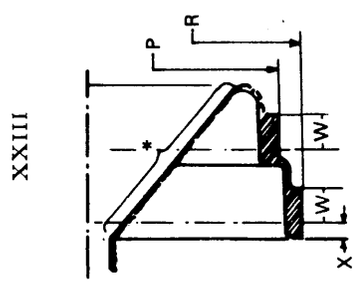
2. The drawing is not mandatory with respect to the design of the shield and filaments.

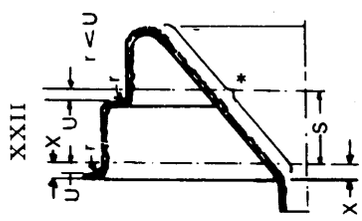
3. The value established for Q - Q' applies solely to the standard filament used for the approval testing of a headlamp; the dimensions of the shield must be such that the points Q' are situated within the edge of the shield.

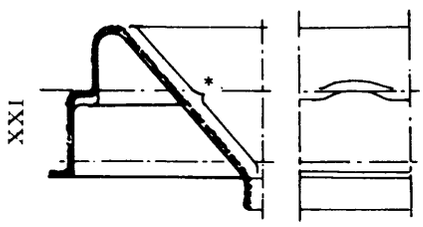
4. The tolerances indicated relate to the test required for the approval of a filament lamp type.

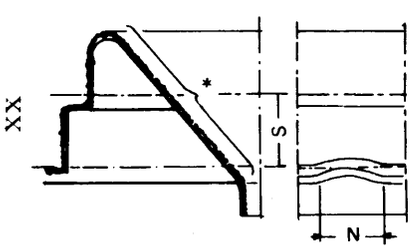
Appendix 4











1. **Figure**

DOUBLE FILAMENT: INTERCHANGEABILITY

Key

IX. Positioning lug for reference plane 2.
X. Positioning lug for reference plane 1.
XI. Dipped-beam filament.
XII. Main-beam filament.
XIII. Shield.
XIV. Earthing contact strip.
XV. Window.
XVI. Main-beam contact strip.
XVII. Dipped-beam contact strip.
XVIII. Reference plane 1.
XIX. Reference plane 2.
XX. Section m-m'.
XXI. Section n-n'.
XXII, XXIII. Details.

2. Table

Reference points	Nominal values (mm or degrees)	Tolerances (mm or degrees)		Reference points	Nomina values (mm or degrees)	Tolerances (mm or degrees)	
		Standard filament lamp	Production sample			Standard filament lamp	Production sample
A_1 (1)	25 min.	—	—	N	47·2	± 0·2	± 0·2
B	0·7	+ 0·1 — 0·0	+ 0·1 — 0·0	P	21·5	+ 0·9 — 0·0	+ 0·9 — 0·0
C	7·7	+ 0·4 — 0·0	+ 0·4 — 0·0	R	23·7	+ 0·0 — 0·4	+ 0·0 — 0·4
D	3	+ 0·3 — 0·0	+ 0·3 — 0·0	S	4·7	± 0·06	± 0·20
E	11·8 to 13·6(2)	—	—	T	9·5 max.	—	—
F	8·8 to 10·3	—	—	U	0·3 min.	—	—
G	8·5	+ 0·5 — 0·0	+ 0·5 — 0·0	V	3	± 0·05	± 0·10
H	17	+ 0·9 — 0·0	+ 0·9 — 0·0	W	2·2	+ 0·0 — 0·4	+ 0·0 — 0·4
J	18 min.	—	—	X	3 max.	—	—
J_1	14·5 max.	—	—	Y	32 max.	—	—
K	50 max.	—	—	r	< U		
L	41·5	+ 0·0 — 0·1	+ 0·0 — 0·2	α	—	25 to 35°	25 to 35°
M	45	+ 0·0 — 0·1	+ 0·0 — 0·2	β	0°	± 0°30'	± 1°30'
				e	28·5 (3)	± 0·15	± 0·35

(1) The symbols A_1 to α are, with the exception of K and Y, identical to the corresponding reference point symbol of the IEC standards.
(2) With soldering, IEC standard 7004-95-1.
(3) 28·8 mm for 24-volt filament lamps.

3. Notes

1. The foregoing reference points correspond to the standards (IEC Publications, sheets 7004-95-1, 7004-95A-1 and 7004-95B-1) adopted by the International Electrotechnical Commission.
2. Only the overall dimensions and the dimensions affecting interchangeability are shown in the drawing and are mandatory.
3. The internal structure of the filament lamp and the corresponding dimensions are given in the drawing in the figure in Appendix 3.
4. The part marked (*) of the cap must not, by reflection of light emitted by the dipped-beam filament, throw any stray rising ray when the filament lamp is in the normal operating position on the vehicle.
5. The diameter of each centering cylinder is measured through any plane of straight section not less than 0·5 mm from the corresponding reference plane for the cylinder.
6. The relative eccentricity (distance between the axes) of the two centering cylinders must not exceed 0·05 mm.
7. A tolerance is allowed for the distance S — the distance between the two reference planes (4·7 mm) — which includes the admissible error in the parallelism of those two planes.
8. The two positioning lugs (IX and X) must be able to fit simultaneously into an opening not exceeding 3·1 mm.
9. The contact strips (XIV, XVI and XVII) must be placed in relation to the positioning lugs either in the position indicated in the drawing or at an angle of 180° from that position, with a tolerance of ± 20° in either case. The window (XV) and the dipped-beam contact strip (XVII) must face each other on opposite sides of the filament lamp axis.

ANNEX VI

EEC COMPONENT TYPE-APPROVAL AND MARKING REQUIREMENTS

1. APPLICATION FOR EEC COMPONENT TYPE-APPROVAL

1.1. The application for EEC component type-approval shall be submitted by the holder of the trade name or mark or by his authorized representative.

1.2. The application shall be accompanied by:

1.2.1. for each type of headlamp which functions as a main-beam and/or dipped-beam headlamp:

1.2.1.1. an indication as to whether the lamp is intended to provide both a dipped beam and main beam or only one of these beams; if the headlamp is intended to provide a dipped beam, whether it is designed for both left-hand and right-hand traffic or for either left-hand or right-hand traffic only;

1.2.1.2. a brief technical specification;

1.2.1.3. drawings (three copies), in sufficient detail to permit identification of the type and showing a front view of the headlamp with, if necessary, details of the pattern of the lens moulding, and in cross-section.

The drawings must indicate the position which the component type-approval mark, (particularly the type-approval number and the category reference[s] is to occupy in the type-approval mark rectangle;

1.2.1.4. two samples;

1.2.2. for each type of filament lamp:

1.2.2.1. a brief technical specification;

1.2.2.2. drawings, (three copies), in sufficient detail to permit identification of the type and showing the entire filament lamp on the scale of 2 : 1, its shield being shown both in front view and in cross-section.

The drawings must indicate the position which the component type-approval mark (particularly the type-approval number and the category reference[s]) is to occupy in the type-approval mark rectangle;

1.2.2.3. in the case of filament lamps with colourless glass envelopes — five samples; in the case of filament lamps with coloured glass envelopes — one sample with a coloured glass envelope and five samples with colourless glass envelopes, the latter five differing from the former only in that the glass is not coloured. Where the type of filament lamp concerned differs only in respect of colour from a colourless type which has previously satisfied the tests referred to in sections 4 to 8 of Annex III, it will be sufficient to submit one sample with a coloured glass envelope, and the only tests to be made on this sample will be those referred to in section 9 of Annex III.

2. MARKINGS

2.1. **Headlamps which function as main-beam and/or dipped-beam headlamps**

2.1.1. Samples of a type of headlamp which functions as a main-beam and/or dipped-beam headlamp submitted for EEC component type-approval must bear the trade name or mark of the applicant.

2.1.2. Each headlamp shall include on both the glass and the lamp housing a space of sufficient size for the EEC component type-approval mark.

If the glass cannot be separated from the main body of the headlamp, the provision of a marking area on the glass will suffice. This space must correspond to the one shown in the drawings mentioned in 1.2.1.3.

2.1.3. In the case of headlamps designed to meet the requirements of traffic moving on one side of the road only (either right or left), the area which can be occulted to prevent discomfort to users in a Member State where traffic moves on the opposite side of the road shall be outlined indelibly on the front glass. This marking is not necessary, however, where the area is clearly apparent from the design.

2.1.4. In the case of headlamps designed to satisfy the requirements both of Member States with right-hand traffic and of Member States with left-hand traffic, the two settings of the optical unit on the vehicle or of the filament lamp on the reflector shall be marked by the capital letters R and D, the right-hand traffic and L and G, for left-hand traffic.

2.2. **Filament lamps for headlamps which function as main-beam and/or dipped-beam headlamps**

2.2.1. Samples of a type of filament lamp for headlamps which function as main-beam and/or dipped-beam headlamps submitted for EEC component type-approval must bear the trade name of the applicant.

2.2.2. Each filament lamp shall include a space of sufficient size for the EEC component type-approval mark; this space must correspond to the one shown in the drawings mentioned in 1.2.2.2.

2.2.3. They shall at least indicate the nominal voltage, and the nominal wattage of the main-beam filament, followed by the nominal wattage of the dipped-beam filament.

2.3. Markings must be clearly legible and indelible.

3. EEC COMPONENT TYPE-APPROVAL

3.1. If all the samples submitted in accordance with section 1 meet the requirements of sections 5 and 6 of Annex I for headlamps and sections 5, 6, 7, 8, 9, 10 and 11 of Annex III for filament lamps, EEC component type-approval shall be granted and a component type-approval number assigned.

3.2. This number shall not be assigned to any other type of headlamp or filament lamp except in the case of the extension of EEC component type-approval to another type of headlamp or filament lamp differing only in the colour of the light emitted.

3.3. Where EEC component type-approval is requested for a type of lighting and light-signalling device comprising headlamps which function as main-beam and/or dipped-beam headlamps and other lamps, a single EEC component type-approval mark may be issued provided that the headlamps comply with the requirements of this Directive and that each of the other lamps forming part of the lighting and light-signalling device for which EEC component type-approval is requested complies with the specific Directive applying to it.

4. MARKS

4.1. All headlamps which function as main-beam and/or dipped-beam headlamps and all filament lamps for these headlamps conforming to a type approved under this Directive shall bear an EEC component type-approval mark.

4.2. This mark shall consist of a rectangle surrounding the lower case letter 'e', followed by the distinguishing letter(s) or number of the Member State which has granted the component type-approval:

1 for Germany,
2 for France,
3 for Italy,
4 for the Netherlands,
6 for Belgium,
11 for the United Kingdom,
13 for Luxembourg,
DK for Denmark,
IRL for Ireland.

It must also include the EEC component type-approval number corresponding to the number of the EEC component type-approval document issued for the type of headlamp or filament lamp concerned. In the case of a headlamp, this number shall be placed beneath the rectangle and, in the case of a filament lamp, near the rectangle.

4.3. For headlamps which function as main-beam and/or dipped-beam headlamps, the EEC component type-approval mark shall be supplemented by the following additional symbols:

4.3.1. a horizontal arrow below the rectangle pointing to the right of an observer facing the headlamp, i.e. to the side of the road on which the traffic moves, on headlamps meeting the requirements of left-hand traffic only;

4.3.2. A horizontal arrow below the rectangle with a head at each end, the heads pointing respectively to the left and to the right, on headlamps designed to meet the requirements of both traffic systems by means of selective setting of the optical unit or of the filament lamp;

4.3.3. the letter 'C' set above the rectangle, on headlamps meeting the requirements of this Directive in respect of the dipped beam only;

4.3.4. the letter 'R' set above the rectangle, on headlamps meeting the requirements of this Directive in respect of the main beam only;

4.3.5. the letters 'CR' set above the rectangle, on headlamps meeting the requirements of this Directive in respect of both the dipped beam and the main beam.

4.4. The EEC component type-approval mark and the additional symbols must be affixed in such a way as to be indelible and clearly legible. In the case of a headlamp, they must be affixed on the lens of the lamp or on one of the lenses in such a way as to remain legible even when the headlamp is fitted on the vehicle.

4.5. Examples of the EEC component type-approval marks and additional symbols are shown in the Appendix.

4.6. Where a single EEC component type-approval number is issued for a type of lighting and light-signalling device comprising headlamps which function as main-beam and/or dipped-beam headlamps and other lamps, one EEC component type-approval mark only may be affixed, consisting of:

— a rectangle sourrounding the letter 'e' followed by the distinguishing letter(s) or number of the Member States which has granted the type-approval,

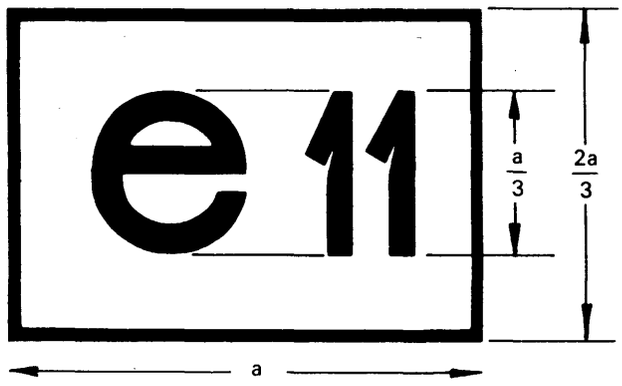
— the EEC component type-approval number,

— the additional symbols required by the various Directives under which EEC component type-approval was granted.

4.7. The dimensions of the various components of this mark must not be less than the largest of the minimum dimensions specified for individual markings by the various Directives under which the EEC component type-approval was granted.

Appendix

EXAMPLES OF THE EEC COMPONENT TYPE-APPROVAL MARKS



Dimensions	a
For filament lamps	≥ 4 mm
For headlamps	≥12 mm

Figure 1

The device bearing the EEC component type-approval mark above is a headlamp EEC type-approved in the United Kingdom (e 11) under the number 1471.

Note:

Headlamps meeting the requirements of Annex I shall bear, in addition:

— the letters CR if they meet the requirements of Annex I with respect to both the dipped beam and the main beam (see figures 2, 3 und 4),

— the letter R if they meet the requirements of Annex I with respect to the main beam only (see figure 8).

In addition, if the headlamps are designed for left-hand traffic or, by means of selective setting of the optical unit or of the filament lamp, for both traffic systems, they shall display a horizontal arrow ending, in the first case, in a head directed to the right (see figures 3 and 7), and in the the second case in two heads, one directed to the right and one to the left (see figures 4 and 5).

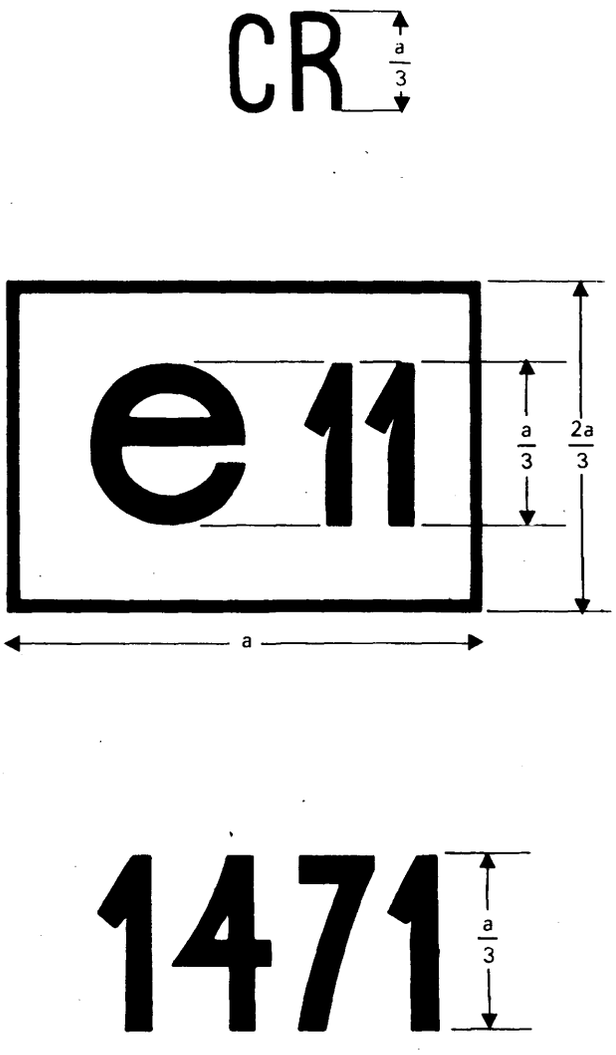


Figure 2

Identification of a headlamp meeting the requirements of Annex I with respect to both the dipped beam and the main beam and designed for right-hand traffic only.

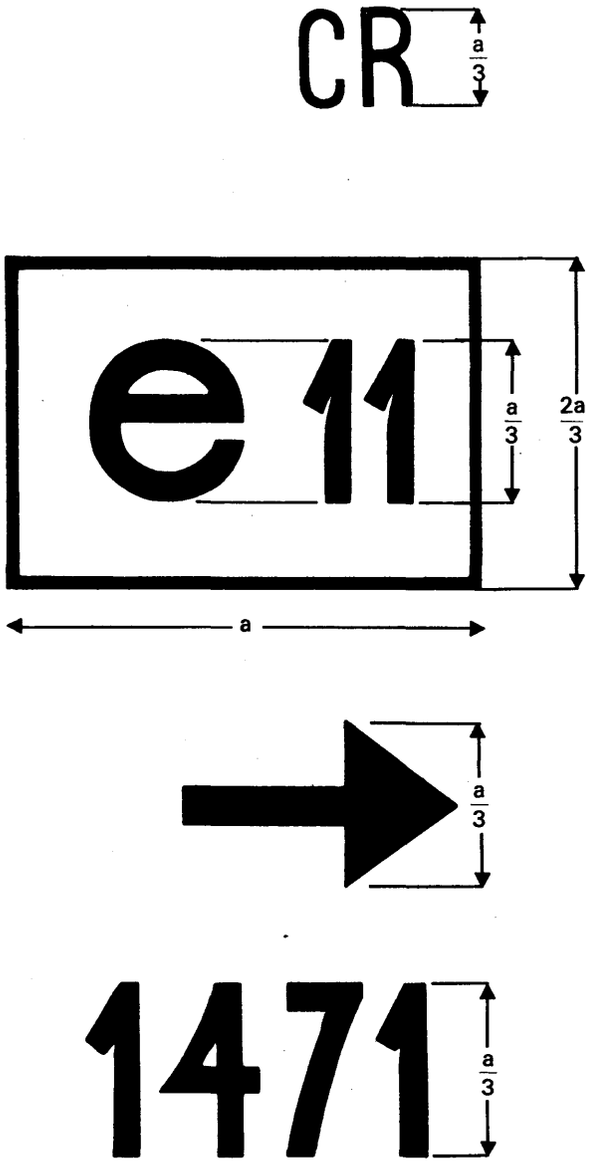


Figure 3

Identification of a headlamp meeting the requirements of Annex I with respect to both the dipped beam and the main beam and designed for left hand traffic only.

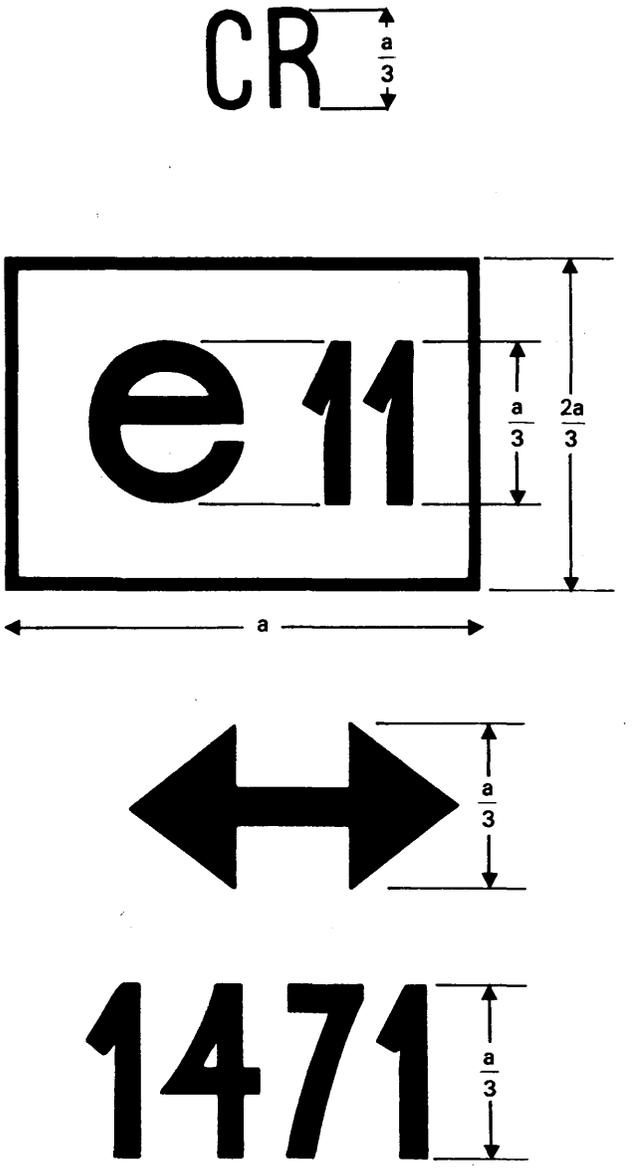


Figure 4

Identification of a headlamp meeting the requirements of Annex I with respect to both the dipped beam and the main beam and designed for both traffic systems, by means of selective setting of the optical unit or of the filament lamp.

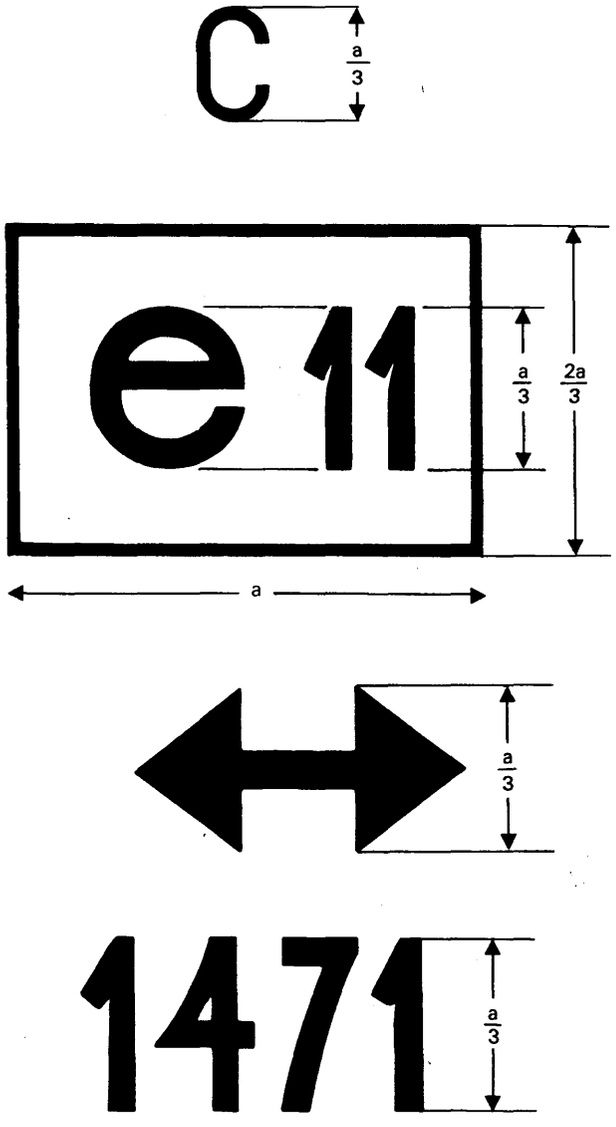


Figure 5

Identification of a headlamp meeting the requirements of Annex I with respect to the dipped beam only and designed for both traffic systems.

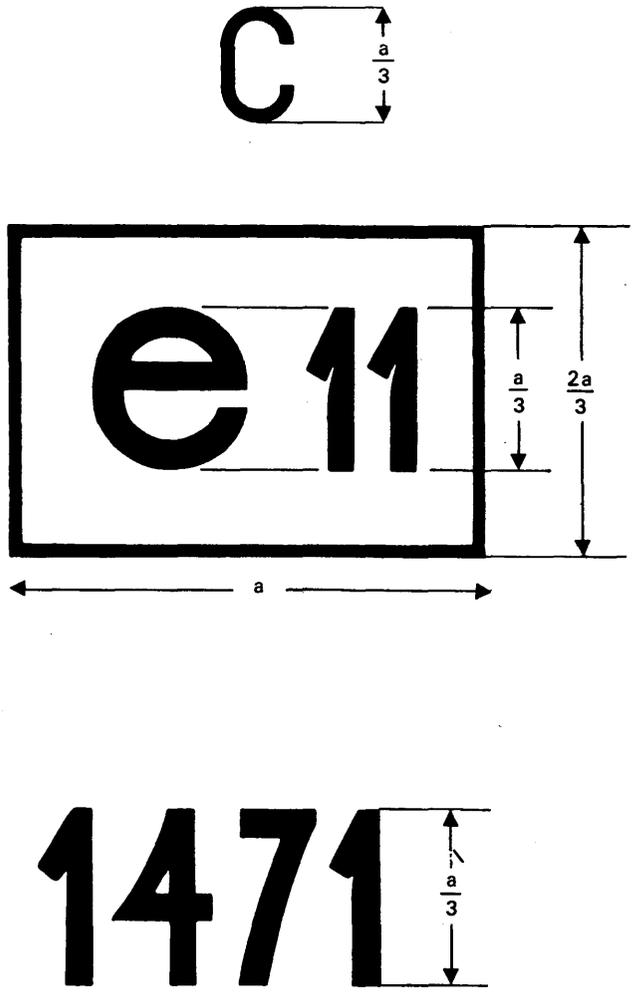


Figure 6

Identification of a headlamp meeting the requirements of Annex I with respect to the dipped beam only and designed for right-hand traffic only.

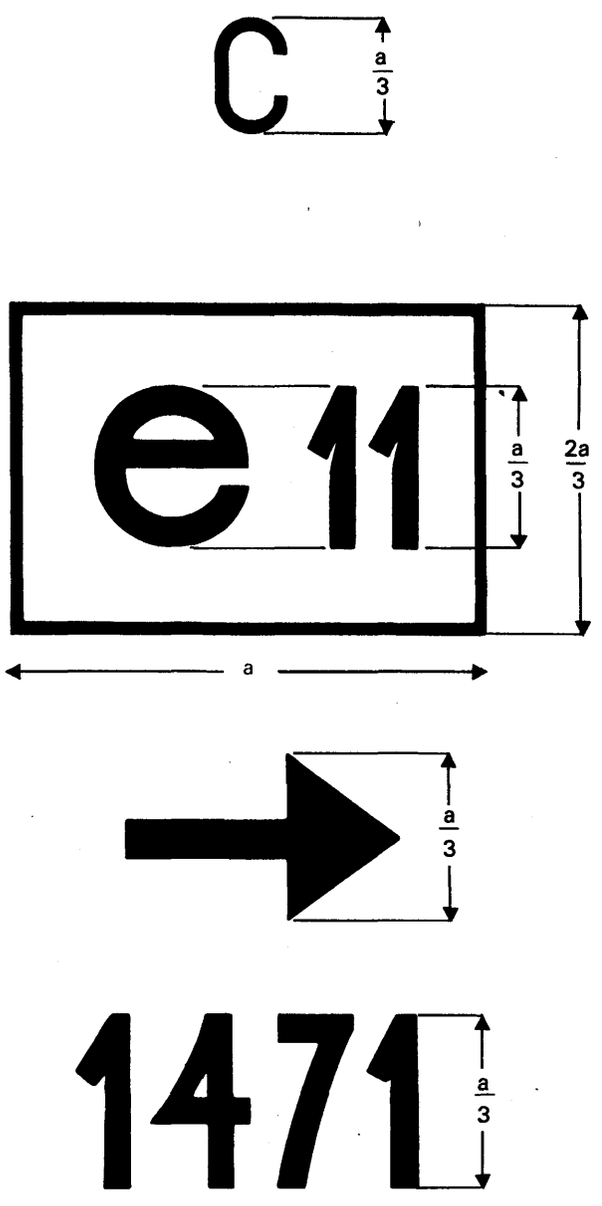


Figure 7

Identification of a headlamp meeting the requirements of Annex I with respect to the dipped beam only and designed for left-hand traffic only.

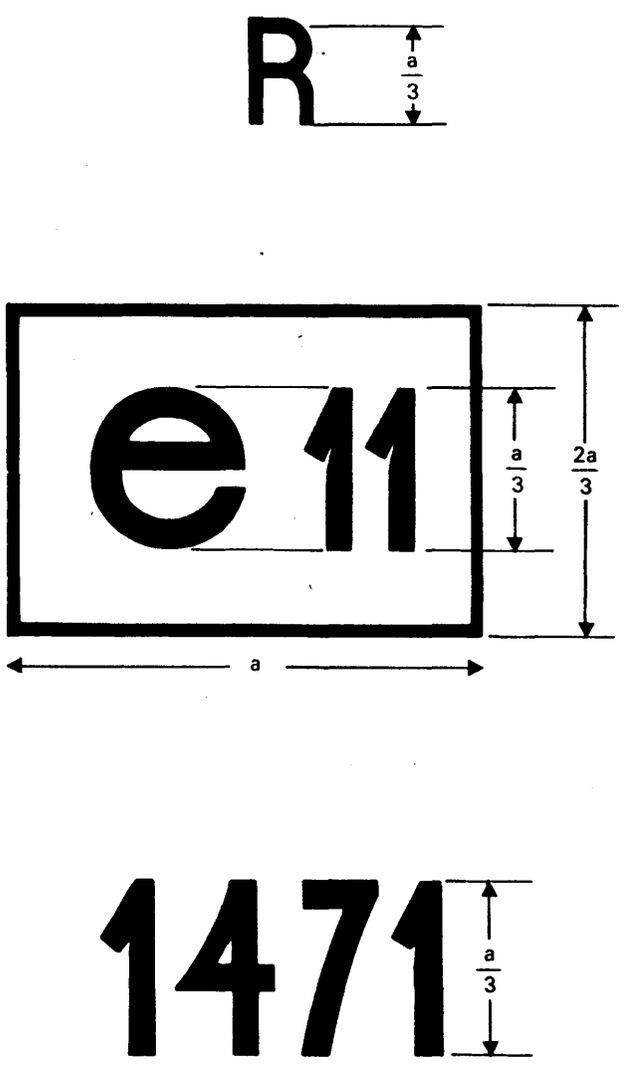


Figure 8

Identification of a headlamp meeting the requirements of Annex I with respect to the main beam only.

COUNCIL DIRECTIVE

of 27 July 1976

on the approximation of the laws of the Member States relating to front fog lamps for motor vehicles and filament lamps for such lamps

(76/762/EEC)

THE COUNCIL OF THE EUROPEAN COMMUNITIES,

Having regard to the Treaty establishing the European Economic Community, and in particular Article 100 thereof,

Having regard to the proposal from the Commission,

Having regard to the opinion of the European Parliament (1),

Having regard to the opinion of the Economic and Social Committee (2),

Whereas the technical requirements which motor vehicles must satisfy pursuant to national laws relate *inter alia* to their front fog lamps;

Whereas those requirements differ from one Member State to another; whereas it is therefore necessary that all Member States adopt the same requirements either in addition to or in place of their existing rules, in order, in particular, to allow the EEC type-approval procedure which was the subject of Council Directive 70/156/EEC of 6 February 1970 on the approximation of the laws of the Member States relating to the type-approval of motor vehicles and their trailers (3), to be introduced in respect of each type of vehicle;

Whereas in Directive 76/756/EEC (4), the Council laid down the common requirements for the installation of lighting and light-signalling devices on motor vehicles and their trailers;

Whereas a harmonized type-approval procedure for front fog lamps makes it possible for each Member State to check compliance with the common construction and testing requirements and to inform the other Member States of its findings by sending a copy of the component type-approval certificate completed for each type of front fog lamp; whereas the placing of an EEC component type-approval mark on all front fog lamps manufactured in conformity with the approved type obviates any need for technical checks on these front fog lamps in the other Member States:

Whereas it is desirable to take into account the technical requirements adopted by the UN Economic Commission for Europe in its Regulation No 19 ('Uniform provisions concerning the approval of motor vehicle fog lights') (5), which is annexed to the Agreement of 20 March 1958 concerning the adoption of uniform conditions for approval and reciprocal recognition of approval for motor vehicle equipment and parts;

Whereas the approximation of national laws relating to motor vehicles entails reciprocal recognition by Member States of the checks carried out by each of them on the basis of the common requirements,

HAS ADOPTED THIS DIRECTIVE:

Article 1

1. Each Member State shall grant EEC component type-approval for any type of front fog lamp which satisfies the construction and testing requirements laid down in Annexes 0, II, III, IV and V.

2. The Member State which granted EEC component type-approval shall take the measures required in order to verify that production models conform to the approved type, in so far as this is necessary and if need be in cooperation with the competent authorities in the other Member States. Such verification shall be limited to spot checks.

(1) OJ No C 55, 13. 5. 1974, p. 14.
(2) OJ No C 109, 19. 9. 1974, p. 24.
(3) OJ No L 42 , 23. 2. 1970, p. 1.
(4) See page 1 of this Official Journal.

(5) Economic Commission for Europe, Document E/ECE/324 } rev. 1, Addendum 18, rev. 1 of 22 E/ECE/TRANS/505 } August 1974.

Article 2

Member States shall, for each type of front fog lamp which they approve pursuant to Article 1, issue to the manufacturer, or to his authorized representative, an EEC component type-approval mark conforming to the model shown in Annex II.

Member States shall take all appropriate measures to prevent the use of marks liable to create confusion between front fog lamps which have been type-approved pursuant to Article 1, and other devices.

Article 3

1. No Member State may prohibit the placing on the market of front fog lamps on grounds relating to their construction or method of functioning if they bear the EEC component type-approval mark.

2. Nevertheless, a Member State may prohibit the placing on the market of front fog lamps bearing the EEC component type-approval mark which consistently fail to conform to the approved type.

That State shall inform the other Member States and the Commission forthwith of the measures taken, specifying the reasons for its decision.

Article 4

The competent authorities of each Member State shall within one month send to the competent authorities of the other Member States a copy of the component type-approval certificates, an example of which is given in Annex I, completed for each type of front fog lamp which they approve or refuse to approve.

Article 5

1. If the Member State which has granted EEC component type-approval finds that a number of front fog lamps bearing the same EEC component type-approval mark do not conform to the type which it has approved, it shall take the necessary measures to ensure that production models conform to the approved type. The competent authorities of that State shall advise those of the other Member States of the measures taken which may, where there is consistent failure to conform, extend to withdrawal of EEC component type-approval. The said authorities shall take the same measures if they are informed by the competent authorities of another Member State of such failure to conform.

2. The competent authorities of Member States shall inform each other within one month of any withdrawal of EEC component type-approval, and of the reasons for such a measure.

Article 6

Any decision taken pursuant to the provisions adopted in implementation of this Directive, to refuse or withdraw EEC component type-approval for front fog lamps or prohibit their placing on the market or use shall set out in detail the reasons on which it is based. Such decisions shall be notified to the party concerned, who shall at the same time be informed of the remedies available to him under the laws in force in the Member States and of the time limits allowed for the exercise of such remedies.

Article 7

No Member State may refuse to grant EEC type-approval or national type-approval of any vehicle on grounds relating to its front fog lamps if these bear the EEC component type-approval mark and are fitted in accordance with the requirements laid down in Directive 76/756/EEC.

Article 8

No Member State may refuse or prohibit the sale, registration, entry into service or use of any vehicle on grounds relating to its front fog lamps if these bear the EEC component type-approval mark and are fitted in accordance with the requirements laid down in Directive 76/756/EEC.

Article 9

For the purposes of this Directive, 'vehicle' means any motor vehicle intended for use on the road, with or without bodywork, having at least four wheels and a maximum design speed exceeding 25 km/h, with the exception of vehicles which run on rails, agricultural tractors and machinery and public works vehicles.

Article 10

Any amendments necessary to adjust the requirements of the Annexes to take account of technical progress

shall be adopted in accordance with the procedure laid down in Article 13 of Directive 70/156/EEEC.

Article 11

1. Member States shall adopt and publish the provisions necessary in order to comply with this Directive before 1 July 1977 and shall forthwith inform the Commission thereof. They shall apply these provisions from 1 October 1977 at the latest.

2. Once this Directive has been notified, the Member States shall also ensure that the Commission is informed, in sufficient time for it to submit its comments, of any draft laws, regulations or administrative provisions which they propose to adopt in the field covered by this Directive.

Article 12

This Directive is addressed to the Member States.

Done at Brussels, 27 July 1976.

For the Council

The President

M. van der STOEL

List of Annexes

(*) The technical requirements of the Annexes are similar to those of Regulation No 19, rev. 1, of the Economic Commission for Europe. In particular, the breakdown into sections is the same. For this reason, where a section in Regulation No 19, rev. 1, has no counterpart in this Directive, its number is shown in brackets, for the record.

ANNEX 0

DEFINITIONS, GENERAL SPECIFICATIONS, ILLUMINATION, CONFORMITY OF PRODUCTION

1. DEFINITIONS

1.1. **Front fog lamp**

'Front fog lamp' means the lamp used to improve the illumination of the road in case of fog, snowfall, rainstorms or dust clouds.

1.2. **Type of front fog lamp**

'Type of front fog lamp' means front fog lamps which do not differ in such essential respects as:

1.2.1. the trade name or mark;

1.2.2. the characteristics of the optical system;

1.2.3. the inclusion of components capable of altering the optical effects by reflection, refraction or absorption; and

1.2.4. the type of filament lamp.

(2.)

(3.)

(4.)

5. GENERAL SPECIFICATIONS

5.1. Each sample submitted in accordance with 1.2.3 of Annex II shall conform to the specifications set forth in sections 6 and 7.

5.2. The front fog lamps shall be so designed and constructed that under normal conditions of use, notwithstanding any vibration to which they may be subjected during such use, their satisfactory operation remains assured and they retain the characteristics prescribed by this Directive. The correct position of the lens shall be clearly marked and the lens and reflector shall be so secured as to prevent any rotation during use.

5.3. Conformity with the requirements of this section shall be verified by visual inspection and, where necessary, by a trial fitting.

6. ILLUMINATION

6.1. Front fog lamps shall be so designed as to provide illumination with limited dazzle.

6.2. The illumination produced by the front fog lamp shall be determined by means of a vertical screen set up 25 m forward of the lens and at right angles to the axis of the front fog lamp. The point HV is the base of the perpendicular from the centre of the lamp to the screen. The line hh is the horizontal through HV (see Annex V).

6.3. In the case of a type of construction other than a sealed-beam type, a colourless standard filament lamp shall be used of the type specified by the manufacturer in accordance with the requirements of Annex IV, designed for a nominal voltage of 12 V and supplied by the manufacturer; it shall be supplied with electric current at a voltage such that it produces the flux prescribed for the tests corresponding to its type. In the case of a sealed-beam type of construction, current shall be supplied at the test voltage (6·0 V, 12·0 V or 24·0 V as appropriate).

6.4. The beam shall produce on the screen, over a width of not less that 225 cm on both sides of the line vv, a horizontal cut-off which is sufficiently sharp to enable adjustment to be performed with its aid.

6.5. The front fog lamp shall be so directed that the cut-off on the screen is 50 cm below the line hh.

6.6. When so adjusted, the front fog lamp shall meet the requirements set out in 6.7.

6.7. The illumination produced on the screen (see Annex V) shall meet the following requirements:

Zone on measuring screen	Zone limits	Illumination required (in lux)
A	225 cm on both sides of the line vv and 75 cm above hh	$\geq 0{\cdot}15$ and ≤ 1
B	1 250 cm on both sides of the line vv and 150 cm above hh, including hh (except Zone A)	≤ 1
C	1 250 cm both sides of the line vv and starting from 150 cm above hh. The light intensity of the fog lamp making an upward angle in any direction of more than 15° with the horizontal plane shall be limited to 200 cd	$\leq 0{\cdot}5$
D	450 cm on both sides of the line vv between the parallels to hh situated 75 and 150 cm respectively below hh	On each vertical line in this zone there shall be at least one point (a, b, c) where the illumination is $\geq 1{\cdot}5$
E	From 450 to 1 000 cm on both sides of zone D between the parallels to hh situated 75 and 150 cm respectively below hh	On each vertical line in this zone there shall be at least one point where the illumination is $\geq 0{\cdot}5$

Note: The illumination specifications shall apply also to the straight lines bounding the zones. The most stringent specification shall be applied in the case of the straight lines adjacent to two zones.

The illumiation shall be measured either in white light or in coloured light as prescribed by the manufacturer for use of the front fog lamp in normal service. No variations in illumination detrimental to satisfactory visibility shall exist in either of the Zones B and C.

6.8. The screen illumination referred to in 6.7 shall be measured by means of a photo-electric cell, the photo-sensitive area of which shall be contained within a square of side 65 mm.

7. COLOUR OF LIGHT EMITTED

EEC component type-approval may be obtained for a type of front fog lamp emitting either white or yellow (*) light. The colouring, if any, of the beam may be obtained either through the filament lamp glass envelope or through the lens of the front fog lamp or by any other suitable means.

(8.)

(9.)

10. CONFORMITY OF PRODUCTION

Every front fog lamp bearing an EEC component type-approval mark shall conform to the type approved and satisfy the photometric requirements set out in section 6.

(11.)

(12.)

(*) Same definition as for 'selective yellow', but with a different purity factor: the limit towards white shall be $y \geq -x + 0{\cdot}940$ and $y \geq 0{\cdot}440$ instead of: $y \geq x + 0{\cdot}966$, as for selective yellow.

ANNEX I

MODEL EEC COMPONENT TYPE-APPROVAL CERTIFICATE

(Maximum format: A4 (210 × 297 mm))

Name of administration

Notification concerning the granting, refusal or withdrawal of EEC component type-approval or the granting, refusal or withdrawal of an extension of EEC component type-approval for a type of front fog lamp

Component type-approval No .....

1. Front fog lamp designed to emit white/yellow light (*) .....
   .....
2. Front fog lamp using a filament lamp of type F_1, F_2, F_3, H_1, H_2, H_3 (*) .....
3. Nominal voltage (in the case of a sealed-beam lamp) .....volts
4. Trade name or mark .....
5. Name and address of manufacturer .....
6. If applicable, name and address of manufacturer's authorized representative .....
   .....
7. Submitted for EEC component type-approval on .....
8. Technical service conducting EEC component type-approval tests .....
   .....
9. Date of report issued by that service .....
10. Number of report issued by that service .....
11. Extension of type-approval: yellow/white (*) .....
12. Date of granting/refusal/withdrawal of EEC component type-approval (*) .....
13. Date of granting/refusal/withdrawal of extension of EEC component type-approval (*)
    .....
14. Single EEC component type-approval granted on the basis of 3.3 of Annex II, for a lighting and light-signalling device comprising several lamps, and in particular: .....
    .....
15. Date of refusal/withdrawal (*) of single EEC component type-approval .....
16. Place .....
17. Date .....
18. Signature .....
19. The attached drawing No ..... shows a front view of the front fog lamp, with details of the pattern of the lens moulding, and in cross-section
20. Remarks .....
    .....

(*) Delete where inapplicable.

ANNEX II

EEC COMPONENT TYPE-APPROVAL AND MARKING REQUIREMENTS

1. APPLICATION FOR EEC COMPONENT TYPE-APPROVAL

1.1. The application for EEC component type-approval shall be submitted by the holder of the trade name or mark or by his authorized representative.

1.2. For each type of front fog lamp, the application shall be accompanied by:

1.2.1. a brief technical specification. If the lamp is not of the sealed-beam type, the type of filament lamp shall be specified. This type must be one of those whose characteristics are specified in Annex III;

1.2.2. drawings (three copies) in sufficient detail to permit identification of the type of lamp, showing a front view of the lamp, with if necessary details of the pattern of the lens moulding and in cross section. The drawings shall show the intended position of the EEC component type-approval number and the additional symbol in relation to the rectangle containing the EEC component type-approval mark;

1.2.3. two samples of the type of front fog lamp.

2. MARKINGS

2.1. The samples of the type of front fog lamp submitted for EEC component type-approval must bear the applicant's trade name or mark, which must be clearly legible and indelible.

2.2. Each lamp shall include on both the lens and the lamp housing a space of sufficient size for the EEC component type-approval mark. This shall be indicated on the drawings referred to in 1.2.2.

3. EEC COMPONENT TYPE-APPROVAL

3.1. If all the samples submitted in accordance with section 1 meet the requirements of sections 5, 6 and 7 of Annex 0, EEC component type-approval shall be granted and a component type-approval number issued.

3.2. This number shall not be assigned to any other type of front fog lamp except where EEC component type-approval is extended to another type of lamp differing only as to the colour.

3.3. Where EEC component type-approval is requested for a type of lighting and light-signalling device comprising a front fog lamp and other lamps, a single EEC component type-approval mark may be issued provided that the front fog lamp complies with the requirements of this Directive and each of the other lamps forming part of the type of lighting and light-signalling device for which EEC type-approval is requested, complies with the specific Directive applying to it.

4. MARKS

4.1. Every front fog lamp conforming to a type approved under this Directive shall bear an EEC component type-approval mark.

4.2. This mark shall consist of a rectangle surrounding the lower case letter 'e', followed by the distinguishing letter(s) or number of the Member State which has granted the type-approval:

1 for Germany,

2 for France,

3 for Italy,

4 for the Netherlands,

6 for Belgium,

11 for the United Kingdom,
13 for Luxembourg,
DK for Denmark,
IRL for Ireland.

It must also include the EEC component type-approval number which corresponds to the number of the EEC component type-approval certificate issued for the type of front fog lamp in question.

4.3. The EEC component type-approval mark shall be supplemented by an additional symbol 'B'.

4.4. The EEC component type-approval number must be placed in any convenient position near the rectangle surrounding the letter 'e'.

4.5. The EEC component type-approval mark and the additional symbol must be affixed to the lens of the lamp, or one of the lenses, in such a way as to be indelible and clearly legible even when the front fog lamps are fitted on the vehicle.

4.6. An example of the EEC component type-approval mark and the additional symbol is shown in the Appendix.

4.7. Where a single EEC type-approval number is issued, as under 3.3, for a type of lighting and light-signalling device comprising a front fog lamp and other lamps, one EEC component type-approval mark only may be affixed, consisting of:

— a rectangle surrounding the letter 'e', followed by the distinguishing letter(s) or number of the Member State which has granted the type-approval,

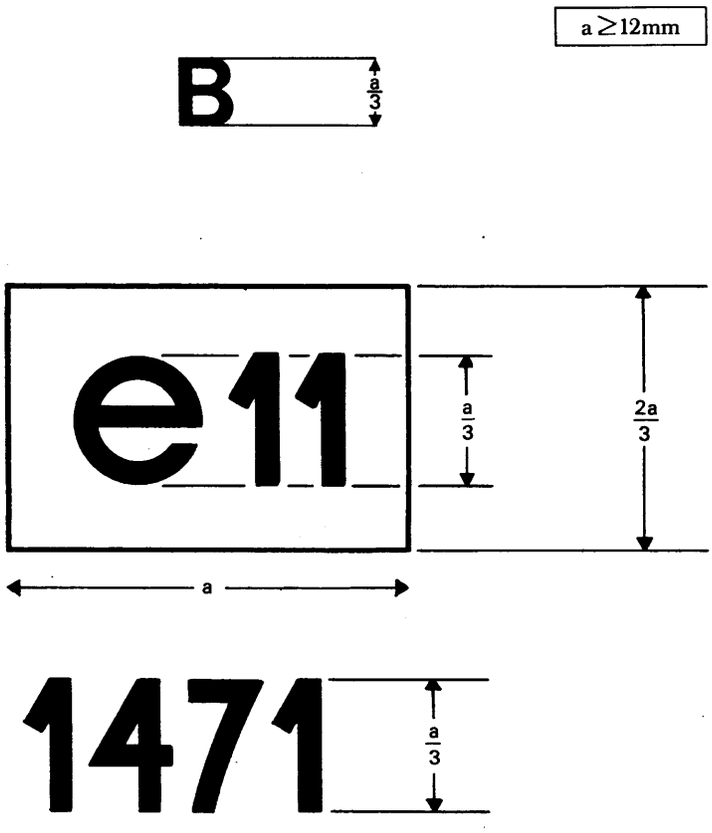
— an EEC component type-approval number,

— the additional symbols required by the various Directives under which EEC component type-approval was granted.

4.8. The dimensions of the various components of this mark must not be less than the largest of the minimum dimensions specified for individual markings by the various Directives under which the EEC component type-approval was granted.

Appendix

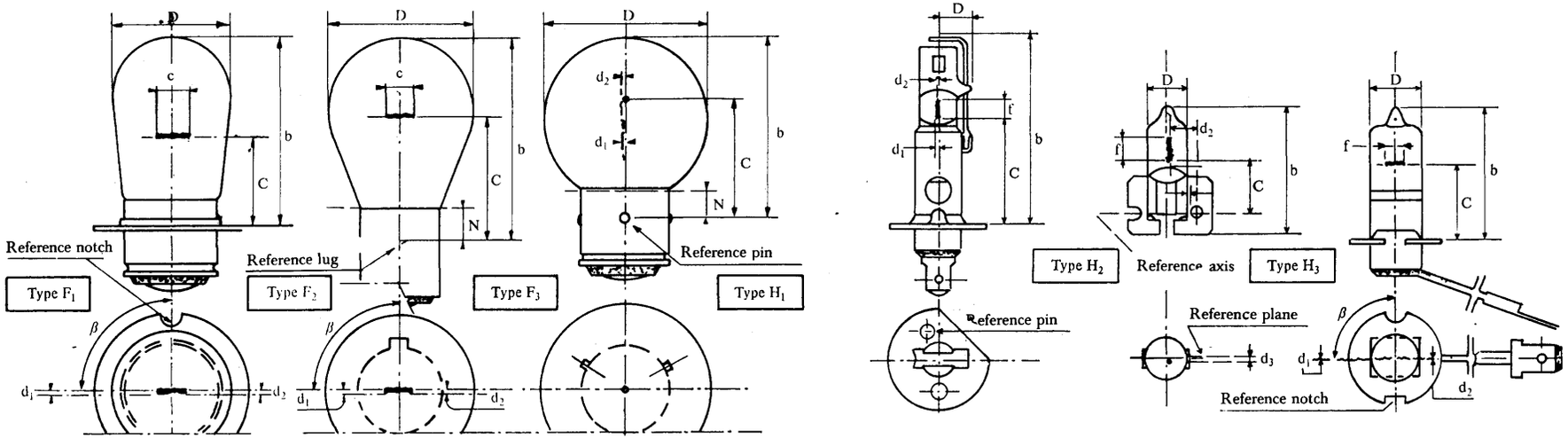
EXAMPLE OF AN EEC COMPONENT TYPE-APPROVAL MARK



The device bearing the EEC component type-approval mark shown above is a front fog lamp EEC type-approved in the United Kingdom (e 11) under the number 1471.

ANNEX III

FILAMENT LAMPS FOR FRONT FOG LAMPS



Dimensions (mm)

Type	F_1			F_2			F_3			H_1			H_2			H_3		
	min.	nom.	max.	min.	nom.	max.	min.	nom.	max.	min.	nom.	max.	min.	nom.	max.	min.	nom.	max.
D			29·0			36·0			41·0			10·0			9·0			11·5
b			46·0			50·0						49·0			31·0			
c	21·0 (1) (5)	21·5	22·0 (1) (5)	29·65 (1)	30·0	30·35 (1)	28·0 (1)	28·5	29·0 (1)	24·75 (1)	25·0	25·25 (1)	14·75 (1)	15·0	15·25 (1)	17·5 (1)	18·0	18·5 (1)
d_1	— 0·5	0	+ 0·5	— 0·5	0	+ 0·5	— Ø/2 (3)	0	+ Ø/2 (3)	— 0·25 (2)	0	+ 0·25 (2)	— 0·25	7·1	+ 0·25	(5)		(5)
d_2										— 0·5 (2)		+ 0·5 (2)	— 0·50		+ 0·50			
d_3													— 0·25	Ø/2+0·35	+ 0·25			
Ø	Coil diameter not specified																	
f			6·0 (6 V) 7·5 (12V) 6·75 (24V)			7·0				4·5	5·5	6·5	4·0			3·0		
N (3)				5·0			6·0											
β		90°			90°												90° (5)	
Cap (4)	P 36s (7)			BA 20s			BA 21s			P 14·5s			X 511			PK 22s		

Electrical and photometric characteristics

Designation by			F_1			F_2			F_3			H_1			H_2			H_3		
Nominal	Volts		6	12	24	6	12	24	6	12	24	6	12	24	6	12	24	6	12	24
	Watts		36	48	44	35			45		50	55		70	55		70	55		70
Test voltage			6·3	13·2	28·0	6·3	13·5	28·0	6·3	13·2	28·0	6·3	13·2	28·0	6·3	13·2	28·0	6·3	13·2	28·0
Data at test voltage	Nominal watts		38·8	55·5	55 5	35			45			63	62	80	63	62	80	60	68	80
	Toler. % (1)		± 10			± 10			± 7·5			± 7·5			± 7·5			(*)		
	Nominal luminous flux		650	1150	1030	650	685	650	900			1350	1550	1900	1300	1800	2150	1050	1450	1750
	Toler. % (1)		± 15			± 20			± 15			± 15			± 15			± 15		
Luminous flux for head lamp tests (6)				800			540			650			1150			1300			1100	

(*) Maximum value.
(1) Applicable to 90 % of the production only.
(2) Cylindrical tolerance.
(3) This dimension must be checked by a ring gauge with a bore equal to the maximum permissible diameter of the cap (see IEC publication 61).
(4) Cap in accordance with IEC publication 61.
(5) To be checked by a 'box system'.
(6) For the light test only the 12-volt lamp is used.
(7) For 24-volt lamps the P 36d cap is also sometimes used.

ANNEX IV

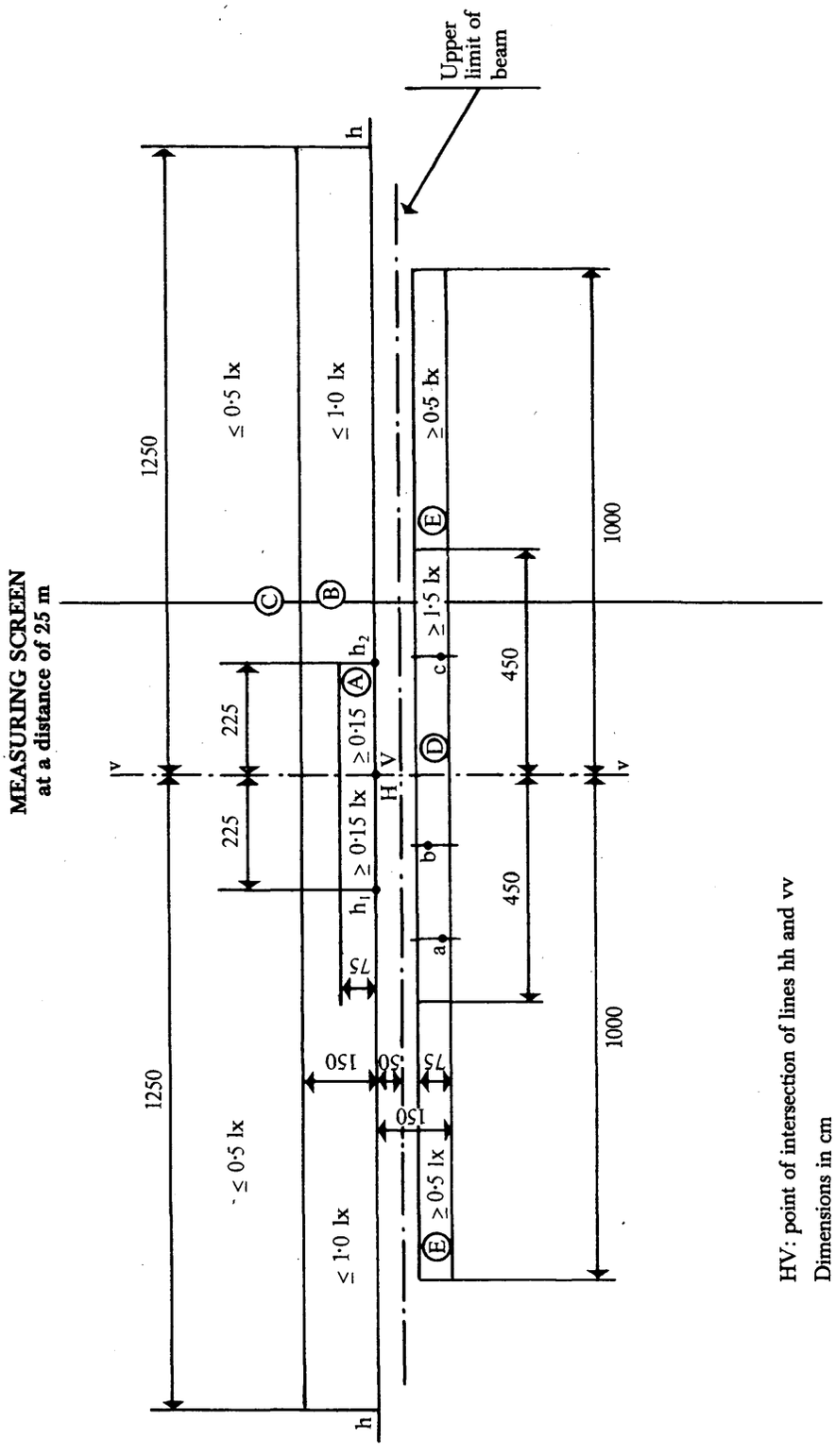
STANDARD (REFERENCE) FILAMENT LAMPS FOR FRONT FOG LAMPS

Type / Dimensions (mm)	F_1	F_2	F_3	H_1
D	29 max.	36 max.	41 max.	10 max.
b	46 max.	50 max.	45 max.	49 max.
c	21·5 ± 0·15	30 ± 0·15	28·5 ± 0·15	25 ± 0·15
d_1	± 0·2	± 0·2	± 0·2	± 0·2
d_2				± 0·25
f	6 to 7·5	(1) 4 to 7	5 ± 1	5·5 ± 0·5
β	90 ± 3°	90 ± 3°		
Test voltage	13·2 V	13·5 V	13·2 V	13·2 V
Wattage at test voltage	55·5 W ± 10 %	35 W ± 10 %	45 W ± 10 %	62 W ± 7·5 %
Luminous flux for testing front fog lamps	800 lm	540 lm	650 lm	1·150 lm

(1) The dimension from the end of the filament to the reference axis should be 2·5 ± 0·2.

ANNEX V

MEASURING SCREEN
at a distance of 25 m



HV: point of intersection of lines hh and vv

Dimensions in cm

COUNCIL DIRECTIVE

of 27 July 1976

on the approximation of the laws of the Member States relating to passenger seats for wheeled agricultural or forestry tractors

(76/763/EEC)

THE COUNCIL OF THE EUROPEAN COMMUNITIES,

Having regard to the Treaty establishing the European Economic Community, and in particular Article 100 thereof,

Having regard to the proposal from the Commission,

Having regard to the opinion of the European Parliament [1],

Having regard to the opinion of the Economic and Social Committee [2],

Whereas the technical requirements with which tractors must comply pursuant to national laws relate *inter alia* to passenger seats;

Whereas these requirements differ from one Member State to another; whereas it is therefore necessary that all Member States adopt the same requirements either in addition to or in place of their existing rules in order, in particular, to allow the EEC type-approval procedure which was the subject of Council Directive 74/150/EEC of 4 March 1974 on the approximation of the laws of the Member States relating to the type-approval of wheeled agricultural or forestry tractors, to be applied in respect of each type of tractor [3];

Whereas this Directive is intended to harmonize national provisions for the design and installation of passenger seats on agricultural tractors but not to standardize the requirements as to whether or not agricultural tractors are to be fitted compulsorily with such seats; whereas it is not intended either to standardize the requirements which enable tractors to be fitted with one or more passenger seats; whereas the problems still outstanding with regard to passenger seats as one of the items appearing on the type-approval certificate must be resolved as soon as possible by supplementing this Directive so that the requirements for the issue of the EEC type-approval may also be established for passenger seats,

HAS ADOPTED THIS DIRECTIVE:

Article 1

1. 'Agricultural or forestry tractor' means any motor vehicle fitted with wheels or endless tracks and having at least two axles, the main function of which lies in its tractive power and which is specially designed to tow, push, carry or power certain tools, machinery or trailers intended for agricultural or forestry use. It may be equipped to carry a load and be fitted with passenger seats.

2. This Directive shall apply only to tractors defined in the preceding paragraph which are fitted with pneumatic tyres and have two axles, a maximum design speed of between 6 and 25 km/h and a track width of 1 250 mm or more.

Article 2

No Member State may refuse to grant EEC type-approval or national type-approval on grounds relating to the passenger seats if the requirements of the Annex have been satisfied.

Article 3

No Member State may refuse the registration or prohibit the sale, entry into service or use of tractors on grounds relating to the passenger seats if the requirements of the Annex have been satisfied.

Article 4

Any amendments necessary to adapt the requirements of the Annex to technical progress shall be adopted

(1) OJ No 28, 17. 2. 1967, p. 462/67.
(2) OJ No 42, 7. 3. 1967, p. 620/67.
(3) OJ No L 84, 28. 3. 1974, p. 10.

in accordance with the procedure laid down in Article 13 of Directive 74/150/EEC.

Article 5

1. Member States shall bring into force the provisions necessary in order to comply with this Directive within 18 months of its notification and shall forthwith inform the Commission thereof.

2. Member States shall ensure that the texts of the main provisions of national law which they adopt in the field covered by this Directive are communicated to the Commission.

Article 6

This Directive is addressed to the Member States.

Done at Brussels, 27 July 1976.

For the Council

The President

M. van der STOEL

ANNEX

I. GENERAL RULES FOR CONSTRUCTION AND FITTING

1. Each seat must be so placed that the passenger is in no danger and creates no impediment to driving the tractor.

2. Each seat must be firmly fixed and properly attached according to the type of tractor, to a structural member of the tractor (chassis, roll-over protection device, platform, etc.).

3. The structural member concerned must be sufficiently strong to support a laden passenger seat.

II. SPECIAL CONSTRUCTION RULES

1. Each seat must be at least 400 mm wide and at least 300 mm deep.

2. Each seat must be fitted with a back-rest not less than 200 mm nor more than 250 mm high which incorporates a lateral support. The above dimensions shall not apply if there is a closed bulkhead behind the passenger. The seat cushion shall be padded or flexible.

3. A suitable rest must be provided for the passenger's feet.

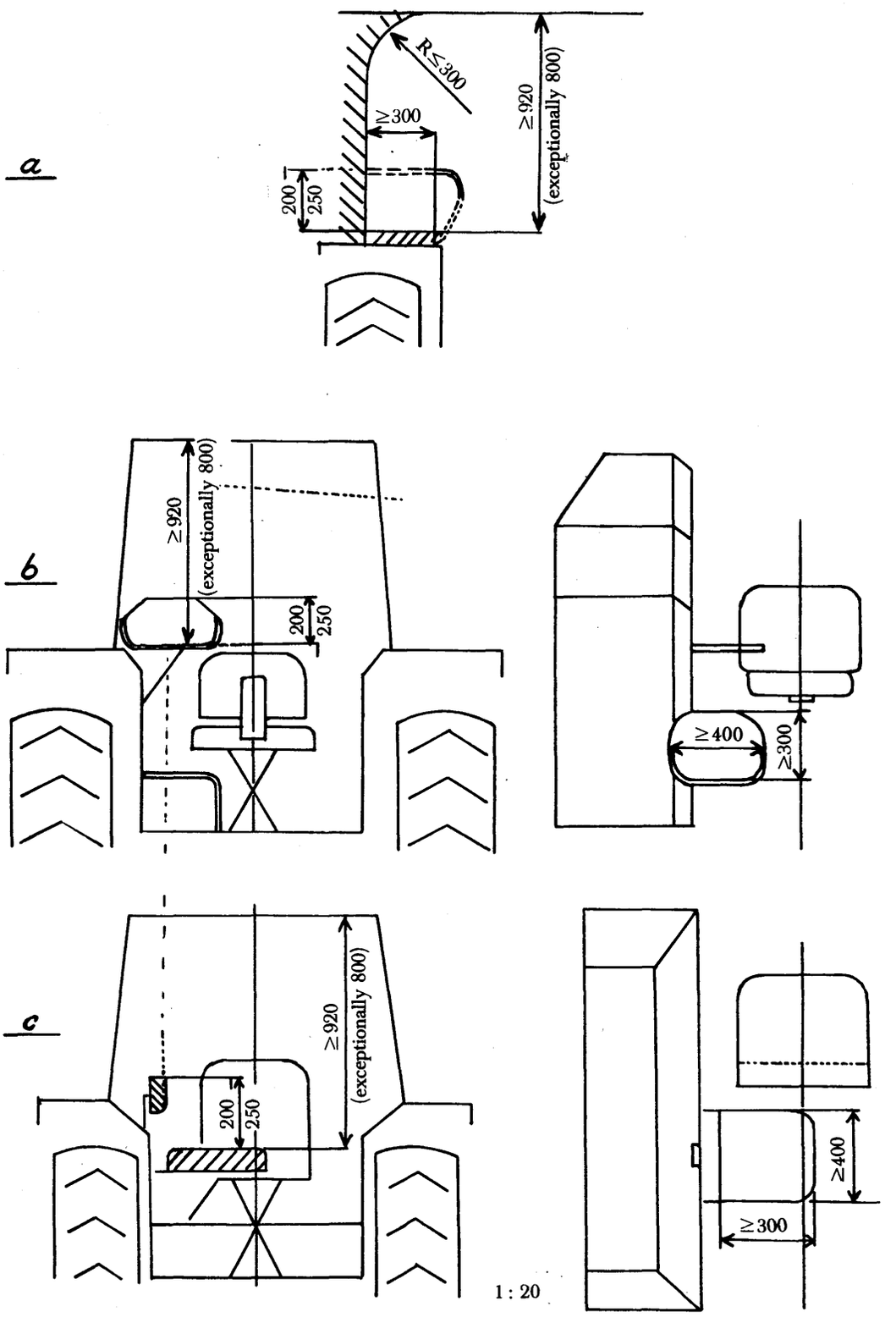
4. There must be a clearance of at least 920 mm above the surface of the passenger seat. However, where a tractor satisfies the requirements relating to the driver's protection and seating, but its construction does not allow for such a clearance for the passenger, the clearance may be reduced to 800 mm, provided that adequate padding is provided immediately above the passenger seat at the level of the roof.

   The upper part of the clearance allowed for the passenger may only be limited at the rear by a radius not exceeding 300 mm (see appended drawing). The vertical clearance is the vertical open space between the front edge of the seat and the roof of the tractor.

5. The passenger seat must not add to the overall width of the tractor.

6. There must not be more than one passenger seat per mudguard, where this is the mounting point.

Appendix


a
R≤300
≥300
≥920
(exceptionally 800)
200
250
b
≥920
(exceptionally 800)
200
250
≥400
≥300
c
≥920
(exceptionally 800)
200
250
≥400
≥300
1 : 20

COUNCIL DIRECTIVE

of 27 July 1976

on the approximation of the laws of the Member States on clinical mercury-in-glass, maximum reading thermometers

(76/764/EEC)

THE COUNCIL OF THE EUROPEAN COMMUNITIES,

Having regard to the Treaty establishing the European Economic Community, and in particular Article 100 thereof,

Having regard to the proposal from the Commission,

Having regard to the opinion of the European Parliament (1),

Having regard to the opinion of the Economic and Social Committee (2),

Whereas the mandatory provisions governing the manufacture and methods of control of clinical thermometers, differ from one Member State to another and hence hinder trade in those instruments; whereas these provisions accordingly require approximation;

Whereas Council Directive 71/316/EEC of 26 July 1971 on the approximation of the laws of the Member States relating to common provisions for both measuring instruments and methods of metrological control (3) has laid down the procedure for EEC pattern approval and EEC initial verification; whereas, in accordance with that Directive, technical requirements for manufacture and performance of clinical thermometers should be laid down,

HAS ADOPTED THIS DIRECTIVE:

Article 1

This Directive shall apply to clinical mercury-in-glass, maximum reading thermometers designed to measure the internal temperature of humans or animals.

Article 2

The clinical mercury-in-glass maximum reading thermometers eligible to bear the EEC mark shall be those described in the Annexes. They shall not be subject to EEC pattern approval; they shall be subject to EEC initial verfication.

Article 3

No Member State may prevent, prohibit or restrict the placing on the market or entry into use of clinical thermometers bearing the EEC initial verification mark.

Article 4

1. Member States shall put into force the laws, regulations and administrative provisions needed in order to comply with this Directive within four years of its notification and shall forthwith inform the Commission thereof.

2. Member States shall ensure that the text of the main provisions of national law which they adopt in the field covered by this Directive are communicated to the Commission.

Article 5

This Directive is addressed to the Member States.

Done at Brussels, 27 July 1976.

For the Council

The President

M. van der STOEL

(1) OJ No 63, 3. 4. 1967, p. 982/67.
(2) OJ No 30, 22. 2. 1967, p. 480/67.
(3) OJ No L 202, 6. 9. 1971, p. 1.

ANNEX I

1. TEMPERATURE UNIT

The temperature unit shall be the degree Celsius on the international scale employed for measurement of temperature.

2. SCALE RANGE

The scale range shall extend at least from 35·5 to 42 °C and the scale shall be divided into tenths of degrees Celsius.

3. TYPES

Thermometers may be of the solid-stem or enclosed-scale type.

Thermometers of the solid-stem type shall have a prismatic stem on which the scale is indicated.

In thermometers of the enclosed-scale type the scale shall be indicated on a small, separate panel, both stem and panel being enclosed in a water-tight sheath.

Thermometers shall be fitted with a maximum reading device which prevents the mercury column from falling automatically when the mercury in the bulb returns to the surrounding temperature.

4. MATERIALS

The bulbs of thermometers shall be constructed of glass conforming to the requirements laid down in Annex II and identified visibly and indelibly:

— either by a mark affixed to the bulb by the producer of the glass,

— or by a mark affixed to any part of the thermometer, by its manufacturer, together with a certificate issued by the producer of the glass to the effect that it conforms to requirements.

The glass used for the maximum reading device and for the capillary space shall have adequate hydrolytic resistance (*).

The small panel showing the scale in the case of enclosed-scale thermometers shall be of silica, metal or any other material of an equivalent stability of design.

The thermometer stems shall be of capillary glass which gives an enlarged image of the mercury column. This should be legible at a glance throughout the whole of its length.

5. MANUFACTURER

The thermometer shall be free of any fault which could prevent its normal functioning or mislead the user.

The ends of the thermometer shall be formed in such a way as to avoid any risk of accident during its use.

The mercury shall be sufficiently pure and dry. The bulb, the capillary tube and the mercury shall be sufficiently free of gas to ensure that the thermometer functions correctly.

When, after it has been heated up to at least 37 °C, and has returned to the surrounding temperature, the thermometer is submitted to an acceleration of 600 m/s² at the base of the bulb, the mercury meniscus shall fall to below the lowest scale line.

In enclosed-scale thermometers, the panel showing the scale shall be placed in direct contact with the stem and shall be fixed in the sheath in such a way that it does not become detached from the stem.

(*) Glass may be regarded as having adequate hydrolytic resistance if, when analysed according to the provisions of ISO recommendation 719—1968 (calculation of the hydrolytic resistance of granulated glass at 98 °C), the quantity of alkali obtained in solution from 1 g of glass does not exceed 263·5 μg of Na_2O.

The position of the panel shall be indicated by an indelible mark on the sheath, at the level of one of the numbered lines on the scale.

The inside of the sheath shall be free of any extraneous substance and of all humidity.

When the temperature in the bulb rises, the mercury column shall rise at as steady a rate as possible and not spasmodically. The mercury column, seen from an angle perpendicular to the scale, shall be easily legible throughout the whole of its length.

6. SCALE AND GRADUATION

The scale shall be indicated clearly and uniformly.

The distance representing one Celsius degree on the scales shall be not less than 6 mm in enclosed-scale thermometers and not less than 5 mm in solid-stem thermometers.

In solid-stem thermometers, the scale lines and the figures shall be placed in such a way as to enable them and the enlarged image of the mercury column to be seen at the same time.

The scale lines shall be perpendicular to the axis of the thermometer and their thickness shall not exceed one-fifth of the distance separating the axes of consecutive lines in enclosed-scale thermometers and one-quarter of the distance in solid-stem thermometers.

The scale lines representing degrees and half-degrees shall be longer than the others.

The appropriate figures shall be shown opposite the scale lines representing degrees. Both figures and scale lines shall be indelible.

7. INSCRIPTIONS

The stem of a solid-stem thermometer and the panel of an enclosed scale thermometer shall carry the following indelible inscriptions:

(a) '°C';

(b) the maker's trademark if this has been registered with the appropriate authorities of one of the Member States, or the name of the company;

(c) e.g. in the case of veterinary thermometers, the words 'veterinary thermometer'.

Other inscriptions shall only be permitted provided there is no risk of their misleading the user.

No inscription shall be permitted in respect of the response interval required to indicate the temperature of the user.

8. MAXIMUM PERMISSIBLE ERRORS

After returning to the ambient temperature of 20 ± 3 °C, the temperature shown shall be that of the testing bath to within + 0·10 and — 0·15 °C.

9. RESPONSE INTERVAL

The constant 'k' of the response interval of clinical thermometers when immersed in a stirred water bath shall be less than or in no case in excess of 2·6 seconds (1).

10. POSITION OF EEC INITIAL VERIFICATION MARK

A space shall be reserved for the EEC initial verification mark on the back of the thermometer.

---

(1) The constant 'k' is given by the formula:
θ_2 — thermometer reading $= (\theta_2 - \theta_1)\, e^{-t/k}$.
This formula makes it possible to calculate approximately the amount by which the reading on a thermometer (presumed accurate) with an initial temperature of 'θ_1' and subsequently immersed for a period 't' in a bath at a constant temperature of 'θ_2' will diverge from 'θ_2'.
The time 't' which it takes for a clinical thermometer which at a temperature of 20 °C, is immersed in a bath at a temperature of 40 °C, to attain its ultimate reading (40 °C if it is exact), allowing a tolerance of 0·01 °C, must not exceed 20 seconds in accordance with the formula:
$40 - 39{\cdot}99 = 0{\cdot}01 = (40 - 20)\, e^{-t/2{\cdot}6}$ s.

Pursuant to 3.1.1 of Annex II to Directive 71/316/EEC and in derogation from the general rule stipulated in section 3 of that same Annex, the initial verification mark shall, in view of the special requirements with regard to the marking on glass instruments, consist of a series of signs indicating the following:

— a small 'e',

— the year of verification,

— the letter or letters denoting the State where the initial verification took place,

— if necessary the distinguishing number of the verifying office.

In the case of marking effected by the sanding method, the letters and figures should be interrupted at appropriate points without in any way detracting from their legibility.

ANNEX II

Requirements to be met by glass used for thermometer bulbs

A test thermometer without a maximum reading device shall, when appropriately heated, fulfil the following conditions: after it has remained heated up to 100 °C for half an hour, depression of zero shall not exceed 0·05 °C.

COUNCIL DIRECTIVE

of 27 July 1976

on the approximation of the laws of the Member States relating to alcoholometers and alcohol hydrometers

(76/765/EEC)

THE COUNCIL OF THE EUROPEAN COMMUNITIES,

Having regard to the Treaty establishing the European Economic Community, and in particular Article 100 thereof,

Having regard to the proposal from the Commission,

Having regard to the opinion of the European Parliament (1),

Having regard to the opinion of the Economic and Social Committee (2),

Whereas in the Member States the definition, design and procedures for the approval and testing of alcoholometers and alcohol hydrometers are the subject of mandatory provisions which differ from one Member State to another and consequently hinder the movement of and trade in these instruments within the Community; whereas it is therefore necessary to approximate these provisions;

Whereas harmonization of the laws, regulations and administrative provisions relating to these instruments is essential also as a complement to existing provisions relating to the method of determining alcoholic strength from the results of measurements taken, in order to remove all risk of ambiguity or dispute over the results of such measurements;

Whereas Council Directive 71/316/EEC of 26 July 1971 on the approximation of the laws of the Member States relating to common provisions for both measuring instruments and methods of metrological control (3) laid down the EEC pattern approval and EEC initial verification procedures; whereas in accordance with that Directive it is necessary to lay down the technical requirements which the design and functioning of alcoholometers and alcohol hydrometers must satisfy in order to be freely imported, marketed and used after having undergone the requisite inspections and having been provided with the required marks and signs;

Whereas, in its resolution of 17 December 1973 (4) on industrial policy, the Council invited the Commission to forward to it before 1 December 1974 a proposal for a Directive on alcoholometry and alcoholometers,

HAS ADOPTED THIS DIRECTIVE:

Article 1

This Directive defines the charcteristics of alcoholometers and alcohol hydrometers used to determine the alcoholic strength of mixtures of water and ethanol.

Article 2

Those alcoholometers and alcohol hydrometers which may bear EEC marks and signs are described in the Annex.

Such instruments shall be subject to EEC pattern approval and shall be submitted for EEC initial verification.

Article 3

No Member State may refuse, prohibit or restrict the placing on the market or the use of any alcoholometer or alcohol hydrometer bearing the EEC pattern approval sign or EEC verification mark on the grounds of their metrological properties.

Article 4

1. Member States shall adopt and publish within a period of 24 months from the date of notification of

(1) OJ No C 76, 7. 4. 1975, p. 39.
(2) OJ No C 248, 29. 10 1975, p. 22.
(3) OJ No L 202, 6. 9. 1971, p. 1.

(4) OJ No C 117, 31. 12. 1973, p. 1.

this Directive the measures necessary to conform with this Directive and shall forthwith inform the Commission thereof.

They shall apply these measures from 1 January 1980 at the latest.

2. Member States shall inform the Commission of the texts of the main provisions of national law which they adopt in the field covered by this Directive.

Article 5

This Directive is addressed to the Member States.

Done at Brussels, 27 July 1976.

For the Council

The President

M. van der STOEL

ANNEX

ALCOHOLOMETERS AND ALCOHOL HYDROMETERS

1. DEFINITION OF THE INSTRUMENTS

1.1. Alcoholometers are glass instruments which indicate:

— the alcoholic strength by mass, or
— the alcoholic strength by volume,

of a mixture of water and ethanol.

They are described as either mass alcoholometers or volume alcoholometers, depending upon what is measured.

Alcohol hydrometers are glass instruments designed to measure the density of a mixture of water and ethanol.

1.2. The instruments defined in this Directive are graduated at a reference temperature of 20 °C, in accordance with the values appearing in the international alcohol tables published by the International Organization of Legal Metrology.

1.3. They are graduated for readings made at the free horizontal surface of the liquid.

2. DESCRIPTION OF THE INSTRUMENTS

2.1. Alcoholometers and alcohol hydrometers are glass instruments, consisting of:

— a cylindrical body, the bottom of which is cone-shaped or hemispherical so that it does not entrap air bubbles,
— a hollow cylindrical stem fused to the upper part of the body; its upper end is closed.

2.2. The entire external surface of each instrument must be symmetrical about its main axis.

The cross-section must not exhibit any abrupt alteration.

2.3. The lower part of the body must contain the loading material, the purpose of which is to adjust the mass of the instrument.

2.4. The stem must carry a scale marked on a cylindrical support rigidly fixed to the inside of the stem.

3. PRINCIPLES OF CONSTRUCTION

3.1. The glass used for making the instruments shall be transparent and free from any defect liable to interfere with the reading of scale measurements.

The glass shall have a coefficient of cubic expansion of $(25 \pm 2)\ 10^{-6}\ °C^{-1}$.

3.2. The loading material shall be fixed in the bottom of the instrument. After the finished instrument has been kept in a horizontal position for one hour at 80 °C and subsequently cooled in that position, it shall float with its axis vertical to within 1 degree 30 minutes.

4. SCALE

4.1. No instrument shall have more than one scale of the type referred to in 4.5 or 4.6.

4.2. The scale and the inscriptions shall be marked on a support having a smooth matt surface.

This support shall be held rigidly in place in the stem and reference marks shall be provided so that any displacement of the scale and its support relative to the stem is apparent.

The support, the scale and the inscriptions shall show no trace of distortion, discoloration or charring when maintained at 70 °C for 24 hours.

4.3. The scale marks shall be:
— situated in planes perpendicular to the axis of the instrument,
— black (1) and marked clearly and indelibly,
— fine, clear-cut and of a uniform thickness not greater than 0·2 mm.

4.4. The length of the short lines on the scale shall be at least one-fifth, that of the medium lines at least one-third and that of the long lines at least half of the circumference of the stem.

4.5. Alcoholometers shall have nominal scales graduated by % mass or by % volume of alcohol. They shall cover a range not greater than 10% of alcohol by volume or by mass.

The scale interval shall be 0·1%.

Each scale shall include from five to 10 additional scale intervals beyond its upper and lower nominal range limits.

4.6. The nominal scales of alcohol hydrometers shall be graduated in kilogrammes per cubic metre. They shall cover a range not greater than 20 kg/m³.

The scale interval shall be 0·2 kg/m³.

Each scale shall include from five to 10 additional scale intervals beyond its upper and lower nominal range limits. However, the scale must not extend beyond 1 000 kg/m³.

5. GRADUATION AND NUMBERING

5.1. On alcoholometers, every 10th scale mark, counting from one end of the nominal scale, shall be a long line. There shall be a medium line between each successive pair of long lines and four short lines between each long line and the nearest medium line.

Only the long lines shall be numbered.

5.2. On alcohol hydrometers, every fifth line, counting from one end of the nominal scale, shall be a long line. There shall be four short lines between two consecutive long lines.

Only the fifth or 10th lines shall be numbered.

5.3. The lines indicating the limits of the nominal scale shall show the figures in full.

On alcohol hydrometers the other numbers may be abbreviated.

6. CLASSIFICATION AND PRINCIPAL DIMENSIONS OF INSTRUMENTS

6.1. The instruments shall be of one of the following classes of accuracy:
— Class I: The minimum mean scale spacing shall be 1·5 mm. Instruments in this class shall not incorporate a thermometer.
— Class II: The minimum mean scale spacing shall be 1·05 mm. Instruments in this class may incorporate a thermometer.
— Class III: The minimum mean scale spacing shall be 0·85 mm. Instruments in this class may incorporate a thermometer.

6.2. The external diameter of the body of any instrument shall be between 19 and 40 mm.

The external diameter of the stem shall be at least 3 mm for Class I and Class II instruments and at least 2·5 mm for Class III instruments. The stem shall extend for at least 15 mm above the uppermost scale mark.

(1) Beyond the range of the nominal scale the scale lines may be of a different colour.

The cross-section of the stem must be uniform for at least 5 mm below the lowest scale mark.

7. INSCRIPTIONS

7.1. The following inscriptions shall be legibly and indelibly marked inside the instrument:
— Class I, II or III,
— kg/m³ or % volume or % mass,
— 20 °C,
— ethanol,
— the name or identification mark of the manufacturer,
— the identification number of the instrument,
— the EEC pattern approval sign ' ε'.

7.2. The mass of the instrument, expressed to the nearest milligramme may, if desired, be marked on the body.

8. MAXIMUM PERMISSIBLE ERRORS AND VERIFICATION

8.1. The maximum permissible error for alcoholometers and alcohol hydrometers shall be:
— for Class I, ± one half scale interval for each reading measured,
— for Classes II and III, ± one scale interval for each reading measured.

8.2. Verification shall be carried out at a minimum of three points in the nominal scale range.

9. THERMOMETERS USED IN DETERMINING THE ALCOHOLIC STRENGTH

9.1. If the instrument used to determine the alcoholic strength belongs to Class I, the thermometer used shall be:
— of the metallic resistance or mercury-expansion type with glass casing,
— graduated in 0·1 or 0·05 °C.
The maximum permissible error is ± 0·05 °C for all scale readings.
Mercury thermometers shall include a scale mark at 0 °C.

9.2. If the instrument used to determine the alcoholic strength belongs to Class II or III, the thermometer shall be of the mercury-expansion type, with a glass casing and be gratuated to 0·1 or 0·2 or 0·5 °C. It shall have a scale mark at 0 °C.
The maximum permissible error, positive or negative, shall be:
0·1 °C if the thermometer is graduated to 0·1 °C,
0·15 °C if the thermometer is graduated to 0·2 °C,
0·2 °C if the thermometer is graduated to 0·5 °C.
The thermometer may be incorporated in the instrument used to determine the alcoholic strength.
In this case, it need not have any scale mark at 0 °C.

9.3. The minimum scale spacing shall be:
— 0·7 mm in the case of thermometers graduated to 0·05, 0·1, and 0·2 °C and
— 1·0 mm in the case of thermometers graduated to 0·5 °C.

9.4. The thickness of the lines shall not be more than one-fifth of the scale spacing.

10. MARKINGS

On the back of alcoholometers and alcohol hydrometers a space must be left on the upper third of the body for the EEC initial verification mark.

In accordance with 3.1.1 of Annex II to Directive 71/316/EEC and by way of derogation from the general rule laid down in section 3 of that Annex, the EEC initial verification mark must, due to the special marking requirements for glass instruments, consist of a series of signs having the following meaning:

— a small letter 'e',
— the last two digits of the year of EEC initial verification
— the identifying letter or letters of the State where the EEC initial verification was carried out,
— if necessary, the identifying number of the verification office.

When the marking is carried out by sandblasting, the letters and numbers shall be applied so as not to impair their legibility.

Example:

e 75 D 48: EEC initial verification carried out in 1975 by Bureau 48 in the Federal Republic of Germany.

COUNCIL DIRECTIVE

of 27 July 1976

on the approximation of the laws of the Member States relating to alcohol tables

(76/766/EEC)

THE COUNCIL OF THE EUROPEAN COMMUNITIES,

Having regard to the Treaty establishing the European Economic Community, and in particular Article 100 thereof,

Having regard to the proposal from the Commission,

Having regard to the opinion of the European Parliament (1),

Having regard to the opinion of the Economic and Social Committee (2),

Whereas, in several Member States there are laws concerning the determination of the alcoholic strength of a mixture of water and ethanol, and whereas these laws differ from one Member State to another, thus creating obstacles to trade; whereas, Community harmonization in this field and the establishment of a common definition are therefore necessary;

Whereas, in its resolution of 17 December 1973(3) on industrial policy, the Council invited the Commission to forward to it before 1 December 1974 a proposal for a Directive on alcoholometry and alcoholometers;

Whereas harmonization of the laws, regulations and administrative provisions relating to the method for determining alcoholic strength from the results of measurements taken is essential also as a complement to the Directive on the harmonization of alcoholometers and alcohol hydrometers, in order to remove all risk of ambiguity or dispute,

HAS ADOPTED THIS DIRECTIVE:

Article 1

This Directive defines the method of expressing alcoholic strength, by volume or by mass, as defined in the Annex, and gives a formula to enable tables to be drawn up for calculating alcoholic strength on the basis of the measurements taken.

Article 2

As from 1 January 1980 Member States may not question the figures for alcoholic strength derived from the alcoholometric tables drawn up on the basis of the formula shown in the Annex, and from measurements taken with alcoholometers or alcohol hydrometers bearing the EEC marks and signs or with instruments providing at least an equivalent degree of accuracy, on grounds connected with the use of these tables or instruments.

Article 3

The symbols used to indicate alcoholic strength as mentioned in Article 2 and defined in the Annex shall be as follows:

'% vol' for alcoholic strength by volume,

'% mas' for alcoholic strength by mass.

Article 4

As from 1 January 1980, Member States shall prohibit the use of alcoholic strengths which do not comply with the requirements of this Directive.

Article 5

1. Member States shall adopt and publish within a period of 24 months from the date of notification

(1) OJ No C 76, 7. 4. 1975, p. 39.
(2) OJ No C 248, 29. 10. 1975, p. 22.
(3) OJ No C 117, 31. 12. 1973, p. 1.

of this Directive the measures necessary to conform with this Directive and shall forthwith inform the Commission thereof.

They shall apply these measures from 1 January 1980 at the latest.

2. Member States shall inform the Commission of the texts of the main provisions of national law which they adopt in the field covered by this Directive.

Article 6

This Directive is addressed to the Member States.

Done at Brussels, 27 July 1976.

For the Council

The President

M. van der STOEL

ANNEX

ALCOHOLIC STRENGTH

1. DEFINITION

The 'alcoholic strength by volume' of a mixture of water and ethanol is the ratio of the volume of pure alcohol present in the mixture at 20 °C to the total volume of the mixture at the same temperature.

The 'alcoholic strength by mass' of a mixture of water and ethanol is the ratio of the mass of alcohol present in this mixture to the total mass of the mixture.

2. EXPRESSION OF ALCOHOLIC STRENGTH

The alcoholic strength is expressed as the parts of alcohol per hundred parts of the mixture.

The relevant symbols are:

'% vol' for the alcoholic strength by volume,

'% mas' for the alcoholic strength by mass.

3. DETERMINATION OF ALCOHOLIC STRENGTH

The procedures to be carried out to determine the alcoholic strength by means of the instruments provided for in the Council Directive of 27 July 1976 on the approximation of the laws of the Member States relating to alcoholometers and alcohol hydrometers [1] shall be as follows:

— the reading of an alcoholometer or alcohol hydrometer, at the temperature of the mixture,

— the measurement of the temperature of the mixture.

The results shall be obtained from the international alcohol tables.

4. FORMULA FOR THE CALCULATION OF INTERNATIONAL ALCOHOL TABLES FOR MIXTURES OF WATER AND ETHANOL

The density 'ϱ', expressed in kilogrammes per cubic metre (kg/m³), of a mixture of water and ethanol at a temperature (t), expressed in degrees Celsius, is given by the following formula as a function of:

— the proportion by mass 'p', expressed as a decimal number [2],

— the temperature 't', expressed in degrees Celsius (IPTS-68),

— the numerical coefficients given below.

This formula is valid for temperatures in the range —20 to +40 °C.

$$\varrho = A_1 + \sum_{k=2}^{12} A_k \, p^{k-1} + \sum_{k=1}^{6} B_k \, (t - 20°C)^k + \sum_{i=1}^{n} \sum_{k=1}^{m_i} C_{i,k} \, p^k (t - 20°C)^i .$$

$$\begin{aligned} n &= 5 \\ m_1 &= 11 \\ m_2 &= 10 \\ m_3 &= 9 \\ m_4 &= 4 \\ m_5 &= 2 \end{aligned}$$

[1] See page 143 of this Official Journal.
[2] *Example:* for a proportion by mass of 12 %, p = 0·12.

NUMERICAL COEFFICIENTS
IN THE FORMULA

k	A_k kg/m³	B_k
1	9,982 012 300 · 10²	—2,061 851 3 · 10⁻¹ kg/(m³ · °C)
2	—1,929 769 495 · 10²	—5,268 254 2 · 10⁻³ kg/(m³ · °C²)
3	3,891 238 958 · 10²	3,613 001 3 · 10⁻⁵ kg/(m³ · °C³)
4	—1,668 103 923 · 10³	—3,895 770 2 · 10⁻⁷ kg/(m³ · °C⁴)
5	1,352 215 441 · 10⁴	7,169 354 0 · 10⁻⁹ kg/(m³ · °C⁵)
6	—8,829 278 388 · 10⁴	—9,973 923 1 · 10⁻¹¹ kg/(m³ · °C⁶)
7	3,062 874 042 · 10⁵	
8	—6,138 381 234 · 10⁵	
9	7,470 172 998 · 10⁵	
10	—5,478 461 354 · 10⁵	
11	2,234 460 334 · 10⁵	
12	—3,903 285 426 · 10⁴	

	$C_{1,k}$ kg/(m³ · °C)	$C_{2,k}$ kg/(m³ · °C²)
1	1,693 443 461 530 087 · 10⁻¹	—1,193 013 005 057 010 · 10⁻²
2	—1,046 914 743 455 169 · 10¹	2,517 399 633 803 461 · 10⁻¹
3	7,196 353 469 546 523 · 10¹	—2,170 575 700 536 993
4	—7,047 478 054 272 792 · 10²	1,353 034 988 843 029 · 10¹
5	3,924 090 430 035 045 · 10³	—5,029 988 758 547 014 · 10¹
6	—1,210 164 659 068 747 · 10⁴	1,096 355 666 577 570 · 10²
7	2,248 646 550 400 788 · 10⁴	—1,422 753 946 421 155 · 10²
8	—2,605 562 982 188 164 · 10⁴	1,080 435 942 856 230 · 10²
9	1,852 373 922 069 467 · 10⁴	—4,414 153 236 817 392 · 10¹
10	—7,420 201 433 430 137 · 10³	7,442 971 530 188 783
11	1,285 617 841 998 974 · 10³	

k	$C_{3,k}$ kg/(m³ · °C³)	$C_{4,k}$ kg/(m³ · °C⁴)	$C_{5,k}$ kg/(m³ · °C⁵)
1	—6,802 995 733 503 803 · 10⁻⁴	4,075 376 675 622 027 · 10⁻⁶	—2,788 074 354 782 409 · 10⁻⁸
2	1,876 837 790 289 664 · 10⁻²	—8,763 058 573 471 110 · 10⁻⁶	1,345 612 883 493 354 · 10⁻⁸
3	—2,002 561 813 734 156 · 10⁻¹	6,515 031 360 099 368 · 10⁻⁶	
4	1,022 992 966 719 220	—1,515 784 836 987 210 · 10⁻⁶	
5	—2,895 696 483 903 638		
6	4,810 060 584 300 675		
7	—4,672 147 440 794 683		
8	2,458 043 105 903 461		
9	—5,411 227 621 436 812 · 10⁻¹		

COUNCIL DIRECTIVE

of 27 July 1976

on the approximation of the laws of the Member States relating to common provisions for pressure vessels and methods of inspecting them

(76/767/EEC)

THE COUNCIL OF THE EUROPEAN COMMUNITIES,

Having regard to the Treaty establishing the European Economic Community, and in particular Article 100 thereof,

Having regard to the proposal from the Commission,

Having regard to the opinion of the European Parliament (1),

Having regard to the opinion of the Economic and Social Committee (2),

Whereas in each Member State mandatory provisions determine the technical characteristics of construction, verification and/or the operation of pressure vessels; whereas these requirements differ from one Member State to another; whereas such differences hinder trade and may create unequal conditions of competition within the Community;

Whereas these hindrances to the establishment and functioning of the common market can be reduced or indeed eliminated if the same requirements apply in each of the Member States, either in addition to or in lieu of their existing laws;

Whereas a check on compliance with these technical requirements is necessary to provide effective protection for users and third parties; whereas the existing inspection procedures differ from one Member State to another; whereas in order to achieve free movement of pressure vessels within the common market and to avoid multiple inspections which are in effect barriers to the free movement of vessels, arrangements should be made for the mutual recognition of inspection procedures by the Member States;

Whereas, in order to facilitate the mutual recognition of inspection procedures, adequate EEC pattern approval and EEC verification procedures for vessels should be set up and the criteria for appointing the bodies responsible for carrying out verifications should be harmonized;

Whereas the presence on a pressure vessel of the EEC marks showing that it has undergone the appropriate inspections indicates that it satisfies the relevant technical requirements and therefore makes it unnecessary, on the importation and placing into service of the vessel, to repeat the inspections which have already been carried out;

Whereas national regulations on pressure vessels cover many categories of pressure vessels of widely varying uses, capacities and pressures; whereas this Directive should lay down the general provisions dealing, in particular, with EEC pattern approval and verification procedures; whereas separate Directives for each category of vessel will lay down the technical requirements as to the design and methods of inspection of such vessels and, where appropriate, the conditions under which Community technical requirements are to replace the previous national provisions;

Whereas the technical requirements of the Directives on pressure vessels must be adapted without delay to take account of technical progress; whereas, in order to facilitate the implementation of the measures necessary for this purpose, provisions should be made for a procedure establishing close cooperation between the Member States and the Commission, within the Committee on the adaptation to technical progress of the Directives for removing technical barriers to intra-Community trade in pressure vessels;

(1) OJ No C 2, 9. 1. 1974, p. 64.
(2) OJ No C 101, 23. 11. 1973, p. 25.

Whereas pressure vessels placed on the market might in certain cases represent a safety hazard although satisfying the requirements of the relevant separate Directive; whereas provision should therefore be made for a procedure to reduce this hazard,

HAS ADOPTED THIS DIRECTIVE:

CHAPTER I

Definitions and basic principles

Article 1

1. For the purposes of this Directive, 'pressure vessel' means any fixed or movable vessel or receptacle in which an effective pressure of more than 0·5 bar on a fluid (gas, steam or liquid) may obtain or develop.

2. The following are excluded:

— vessels specially designed for nuclear use, failure of which can cause an emission of radioactivity,

— vessels specifically intended for installation on, or for the propulsion of ships and aircraft,

— pipelines and pipeworks.

Article 2

1. Separate Directives shall lay down the design and construction requirements and inspection, testing and, where necessary, operating methods for the categories of pressure vessels to which they relate and, where appropriate, for ancillary equipment.

They shall specify, for each category of pressure vessels, whether the vessels are subject to EEC pattern approval and EEC verification or to either or neither of these procedures.

They may lay down:

— any conditions or time limits to which EEC pattern approval may be subject and any marks to be affixed to pressure vessels in such cases,

— the identification markings for each pressure vessel,

— the conditions which different models of an approved vessel must satisfy in order to receive the same pattern approval.

2. For the purposes of this Directive, an 'EEC-type pressure vessel' means any vessel designed and manufactured in such a way that it satisfies the requirements of the separate Directive relating to its particular category.

Article 3

No Member State may, on grounds relating to the construction or inspection of a vessel within the meaning of this Directive and the separate Directive relating to it, refuse, prohibit or restrict the marketing and placing into service of an EEC-type pressure vessel which complies with the requirements of this Directive and the separate Directive relating to it.

Article 4

Member States shall attach the same value to EEC pattern approval and EEC verification as to any equivalent national procedures.

Article 5

The tasks of the administration issuing the EEC pattern approval certificate and of the inspection body carrying out the verification of the vessel shall be confined to examinations carried out in accordance with the requirements of the relevant separate Directives, and to the operations assigned to them by this Directive.

CHAPTER II

EEC pattern approval

Article 6

1. Where it is provided for in a separate Directive, EEC pattern approval shall be a preliminary to:

— EEC verification where this is required,

— marketing and placing into service where EEC verfication is not required.

2. Member States shall, at the request of the manufacturer or his authorized agent established in the Community, grant EEC pattern approval to any type of pressure vessel which satisfies the requirements of the separate Directive relating to that particular category of pressure vessel.

3. An application for EEC pattern approval for a given type of pressure vessel may be submitted in only one Member State.

4. Member States shall grant, refuse or withdraw EEC pattern approval in accordance with the provisions of this Chapter and sections 1, 2 and 4 of Annex I.

Article 7

1. If the results of the examination provided for in section 2 of Annex I are satisfactory, the Member State which carried out the examination shall make out an EEC pattern approval certificate which shall be forwarded to the applicant concerned.

Where this approval relates to a vessel which is subject to EEC verification, the manufacturer must affix to it the approval mark referred to in 3.1 of Annex I before verification takes place.

2. The requirements relating to the certificate and approval mark are set out in sections 3 and 5 of Annex I.

Article 8

Where EEC pattern approval is not required for a category of pressure vessels which satisfies the requirements of a separate Directive, but an application has been made for EEC verification, the manufacturer shall, on his own responsibility, before verification takes place, affix to pressure vessels in this category the special mark described in 3.2 of Annex I.

Article 9

1. A Member State which has granted EEC pattern approval must withdraw it if any conditions laid down in a separate Directive pursuant to Article 2 (1) are not fulfilled.

2. If a Member State which has granted EEC pattern approval finds that pressure vessels of the type for which approval has been granted fail to conform to the pattern:

(a) it may maintain the approval where the differences established are minimal, or have no fundamental effect on the design of the vessel or on manufacturing methods and in no way present a safety hazard;

(b) it must withdraw the approval if the changes constitute a safety hazard;

(c) it shall request the manufacturer to make the appropriate manufacturing changes as soon as possible if it considers that the batch produced no longer corresponds to the approved pattern. It must withdraw the approval if the manufacturer fails to comply with this request.

3. The Member State which granted EEC pattern approval must also withdraw it if it finds that the approval should not have been granted.

4. Furthermore, if the said Member State is informed by another Member State of the existence of one of the cases referred to in paragraphs 1, 2 and 3, it shall, after consulting that State, act in accordance with the provisions of those paragraphs.

5. Where the advisability or necessity of withdrawing approval is the subject of dispute between the competent authorities of the Member State which has granted EEC pattern approval and those of another Member State, the Commission shall be kept informed. It shall where necessary, hold appropriate consultations in order to arrive at a solution.

6. Only that Member State which granted EEC pattern approval may decide to withdraw it. It shall forthwith notify the other Member States and the Commission of any such decision.

CHAPTER III

EEC verification

Article 10

EEC verification shall serve to establish whether a pressure vessel conforms with the requirements of the separate Directive relating to it; it shall be attested by the EEC verification mark.

Article 11

1. When a pressure vessel is presented for EEC verification, the inspection body shall check whether:

(a) — the pressure vessel belongs to a category subject to EEC pattern approval and, if so, whether it corresponds to the approved pattern and bears the EEC pattern approval mark;

— the pressure vessel belongs to a category exempt from EEC pattern approval and, if so, whether it meets the requirements laid down in the separate Directive;

(b) — the pressure vessel satisfies the requirements of the separate Directive as regards the performance of the tests and the correct affixing of the statutory marks and inscriptions.

2. The manufacturer may not refuse the inspection body access to the place of manufacture where such access is essential if the body is to carry out properly the tasks entrusted to it.

Article 12

Annex III specifies the minimum criteria which the Member States must observe when appointing the inspection bodies pursuant to Article 13, without prejudice to their competence, to take such measures and lay down such conditions as they consider necessary at national level to ensure that the inspection bodies appointed operate in an efficient, coordinated and irreproachable fashion.

Article 13

1. Each Member State shall forward to the other Member States and the Commission the list of inspection bodies responsible for the functions of inspection and any subsequent amendments to this list, specifying whether these bodies are only allowed to carry out certain inspections.

2. A Member State which has appointed an inspection body must withdraw the appointment if it finds that it does not meet or has ceased to meet the criteria set out in Annex III. It shall immediately inform the Commission and the other Member States thereof and shall indicate whether the appointment has been withdrawn completely or only in respect of certain inspections.

3. Only that Member State which has appointed such an inspection body may withdraw or limit the appointment.

Article 14

1. After carrying out EEC verification of a pressure vessel under the conditions laid down in Article 11 and in the manner provided for in Annex II, the inspection body shall affix the EEC partial or final verification marks to the vessel in accordance with the arrangements laid down in section 3 of that Annex.

2. Annex II, section 3 contains the requirements as to the form and characteristics of the EEC verification marks.

3. If a separate Directive so provides, the inspection body shall issue a certificate indicating the inspections carried out and their results.

Article 15

When the separate Directive relating to a category of pressure vessels does not provide for EEC verification, the manufacturer shall, on his own responsibility, after verifying that each pressure vessel satisfies the requirements of the separate Directive and, if appropriate, conforms to the approved pattern, affix:

(a) either the special mark described in 5.3 of Annex I, where EEC pattern approval is necessary;

(b) or the special mark described in 5.4 of Annex I, where there is exemption from EEC pattern approval.

CHAPTER IV

Provisions common to EEC pattern approval and EEC verification

Article 16

1. The marks prescribed by this Directive and any separate Directive relating to an appliance and its ancillary equipment must be visibly, legibly and indelibly affixed on each vessel and on such ancillary equipment.

2. Member States shall take all the necessary measures to prohibit the use on pressure vessels of marks or inscriptions liable to be confused with the EEC marks.

CHAPTER V

Derogating clause

Article 17

1. The design of a pressure vessel and the methods used in its manufacture need not comply with all of the provisions of the separate Directives, without the vessel ceasing to be covered by Article 3, provided that the alterations made are such as to ensure an equivalent degree of safety.

2. Each of the separate Directives shall specify clearly the provisions from which such derogation is possible or the provisions from which there can be no derogation.

The following procedure should be observed in such cases:

(a) the Member State shall forward the documents giving the description of the vessel and the documents supporting its request for derogation, including the results of any tests carried out, to the other Member States, which shall have a period of four months to agree or disagree, submit any comments, questions, additional requirements, requests for further tests, or, if they wish, to refer the matter to the Committee for its view in accordance with the procedure laid down in Article 20. Copies of these documents shall be sent to the Commission. Such correspondence shall be confidential;

(b) if by the end of the statutory period, no Member State has disagreed or asked for the matter to be referred to the Committee, the Member State shall after dealing with all the requests submitted under the procedure set out in (a), grant the derogation requested and inform the other Member States and the Commission thereof.

(c) if a Member State has not replied by the end of the statutory period, it shall be regarded as having agreed; however the State of origin must in this case ask the Commission to confirm that there has been no reply;

(d) if the matter has been referred to the Committee, and the Committee has decided in favour, the Member State may grant the derogation under any conditions that the Committee might propose;

(e) the relevant documents shall be submitted in the language or languages of the country of destination, or in another language acceptable to it.

CHAPTER VI

Adaptation of the Directives to technical progress

Article 18

The amendments necessary to keep:

— Annexes I and II to this Directive, and

— those provisions of the separate Directives which are specifically indicated in each of them,

in line with technical progress shall be made in accordance with the procedure laid down in Article 20.

Article 19

1. A committee (hereinafter called 'the Committee') is hereby set up to adapt to technical progress those Directives concerning the elimination of technical barriers to trade in pressure vessels. It shall consist of representatives of the Member States, with a Commission representative as chairman.

2. The Committee shall adopt its own rules of procedure.

Article 20

1. Where the procedure laid down in this Article is invoked, the Committee shall be convened by the chairman, either on his own initiative or at the request of the representative of a Member State.

2. The Commission representative shall submit a draft of the measures to be adopted to the Committee. The Committee shall give its view of the draft within a time limit set by the chairman having regard to the urgency of the matter. Decisions shall be taken on a majority of 41 votes, the votes of the Member States being weighted as provided in Article 148 (2) of the Treaty. The chairman shall not vote.

3. (a) The Commission shall adopt the proposed measures if they are consistent with the view of the Committee.

(b) If the proposed measures do not conform to the view of the Committee, or if no view has been given, the Commission shall without delay propose to the Council the measures to be adopted. The Council shall decide by a qualified majority.

(c) If, within three months of the proposal being submitted to it, the Council has not taken any decision, the proposed measures shall be adopted by the Commission.

CHAPTER VII

Safeguard clause

Article 21

1. Where a Member State has good grounds for believing that one or more pressure vessels constitute a safety hazard, although satisfying the requirements of this Directive and the separate Directives, it may temporarily prohibit the marketing of the vessel or

vessels on its territory or make it subject to special conditions. It shall immediately inform the Commission and the other Member States thereof, giving the reasons for its decision.

2. The Commission shall consult the Member States concerned within six weeks, then give its view without delay and take the appropriate steps.

3. Where the Commission considers that technical modifications to the Directive are necessary, such modifications shall be adopted, either by the Commission or the Council, in accordance with the procedure laid down in Article 20. In this event, the Member State which has taken the safeguard measures may retain them until such modifications come into force.

CHAPTER VIII

Special provisions

Article 22

1. This Article shall apply to vessels falling within the scope of this Directive pursuant to Article 1, where these are not covered by a separate Directive.

2. In this case, the following rules shall apply:

(a) the competent administrative authorities of the Member State of destination shall regard pressure vessels which have been inspected and tested by an inspection body chosen in accordance with the procedure laid down in Annex IV as conforming to their national laws, administrative provisions and regulations relating to design;

(b) these tests and inspections must be carried out in accordance with the procedure described in Annex IV and using the methods in force in the Member State of destination or recognized as being equivalent by its administrative authorities.

The tests and inspections referred to above shall be all those which it is possible to carry out in the place where the vessels are manufactured.

3. The Member States shall attach the same value to reports and certificates issued by the inspection body in the country of origin of the pressure vessel as to the corresponding national documents.

CHAPTER IX

Final provisions

Article 23

Any decision by a Member State or an inspection body pursuant to this Directive and the separate Directives to refuse EEC pattern approval or to refuse to affix the EEC verification mark, to withdraw approval, or to prohibit the sale or use of EEC-type pressure vessels, shall state the exact grounds on which it is based. Such a decision shall be notified as soon as possible to the party concerned, who shall at the same time be informed of the remedies available to him under the laws in force in the Member State in question and of the time limits to which such remedies are subject.

Article 24

1. Member States shall bring into force the laws, regulations and administrative provisions needed in order to comply with this Directive within 18 months of its notification and shall forthwith inform the Commission thereof.

2. Member States shall ensure that the texts of the provisions of national law which they adopt in the field covered by this Directive are communicated to the Commission.

Article 25

This Directive is addressed to the Member States.

Done at Brussels, 27 July 1976.

For the Council

The President

M. van der STOEL

ANNEX I [1]

EEC PATTERN APPROVAL

1. APPLICATION FOR EEC PATTERN APPROVAL

1.1. The application and the correspondence relating to it shall be drawn up in an official language of the State to which the application is made in accordance with the laws of that State. The Member State has the right to require that the annexed documents should also be drawn up in that same official language.

1.2. The application shall contain the following information:

— name and address of the manufacturer or firm, of his or its authorized representative or of the applicant, and the place or places of manufacture of the vessels,

— category of the vessel,

— intended use or prohibited uses,

— technical characteristics,

— trade name, if any, or type.

1.3. The application shall be accompanied by two copies of the documents required and in particular:

1.3.1. A description including:

— the materials specifications, the methods of construction and the strength calculations for the vessel,

— any safety devices fitted,

— the places where the approval and verification marks specified in this Directive are to be affixed, as well as the other marks specified in the separate Directives.

1.3.2. The general plans and, where appropriate, detailed drawings of important design features.

1.3.3. Any other information provided for in the separate Directives.

1.3.4. A statement certifying that no other application for EEC pattern approval has been submitted for the same pattern of vessel.

2. EXAMINATION FOR EEC PATTERN APPROVAL

2.1. The examination for EEC pattern approval shall be carried out on the basis of the plans and, where appropriate, on sample vessels.

The examination shall entail:

(a) checking of the design calculations, method of manufacture, workmanship and materials;

(b) where appropriate, checking of the safety devices and measuring equipment and the methods of installation.

3. EEC PATTERN APPROVAL CERTIFICATE AND MARK

3.1. The certificate referred to in Article 7 shall contain the conclusions of the examination of the pattern and shall indicate any conditions to which, under Article 2 (1), approval may be subject. It shall be accompanied by the descriptions and drawings necessary to identify the pattern and, where appropriate, to explain how it functions. The EEC approval mark provided for in Article 7 shall be a stylized letter ϵ containing:

— in the upper part, the serial number of the separate Directive allocated according to the chronological order of adoption, and the capital letter(s)

[1] See the Appendix to Annexes I and II.

identifying the State which has granted EEC pattern approval (B for Belgium, D for the Federal Republic of Germany, DK for Denmark, F for France, I for Italy, IRL for Ireland, L for Luxembourg, NL for the Netherlands, UK for the United Kingdom) and the year of EEC pattern approval; the number of the separate Directive to which the EEC pattern approval refers will be allocated by the Council when it is adopted,

— in the lower part, the EEC pattern approval number.

An example of this mark is shown in 5.1.

3.2. The mark referred to in Article 8, represented by the stylized letter ε reversed symmetrically about a vertical axis, contains in the upper part the same information as required by the first indent of 3.1, and in the lower part the reference number of the category not subject to EEC pattern approval if so provided in the separate Directive.

An example of this mark is shown in 5.2.

3.3. The mark mentioned in Article 15 (a) is the same as the EEC approval mark surrounded by a hexagon.

An example of this mark is shown in 5.3.

3.4. The mark mentioned in Article 15 (b) is the mark of exemption from EEC pattern approval surrounded by a hexagon.

An example of this mark is shown in 5.4.

4. PUBLICATION OF EEC PATTERN APPROVAL

4.1. EEC pattern approval certificates shall be published in the *Official Journal of the European Communities*.

4.2. At the same time as the party concerned is notified, copies of the EEC pattern approval certificate shall be sent by the Member State to the Commission and to the other Member States, which may also obtain copies of the definitive technical file on the vessel and of the reports on the examinations and tests it has undergone.

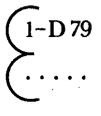
4.3. Withdrawal of EEC pattern approval shall be published in accordance with the procedure laid down in 4.1 and 4.2.

4.4. Any Member State refusing EEC pattern approval shall inform the other Member States and the Commission of such refusal.

5. MARKS RELATING TO EEC PATTERN APPROVAL

5.1. **Mark of EEC pattern approval** (see 3.1)

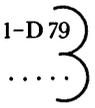
Example:



EEC pattern approval granted by the Federal Republic of Germany in 1979, pursuant to the first separate Directive.
EEC pattern approval number.

5.2. **Mark of exemption from EEC pattern approval** (see 3.2)

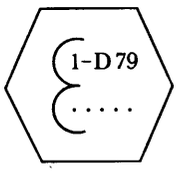
Example:



Vessel constructed in Germany in 1979 and not subject to EEC pattern approval pursuant to the first separate Directive.
Reference number of the category not subject to EEC pattern approval if so provided in the separate Directive.

5.3. **Mark of EEC pattern approval and exemption from EEC verification** (see 3.3)

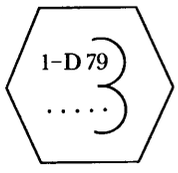
Example:



EEC pattern approval issued by the Federal Republic of Germany in 1979, pursuant to the first separate Directive.
EEC pattern approval number.

5.4. **Mark of exemption from EEC pattern approval and from EEC verification (see 3.4)**

Example:



Vessel constructed in Germany in 1979 and not subject to EEC pattern approval pursuant to the first separate Directive.

Reference number of the category not subject to EEC pattern approval if so provided in the separate Directive.

5.5. The separate Directives may specify the placing and dimensions of the marks relating to EEC pattern approval.
Unless otherwise indicated in the separate Directives, the letters and numbers in each mark must be at least 5 mm high.

ANNEX II [1]

EEC VERIFICATION

1. GENERAL

1.1. EEC verification may be carried out in one or more stages.

1.2. Subject to the requirements of the separate Directives:

1.2.1. EEC verification shall be carried out in one stage only on vessels which constitute a whole on leaving the factory, that is to say vessels which, theoretically, can be transferred to their place of installation without first having to be dismantled;

1.2.2. the verification of vessels not dispatched in one piece shall be carried out in two or more stages;

1.2.3. verification must in particular ensure that the vessel conforms to the approved pattern or, in the case of vessels exempt from EEC pattern approval, to the requirements laid down by the relevant separate Directive.

2. NATURE OF EEC VERIFICATION

2.1. Subject to the requirements of the separate Directives the verification shall entail:

— examination of the characteristics of the materials,
— checking of the design calculations, method of manufacture, workmanship and materials used,
— an internal examination consisting of a check on the internal parts and the welding,
— a pressure test,
— inspection of any safety devices and measuring equipment fitted,
— an external examination of the various parts of the vessel,
— a performance test where this is prescribed in the separate Directives.

3. EEC VERIFICATION MARKS

3.1. **Description of EEC verification marks**

3.1.1. Subject to the requirements of separate Directives, EEC verification marks which are affixed in accordance with 3.3 shall be as follows:

3.1.1.1. The EEC final verification mark shall be composed of two stamps:

3.1.1.1.1. The first consisting of a letter 'e' containing:
— in the upper half, the capital letter(s) identifying the State in which the verification is carried out (B for Belgium, D for the Federal Republic of Germany, DK for Denmark, F for France, I for Italy, IRL for Ireland, L for Luxembourg, NL for the Netherlands and UK for the United Kingdom) together, where necessary, with one or two numbers identifying a territorial subdivision,
— in the lower half, the mark of the inspection body affixed by the verifying agent, together with the mark of the verifying agent if appropriate;

3.1.1.1.2. the second stamp consisting of the date of verification in a hexagon described with the accuracy required by the separate Directives;

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[1] See the Appendix to Annexes I and II.

3.1.1.2. The EEC partial verification mark shall consist solely of the first stamp (1).

3.2. **Shape and dimensions of marks**

3.2.1. An example of the stamps described in 3.1.1.1.1 and 3.1.1.1.2 is illustrated in figures 1 and 2 below.

The separate Directives may specify the placing and dimensions of the EEC verification marks.

Unless otherwise indicated in the separate Directives, the letters and numbers of each mark must be at least 5 mm high.

3.2.2. The inspection bodies of the Member States shall mutually exchange copies of the drawings of the EEC verification marks.

3.3. **Affixing the marks**

3.3.1. The EEC final verification mark shall be affixed in the required position on the vessel when the latter has been finally verified and is recognized as conforming to EEC requirements.

3.3.2. Where verification is carried out in more than one stage, the EEC partial verification mark shall be affixed at the place of manufacture on the vessel or part of a vessel which is recognized as conforming to EEC requirements at that stage of the inspection procedure, and in the place specifically provided for the stamping place or in any other place specified in the separate Directives.

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(1) *Explanatory note on the EEC final verification mark and EEC partial verification mark*

If a vessel cannot be assembled at its place of manufacture, or if transporting it is likely to affect its characteristics, EEC verification shall be carried out as follows:

— verification of the vessel at its place of manufacture by an inspection body of the country of origin which, providing the vessel conforms to EEC requirements, shall affix the 'e' stamp described in 3.1.1.1.1 and known as the EEC partial verification mark,

— final verification of the vessel at its place of installation by an inspection body of the country of destination which, providing the vessel conforms to EEC requirements, shall affix the stamp described in 3.1.1.1.2 which, together with the EEC partial verification mark, forms the EEC final verification mark.

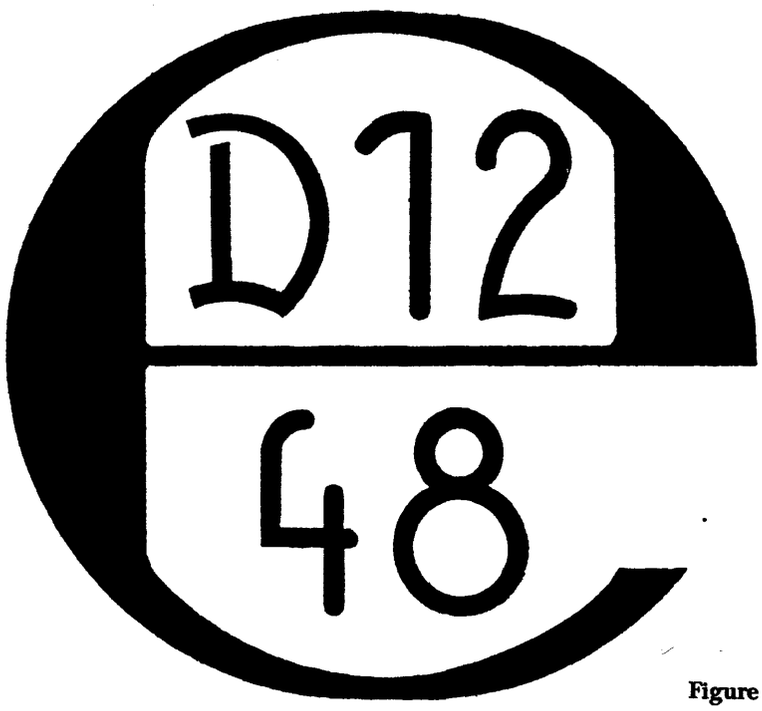


Figure 1

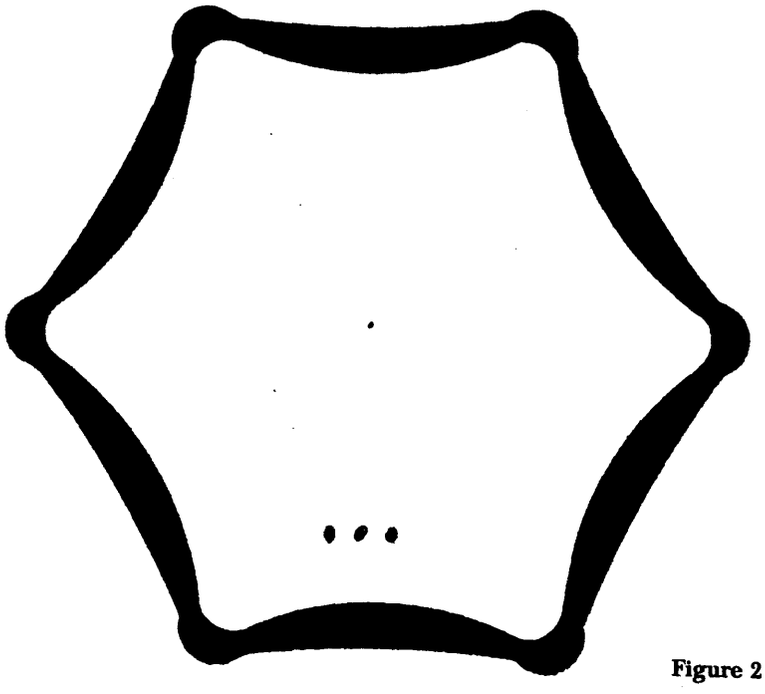
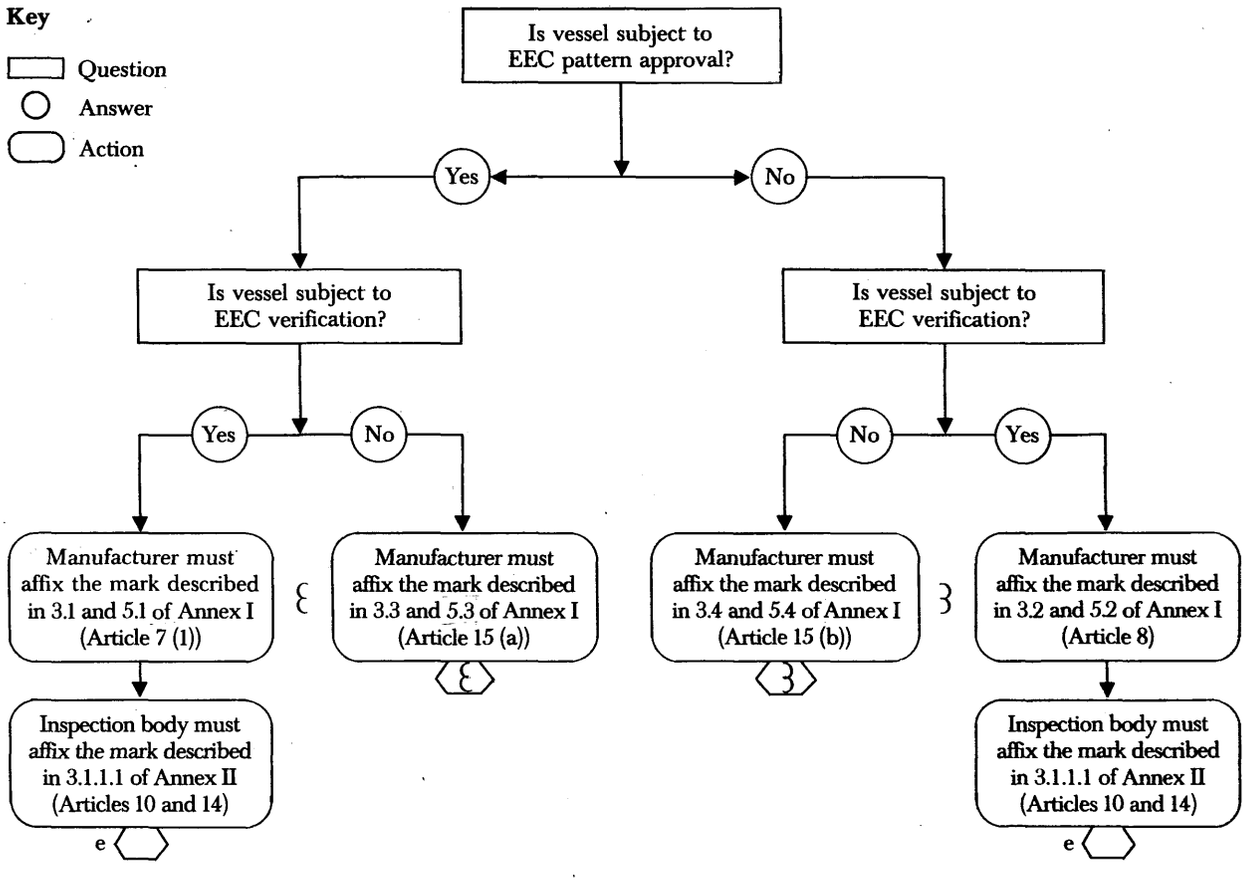


Figure 2

Appendix to Annexes I and II

Table illustrating the various possible combinations for EEC pattern approval or EEC verification



ANNEX III

Minimum criteria to be taken into account by Member States when appointing inspection bodies to carry out EEC verification

1. The inspection body, its director and the staff responsible for carrying out the verification tests may not be the designer, manufacturer, supplier, installer of vessels or installations which they inspect, nor the authorized representative of any of those parties. They may not become directly involved in the design, construction, marketing, representation or maintenance of the vessels or installations, nor represent the parties engaged in these activities. This does not preclude the possibility of exchanges of technical information between the manufacturer and the inspection body.

2. The inspection body and its staff must carry out the verification tests with the highest degree of professional integrity and technical competence and must be free from all pressures and inducements, particularly financial, which might influence their judgement or the results of the inspection, especially from persons or groups of persons with an interest in the results of verifications.

3. The inspection body must have at its disposal the necessary staff and possess the necessary means for it to perform properly the administrative and technical tasks connected with verifications; it must also have access to the equipment required for special verifications.

4. The staff responsible for inspection must have:
   — sound technical and professional training,
   — satisfactory knowledge of the requirements of the tests they carry out and adequate experience of such tests,
   — the ability to draw up the certificates, records and reports required to authenticate the performance of the tests.

5. The impartiality of inspection staff must be guaranteed. Their remuneration must not depend on the number of tests carried out, nor on the results of such tests.

6. The inspection body must take out a third party insurance policy unless civil liability is assumed by the State in accordance with national law, or the Member State itself is directly responsible for the tests.

7. The staff of the inspection body shall be bound to observe professional secrecy with regard to all information gained in carrying out its tasks (except *vis-à-vis* the competent administrative authorities of the State in which its activities are carried out) under this Directive and the separate Directives or any provision of national law giving effect to them.

ANNEX IV

DEFINITIONS

Country of origin: Member State where the pressure vessel was manufactured.

Recipient country: Member State into which a pressure vessel is to be imported, or in which it is to be marketed and/or placed into service.

Administration of origin: The competent administrative authorities of the country of origin.

Recipient administration: The competent administrative authorities of the recipient country.

PROCEDURE

1. Where a manufacturer wishes to export a pressure vessel, or more than one pressure vessel of a single type, he or his representative shall forward an application, directly or through the importer in the recipient country, to the recipient administration, citing Article 22 and asking for the verification tests to be carried out in accordance with the methods laid down in the recipient country by an inspection body other than those of the recipient country.

   In his application, the manufacturer or his representative shall indicate which inspection body he has chosen. The choice must be made from the list sent in by the country of origin under Article 13. However, by way of exception to this procedure, in the case of vessels constructed specially to a single order in very small numbers or vessels designed for a complex installation manufactured in accordance with the information and specifications provided by the customer or a consultancy bureau appointed by him, an inspection body in the Member State of origin shall be chosen by the customer, whether or not included on the list referred to in Article 13, provided the recipient administration agrees to the choice.

   The recipient administration shall inform the administration of origin of the decisions it had taken on the matter.

   The name of the customer or importer, if known, must be shown in the application.

   The application shall be accompanied by a file containing drawings and calculations relating to the vessel or pattern, specifications of the materials, information on the manufacturing processes involved, and details of the verification methods during manufacture, together with any other information which the manufacturer or his representative consider may help the recipient administration's decision as to whether a pressure vessel, or vessels of the same pattern, conforming to the plans, satisfies the statutory requirements for pressure vessels in the recipient country.

   The documents shall be forwarded in quadruplicate in the language or languages of the recipient country or in another language acceptable to that country.

2.

2.1. The recipient administration shall acknowledge receipt of the file as soon as it is received.

2.2.

2.2.1. If the recipient administration considers that the file received contains all the information required under section 1, it shall have three months from the date of receipt of the file to conduct a substantive examination of the documents in the file.

2.2.2. If the recipient administration considers that the file received does not contain all the information required under section 1, it shall have one month from the date of receipt of the file to inform the applicant of the further details which should be supplied. On receipt of the file duly completed, the procedure in 2.2.1 shall be followed.

2.3.

2.3.1. If it is apparent from a substantive examination of the file that the vessel, or the vessels of a single type have been produced or are intended to be produced in accordance with the relevant documents, and satisfy the statutory requirements for pressure vessels in the recipient country or may be accepted if a derogation from these requirements is granted, the recipient administration shall notify the applicant accordingly within the period laid down in 2.2.1.

If the vessel, or the vessels of a single type, covered by the application are not subject to regulations in the recipient country, the recipient administration may require that the regulations governing pressure vessels in the country of origin are complied with.

2.3.2. If it is apparent from a substantive examination of the file that the vessel, or the vessels of a single type, have been produced or are intended to be produced in accordance with the relevant documents, but do not satisfy the statutory requirements for pressure vessels in the recipient country and may not be granted a derogation from these requirements, the recipient administration shall notify the applicant accordingly within the period laid down in 2.2.1, and shall indicate which provisions have not been complied with and which provisions must be complied with if the vessel, or the vessels of a single type are to be accepted. It shall also inform the applicant of the manufacturing requirements and the checks, tests and verifications required by the regulations on pressure vessels which are in force in the recipient country.

If the applicant is prepared to amend the design, manufacturing process and/or verification methods relating to the vessel, or the vessels of a single type, so as to satisfy the required conditions, he shall amend his file accordingly. On receipt of the amended file, the procedure outlined in 2.2.1 shall be followed, but the period for examination shall be reduced to two months.

2.3.3. The criteria used by the recipient administration for granting or refusing the derogations referred to in 2.3.1 and 2.3.2 shall be the same as those currently applied for manufacturers established in the recipient country.

2.4. The fees, taxes or other charges for the examination of the file shall be those laid down by the rules applying in the recipient country.

3. The inspection body chosen in accordance with section 1 shall carry out the operations required of it by the recipient administration.

4. After carrying out the checks, tests and verifications required by the recipient administration, and establishing that the results are satisfactory, the inspection body shall issue to the manufacturer or his representative, and to the recipient administration, the reports on these checks, tests and verifications, and certificates confirming that the checking, testing and verification methods used and the results obtained comply with the requirements of the recipient country.

If the results of the checks are not satisfactory, the inspection body shall inform the applicant and the recipient administration.

These documents must be drawn up in the language of the recipient country or in another language acceptable to it.

5. The fees, taxes or charges for carrying out these checks and tests shall be in accordance with the rules of the inspection body.

6. The recipient administration must ensure that all plans and documents forwarded to it remain confidential.

COUNCIL DIRECTIVE

of 27 July 1976

on the approximation of the laws of the Member States relating to cosmetic products

(76/768/EEC)

THE COUNCIL OF THE EUROPEAN COMMUNITIES,

Having regard to the Treaty establishing the European Economic Community, and in particular Article 100 thereof,

Having regard to the proposal from the Commission,

Having regard to the opinion of the European Parliament [1],

Having regard to the opinion of the Economic and Social Committee [2],

Whereas the provisions laid down by law, regulation or administrative action in force in the Member States define the composition characteristics to which cosmetic products must conform and prescribe rules for their labelling and for their packaging; whereas these provisions differ from one Member State to another;

Whereas the differences between these laws oblige Community cosmetic producers to vary their production according to the Member State for which the products are intended; whereas, consequently, they hinder trade in these products and, as a result, have a direct effect on the establishment and functioning of the common market;

Whereas the main objective of these laws is the safeguarding of public health and whereas, as a result, the pursuit of the same objective must inspire Community legislation in this sector; whereas, however, this objective must be attained by means which also take account of economic and technological requirements;

Whereas it is necessary to determine at Community level the regulations which must be observed as regards the composition, labelling and packaging of cosmetic products;

Whereas this Directive relates only to cosmetic products and not to pharmaceutical specialities and medicinal products; whereas for this purpose it is necessary to define the scope of the Directive by delimiting the field of cosmetics from that of pharmaceuticals; whereas this delimitation follows in particular from the detailed definition of cosmetic products, which refers both to their areas of application and to the purposes of their use; whereas this Directive is not applicable to the products that fall under the definition of cosmetic product but are exclusively intended to protect from disease; whereas, moreover, it is advisable to specify that certain products come under this definition, whilst products containing substances or preparations intended to be ingested, inhaled, injected or implanted in the human body do not come under the field of cosmetics;

Whereas in the present state of research, it is advisable to exclude cosmetic products containing one of the substances listed in Annex V from the scope of this Directive;

Whereas cosmetic products must not be harmful under normal or foreseeable conditions of use; whereas in particular it is necessary to take into account the possibility of danger to zones of the body that are contiguous to the area of application;

Whereas, in particular, the determination of the methods of analysis together with possible modifications or additions which may have to be made to them on the basis of the results of scientific and technical research, are implementing measures of a technical nature; whereas it is advisable to entrust their adoption to the Commission, subject to certain conditions specified in this Directive, for the purpose of simplifying and accelerating the procedure;

Whereas technical progress necessitates rapid adaptation of the technical provisions defined in this Directive and in subsequent Directives in this field; whereas it is advisable, in order to facilitate implementation of the measures necessary for this purpose,

[1] OJ No C 40, 8. 4. 1974, p. 71.
[2] OJ No C 60, 26. 7. 1973, p. 16.

to provide for a procedure establishing close co-operation between the Member States and the Commission within the Committee for adaptation to technical progress of Directives aimed at the removal of technical obstacles to trade in the cosmetic products sector;

Whereas it is necessary, on the basis of scientific and technical research, to draw up proposals for lists of authorized substances which could include antioxidants, hair dyes, preservatives and ultraviolet filters, taking into account in particular the problem of sensitization;

Whereas it could happen that although conforming to the provisions of this Directive and its Annexes, cosmetic products placed on the market might endanger public health; whereas it is therefore advisable to provide for a procedure intended to remove this danger,

HAS ADOPTED THIS DIRECTIVE:

Article 1

1. A 'cosmetic product' means any substance or preparation intended for placing in contact with the various external parts of the human body (epidermis, hair system, nails, lips and external genital organs) or with the teeth and the mucous membranes of the oral cavity with a view exclusively or principally to cleaning them, perfuming them or protecting them in order to keep them in good condition, change their appearance or correct body odours.

2. The products to be considered as cosmetic products within the meaning of this definition are listed in Annex I.

3. Cosmetic products containing one of the substances listed in Annex V and cosmetic products containing colouring agents other than those referred to in Annexes III and IV and which are not intended to come into contact with the mucous membranes are excluded from the scope of this Directive. Member States may take such measures as they deem necessary with regard to these products.

Article 2

Cosmetic products put on the market within the Community must not be liable to cause damage to human health when they are applied under normal conditions of use.

Article 3

Member States shall take all necessary measures to ensure that only cosmetic products which conform to the provisions of this Directive and its Annexes may be put on the market.

Article 4

Without prejudice to their general obligations deriving from Article 2, Member States shall prohibit the marketing of cosmetic products containing:

(a) substances listed in Annex II;

(b) substances listed in the first part of Annex III, beyond the limits and outside the conditions laid down;

(c) colouring agents other than those listed in the second part of Annex III, if these products are intended for application in the vicinity of the eyes, on the lips, in the oral cavity or to the external genital organs;

(d) colouring agents listed in the second part of Annex III, beyond the limits and outside the conditions laid down, if these products are intended for application in the vicinity of the eyes, on the lips, in the oral cavity or to the external genital organs.

Article 5

For a period of three years from notification of this Directive, Member States shall accept the marketing of cosmetic products containing:

(a) the substances listed in Part 1 of Annex IV within the limits and under the conditions laid down;

(b) the colouring agents listed in Part 2 of Annex IV within the limits and under the conditions laid down, if these products are intended for application in the vicinity of the eyes, on the lips, in the oral cavity, or to the external genital organs;

(c) the colouring agents listed in Part 3 of Annex IV, if these products either are not intended to come into contact with the mucous membranes or are only intended to come into brief contact with the skin.

On expiry of the three year period, these substances and colouring agents shall:

— either be definitively permitted,

— or definitively prohibited (Annex II),

— or retained for a further period of three years in Annex IV,

— or deleted from all Annexes to this Directive.

Article 6

1. Member States shall take all measures necessary to ensure that cosmetic products may be marketed only if their packaging, containers or labels bear the following information in indelible, easily legible and visible lettering:

(a) the name or style and the address or registered office of the manufacturer or the person responsible for marketing the cosmetic product who are established within the Community. Such information may be abbreviated in so far as the abbreviation makes it generally possible to identify the undertaking. Member States may require that the country of origin be specified for goods manufactured outside the Community;

(b) the nominal content at the time of packaging;

(c) the expiry date for products with a stability of less than three years;

(d) particular precautions to be observed in use, and especially those listed in the column 'Conditions of use and warnings which must be printed on the label' in Annexes III and IV, and which must appear on the container; where this is impossible for practical reasons, this information must appear on the packaging or on an enclosed leaflet, but in the latter case an abbreviated external indication must appear on the container, referring the consumer to the information specified;

(e) the batch number of manufacture or the reference for identifying the goods; however, where this is impossible for practical reasons because the cosmetic articles are too small, such information need appear only on the multiple retail pack or sleeve of these articles.

2. Member States shall take all measures necessary to ensure that in the labelling, presentation for sale and advertising of cosmetic products, the wording, use of names, trade marks, images or other signs, figurative or otherwise, suggesting a characteristic which the products in question do not possess, shall be prohibited.

Article 7

1. Member States may not, for reasons related to the requirements laid down in this Directive and the Annexes thereto, refuse, prohibit or restrict the marketing of any cosmetic products which comply with the requirements of this Directive and the Annexes thereto.

2. They may, however, require that the particulars provided for in Article 6 (1) (b), (c) and (d) be expressed at least in their own national or official language or languages.

3. Furthermore, a Member State may require, for purposes of prompt and appropriate medicial treatment in the event of difficulties, that adequate and sufficient information regarding substances contained in cosmetic products is made available to the competent authority, which shall ensure that this information is used only for the purposes of such treatment.

Article 8

1. In accordance with the procedure laid down in Article 10 the following shall be determined:

— the methods of analysis necessary for checking the composition of cosmetic products,

— the criteria of microbiological and chemical purity for cosmetic products and methods for checking compliance with those criteria.

2. The amendments necessary for adapting Annex II to technical progress shall be adopted in acccordance with the same procedure.

Article 9

1. The Committee on the Adaptation to Technical Progress of the Directives on the Removal of Technical Barriers to Trade in the Cosmetic Products Sector, hereinafter called 'the Committee', is hereby set up. It snall consist of representatives of the Member States with a representative of the Commission as chairman.

2. The Committee shall adopt its own rules of procedure.

Article 10

1. Where the procedure laid down in this Article is to be followed, matters shall be referred to the Committee by the chairman, either on his own initiative or at the request of the representative of a Member State.

2. The representative of the Commission shall submit to the Committee a draft of the measures to be adopted. The Committee shall deliver its opinion on the draft within a time limit set by the chairman according to the urgency of the matter. Opinions shall be adopted by a majority of 41 votes, the votes of Member States being weighted as provided for in Article 148 (2) of the Treaty. The chairman shall not vote.

3. (a) The Commission shall adopt the proposed measures when they are in accordance with the opinion of the Committee.

(b) Where the proposed measures are not in accordance with the opinion of the Committee, or if no opinion is adopted, the Commission shall without delay propose to the Council the measures to be adopted. The Council shall act by a qualified majority.

(c) If, within three months of the proposal being submitted to it, the Council has not acted, the proposed measures shall be adopted by the Commission.

Article 11

Without prejudice to Article 5 and not later than one year after expiry of the period laid down in Article 14 (1) for implementation of this Directive by the Member States, the Commission shall, on the basis of the results of the latest scientific and technical research, submit to the Council appropriate proposals establishing lists of permitted substances.

Article 12

1. If a Member State notes, on the basis of a substantiated justification, that a cosmetic product, although complying with the requirements of the Directive, represents a hazard to health, it may provisionally prohibit the marketing of that product in its territory or subject it to special conditions. It shall immediately inform the other Member States and the Commission thereof, stating the grounds for its decision.

2. The Commission shall, within six weeks, consult the Member States concerned, following which it shall deliver its opinion without delay and take the appropriate steps.

3. If the Commission is of the opinion that technical adaptations to the Directive are necessary, such adaptations shall be adopted by either the Commission or the Council in accordance with the procedure laid down in Article 10. In that event, the Member State which has adopted safeguard measures may maintain them until entry into force of the adaptations.

Article 13

Precise reasons shall be stated for any individual measures placing a restriction or ban on the marketing of cosmetic products taken pursuant to this Directive. It shall be notified to the party concerned together with particulars of the remedies available to him under the laws in force in the Member States and of the time limits allowed for the exercise of such remedies.

Article 14

1. Member States shall bring into force the provisions needed in order to comply with this Directive within 18 months of its notification and shall forthwith inform the Commission thereof.

2. Member States may, however, for a period of 36 months from notification of this Directive, authorize the marketing in their territory of cosmetic products which do not conform to the requirements of the Directive.

3. Member States shall ensure that the texts of such provisions of national law as they adopt in the field governed by this Directive are communicated to the Commission.

Article 15

This Directive is addressed to the Member States.

Done at Brussels, 27 July 1976.

For the Council

The President

M. van der STOEL

ANNEX I

ILLUSTRATIVE LIST BY CATEGORY OF COSMETIC PRODUCTS

- Creams, emulsions, lotions, gels and oils for the skin (hands, face, feet, etc.).
- Face masks (with the exception of peeling products).
- Tinted bases (liquids, pastes, powders).
- Make-up powders, after-bath powders, hygienic powders, etc.
- Toilet soaps, deodorant soaps, etc.
- Perfumes, toilet waters and eau de Cologne.
- Bath and shower preparations (salts, foams, oils, gels, etc.).
- Depilatories.
- Deodorants and anti-perspirants.
- Hair care products:
  - hair tints and bleaches,
  - products for waving, straightening and fixing,
  - setting products,
  - cleansing products (lotions, powders, shampoos),
  - conditioning products (lotions, creams, oils),
  - hairdressing products (lotions, lacquers, brilliantines).
- Shaving products (creams, foams, lotions, etc.).
- Products for making up and removing make-up from the face and the eyes.
- Products intended for application to the lips.
- Products for care of the teeth and the mouth.
- Products for nail care and make-up.
- Products for external intimate hygiene.
- Sunbathing products.
- Products for tanning without sun.
- Skin-whitening products.
- Anti-wrinkle products.

ANNEX II

LIST OF SUBSTANCES WHICH COSMETIC PRODUCTS MUST NOT CONTAIN

1. *N*-5-Chlorobenzoxazol-2-ylacetamide
2. β-Acetoxyethyl trimethyl ammonium hydroxide (acetylcholine and its salts)
3. Deanol aceglumate*
4. Spironolactone*
5. [4-(4-Hydroxy-3-iodophenoxy)-3,5-diiodophenyl] acetic acid and its salts
6. Methotrexate*
7. Aminocaproic acid* and its salts
8. Cinchophen*, its salts, derivatives and salts of these derivatives
9. Thyropropic acid* and its salts
10. Trichloroacetic acid
11. *Aconitum napellus L.* (leaves, roots and galenical preparations)
12. Aconitine (principal alkaloid of *Aconitum napellus L.*) and its salts
13. *Adonis vernalis L.* and its preparations
14. Epinephrine*
15. *Rauwolfia serpentina* alkaloids and their salts
16. Alkyne alcohols, their esters, ethers and salts
17. Isoprenaline*
18. Allyl isothiocyanate
19. Alloclamide* and its salts
20. Nalorphine*, its salts and ethers
21. Sympathicomimetic amines acting on the central nervous system: any substance contained in the first list of medicaments which are subject to medical prescription and are referred to in resolution AP (69) 2 of the Council of Europe
22. Aniline, its salts and its halogenated and sulphonated derivatives
23. Betoxycaine* and its salts
24. Zoxazolamine*
25. Procainamide*, its salts and derivatives
26. Benzidine
27. Tuaminoheptane*, its isomers and salts
28. Octodrine* and its salts
29. 2-Amino-1,2-bis (4-methoxyphenyl)ethanol and its salts
30. 1,3-dimethylpentylamine and its salts

(*) In this Directive, names followed by an asterisk are those published in 'Computer print-out 1975, International Non-proprietary Names (INN) for pharmaceutical products, Lists 1-33 of proposed INN', WHO, Geneva, August 1975.

31. 4-Aminosalicylic acid and its salts
32. Toluidines, their isomers, salts and halogenated and sulphonated derivatives
33. Xylidines, their isomers, salts and halogenated and sulphonated derivatives
34. Imperatorin (9-(3-methoxylbut-2-enyloxy) furo [3,2-g] chromen-7-one)
35. *Ammi majus* and its galenical preparations
36. 2,3-Dichloro-2-methylbutane
37. Substances with androgenic effect
38. Anthracene oil
39. Antibiotics, with the exception of that given in Annex IV
40. Antimony and its compounds
41. *Apocynum cannabinum L.* and its preparations
42. Apomorphine (5,6,6a 7-tetrahydro-6-methyl-4H-dibenzo [de, g]= quinoline-10,11-dihydric alcohol) and its salts
43. Arsenic and its compounds
44. *Atropa belladonna L.* and its preparations
45. Atropine, its salts and derivatives
46. Barium salts, with the exception of barium sulphate, lakes prepared from barium sulphate and pigments prepared from the colouring agents listed in Annex III, Part 2 and Annex IV, Parts 2 and 3 and marked Ba
47. Benzene
48. 4,5-Dihydrobenzimidazol-4-one
49. Benzazepines and benzadiazepines, their salts and derivatives
50. 1-Dimethylaminomethyl-1-methylpropyl benzoate and its salts (amylocaine)
51. 2,2,6-Trimethyl-4-piperidyl benzoate and its salts (benzamine)
52. Isocarboxazide*
53. Bendroflumethiazide* and its derivatives
54. Beryllium and its compounds
55. Bromine, elemental
56. Bretylium tosilate*
57. Carbromal*
58. Bromisoval*
59. Brompheniramine* and its salts
60. Benzilonium bromide*
61. Tetrylammonium bromide*
62. Brucine
63. Tetracaine* and its salts
64. Mofebutazone*
65. Tolbutamide*
66. Carbutamide*
67. Phenylbutazone*
68. Cadmium and its compounds
69. Cantharides, *Cantharis vesicatoria*

70. (1R,2S)-Hexahydro-1,2-dimethyl-3,6-epoxyphthalic anhydride (cantharidin)
71. Phenprobamate*
72. Nitroderivatives of carbazol
73. Carbon disulphide
74. Catalase
75. Cephaeline and its salts
76. *Chenopodium ambrosioides* (essential oil)
77. 2,2,2-Trichloroethane-1,1-diol
78. Chlorine
79. Chlorpropamide*
80. Diphenoxylate* (hydrochloride)
81. 4-Phenylazophenylene-1,3-diamine citrate hydrochloride (chrysoidine citrate hydrochloride)
82. Chlorzoxazone*
83. 2-Chloro-6-methylpyrimidin-4-yldimethylamine (crimidine-ISO)
84. Chlorprothixene* and its salts
85. Clofenamide*
86. *N N*-bis (2-chloroethyl) methylamine *N*-oxide and its salts
87. Chlormethine* and its salts
88. Cyclophosphamide* and its salts
89. Mannomustine* and its salts
90. Butanilicaine* and its salts
91. Chloromezanone*
92. Triparanol*
93. 2-[2(4-Chlorophenyl)-2-phenylacetyl] indane-1,3-dione (chlorophacinone-ISO)
94. Chlorphenoxamine*
95. Phenaglycodol*
96. Chloroethane
97. Chromium; chromic acid and its salts
98. *Claviceps purpurea Tul.*, its alkaloids and galenical preparations
99. *Conium maculatum L.* (fruit, powder, galenical preparations)
100. Glycyclamide*
101. Cobalt benzenesulphonate
102. Colchicine, its salts and derivatives
103. Colchicoside and its derivatives
104. *Colchicum autumnale L.* and its galenical preparations
105. Convallatoxin
106. *Anamirta cocculus L.* (fruit)
107. *Croton tiglium* (oil)
108. 1-Butyl-3-(*N*-crotonoylsulphanilyl)urea
109. Curare and curarine
110. Synthetic curarizants
111. Hydrogen cyanide and its salts

112. 2-α-Cyclohexylbenzyl (*N N N' N'*-tetraethyl)trimethylenediamine (phenetamine)

113. Cyclomenol* and its salts

114. Sodium hexacyclonate*

115. Hexapropymate*

116. Dextropropoxyphene*

117. *O O*-Diacetyl-*N*-allyl-*N*-normorphine

118. Pipazetate* and its salts

119. 5-(α, β-dibromo-phenethyl)-5-methylhydantoin

120. *N N*-Pentamethylenebis (trimethylammonium salts), e.g. Pentamethonium bromide*

121. *N N'*-[Methylimino) diethylene] bis (ethyldimethylammonium) salts, e.g. azamethonium bromide*

122. Cyclarbamate*

123. Clofenotane*; DDT (ISO)

124. Hexamethylenebis (trimethylammonium salts), e.g. hexamethonium bromide*

125. Dichloroethanes (ethylene chlorides)

126. Dichloroethylenes (acetylene chlorides)

127. Lysergide* and its salts

128. 2-Diethylaminoethyl-3-hydroxy-4-phenylbenzoate and its salts

129. Cinchocaine* and its salts

130. 3-Diethylaminopropyl cinnamate

131. *O O*-Diethyl *O*-4-nitrophenyl phosphorothioate (parathion-ISO)

132. [Oxalylbis(iminoethylene)] bis [(*o*-chlorobenzyl)diethylammonium salts], e.g. ambenomium chloride*

133. Methyprylon*and its salts

134. Digitaline and all heterosides of *Digitalis purpurea L.*

135. 7-[2-Hydroxy-3-(2-hydroxyethyl-*N*-methylamino)propyl]theophylline (xanthinol)

136. Dioxethedrin* and its salts

137. Piprocurarium*

138. Propyphenazone*

139. Tetrabenazine* and its salts

140. Captodiame*

141. Mefeclorazine* and its salts

142. Dimethylamine

143. 1,1-Bis(dimethylaminomethyl) propyl benzoate and its salts (amydricaine, alypine)

144. Methapyrilene* and its salts

145. Metamfepramone* and its salts

146. Amitriptyline* and its salts

147. Metformin* and its salts

148. Isosorbide dinitrate*

149. Malononitrile

150. Succinonitrile

151. Dinitrophenol isomers

152. Inproquone*

153. Dimevamide* and its salts

154. Diphenylpyraline* and its salts

155. Sulfinpyrazone*

156. *N*-(3-Carbamoyl-3, 3-diphenylpropyl)-*N N*-diisopropylmethylammonium salts, e.g. isopropamide iodide*

157. Benactyzine*

158. Benzatropine* and its salts

159. Cyclizine* and its salts

160. 5,5-Diphenyl-4 imidazolidone

161. Probenecid*

162. Disulfiram*; thiram (ISO)

163. Emetine, its salts and derivatives

164. Ephedrine and its salts

165. Oxanamide*and its derivatives

166. Eserine or physostigmine and its salts

167. Esters of 4-aminobenzoic acid, with the free amino group, with the exception of that given in Annex IV, Part 1

168. Choline salts and their esters, e.g. choline chloride

169. Caramiphen* and its salts

170. Diethyl 4-nitrophenyl phosphate

171. Metethoheptazine* and its salts

172. Oxpheneridine* and its salts

173. Ethoheptazine* and its salts

174. Metheptazine* and its salts

175. Methylphenidate* and its salts

176. Doxylamine* and its salts

177. Tolboxane*

178. Monobenzone*

179. Parethoxycaine* and its salts

180. Fenozolone*

181. Glutethimide* and its salts

182. Ethylene oxide

183. Bemegride* and its salts

184. Valnoctamide*

185. Haloperidol*

186. Paramethasone*

187. Fluanisone*

188. Trifluperidol*

189. Fluoresone*

190. Fluorouracil*

191. Hydrofluoric acid, its normal salts, its complexes and hydrofluorides with the exception of those given in Annex IV, Part 1

192. Furfuryltrimethylammonium salts, e.g. furtrethonium iodide*

193. Galantamine*

194. Progestogens, with the exception of those listed in Annex V

195. 1,2,3,4,5,6-Hexachlorocyclohexane (BHC-ISO)

196. (1*R*,4*S*,5*R*,8*S*)-1,2,3,4,10,10-Hexachloro-1,4,4a,5,6,7,8,8a-octahydro-1,4:5,8-dimethanonaphthalene (endrin-ISO)

197. Hexachloroethane

198. (1*R*,4*S*,5*R*,8*S*)-1,2,3,4,10,10-Hexachloro-1,4,4a,5,8,8a-hexahydro-1,4:5,8-dimethanonaphthalene (isodrin-ISO)

199. Hydrastine, hydrastinine and their salts

200. Hydrazides and their salts

201. Hydrazine, its derivatives and their salts

202. Octamoxin* and its salts

203. Warfarin* and its salts

204. Ethyl bis(4-hydoxy-2-oxo-1-benzopyran-3-yl) acetate and salts of the acid

205. Methocarbamol*

206. Propatylnitrate*

207. 4,4'-Dihydroxy-3,3'-(3-methylthiopropylidene) dicoumarin

208. Fenadiazole*

209. Nitroxoline* and its salts

210. Hyoscyamine, its salts and derivatives

211. *Hyoscyamus niger L.* (leaves, seeds, powder and galenical preparations)

212. Pemoline* and its salts

213. Iodine

214. Decamethylenebis (trimethylammonium salts), e.g. decamethonium bromide*

215. Ipecacuanha (*Cephaelis ipecacuanha Brot.* and related species) (roots, powder and galenical preparations)

216. (2-Isopropylpent-4-enoyl)urea (apronalide)

217. α-Santonin(3*S*,5a*R*,9b*S*)-3,3a,4,5,5a,9b-hexahydro-3,5a,9-trimethyl naphto [1,2-b] furan-2,8-dione

218. *Lobelia inflata L.* and its galenical preparations

219. Lobeline* and its salts

220. Barbiturates

221. Mercury and its compounds, excluding the exceptions listed in Annex IV and Annex V

222. 3,4,5-Trimethoxyphenethylamine and its salts

223. Metaldehyde

224. 2-(4-Allyl-2-methoxyphenoxy)-*N*,*N*-diethylacetamide and its salts

225. Coumetarol*

226. Dextromethorphan* and its salts

227. 2-Methylheptylamine and its salts

228. Isometheptene* and its salts

229. Mecamylamine*

230. Guaifenesin*

231. Dicoumarol*

232. Phenmetrazine*, its derivatives and salts

233. Thiamazole*

234. 3,4-Dihydro-2-methoxy-2-methyl-4-phenyl-2*H*,5*H*-pyrano [3,2-c]-[1] benzopyran-5-one (cyclocoumarol)

235. Carisoprodol*

236. Meprobamate*

237. Tefazoline* and its salts

238. Arecoline

239. Poldine metilsulfate*

240. Hydroxyzine*

241. 2-Naphthol

242. 1-and 2-Naphthylamines and their salts

243. 3 (1-Naphtylmethyl)-2-imidazoline

244. Naphazoline* and its salts

245. Neostigmine and its salts (e.g. neostigmine bromide*)

246. Nicotine and its salts

247. Amyl nitrites

248. Inorganic nitrites, with the exception of sodium nitrite

249. Nitrobenzene

250. Nitrocresols and their alkali metal salts

251. Nitrofurantoin*

252. Furazolidone*

253. Propane-1,2,3-triyl trinitrate

254. Acenocoumarol*

255. Alkali pentacyanonitrosylferrate (2-)

256. Nitrostilbenes, their homologues and their derivatives

257. Noradrenaline and its salts

258. Noscapine*and its salts

259. Guanethidine* and its salts

260. Oestrogens, with the exception of those listed in Annex V

261. Oleandrin

262. Chlortalidone*

263. Pelletierine and its salts

264. Pentachloroethane

265. Pentaerithrityl tetranitrate*

266. Petrichloral*

267. Octamylamine* and its salts

268. Pheno and its alkali salts, excluding the exceptions listed in Annex III

269. Phenacemide*

270. Difencloxazine*

271. 2-Phenylindane-1,3-dione (phenindione)

272. Ethylphenacemide*

273. Phenprocoumon*

274. Fenyramidol*

275. Triamterene* and its salts

276. Tetraethylpyrophosphate; TEPP (ISO)

277. Tritolyl phosphate

278. Psilocybine*

279. Phosphorus and metal phosphides

280. Thalidomide* and its salts

281. *Physostigma venenosum Balf.*

282. Picrotoxin

283. Pilocarpine and its salts

284. α-Piperidin-2-yl benzyl acetate laevorotatory threoform (Levophacetoperane) and its salts

285. Pipradrol* and its salts

286. Azacyclonol* and its salts

287. Bietamiverine*

288. Butopiprine* and its salts

289. Lead and its compounds, with the exception of that mentioned in Annex V

290. Coniine

291. *Prunus laurocerasus L.* ('cherry laurel water')

292. Metyrapone*

293. Radioactive substances (1)

294. *Juniperus sabina L.* (leaves, essential oil and galenical preparations)

295. Hyoscine, its salts and derivatives

296. Gold salts

297. Selenium and its compounds

298. *Solanum nigrum L.* and its galenical preparations

299. Sparteine and its salts

300. Glucocorticoids

301. *Datura stramonium L.* and its galenical preparations

302. Strophantines, their aglucones and their respective derivatives

303. *Strophantus* species and their galenical preparations

304. Strychnine and its salts

305. *Strychnos* species and their galenical preparations

306. Narcotics, natural and synthetic: All substances listed in Tables I and II of the single Convention on narcotic drugs signed in New York on 30 March 1961

307. Sulphonamides (sulphanylamide and its derivatives obtained by substitution of one or more H-atoms of the $-NH_2$ groups) and their salts

308. Sultiame*

309. Neodymium and its salts

(1) The presence of natural radioactive substances and of radioactive substances caused by artificial contamination from the environment is permitted, provided that the radioactive substances are not enriched for the manufacture of cosmetic products and that their concentration falls within the limits set in the Directive laying down the basic standards for the protection of the health of workers and the general public against the dangers arising from ionizing radiations (OJ No 11, 20.2.1959, p. 221/59).

310. Thiotepa*

311. *Pilocarpus jaborandi Holmes* and its galenical preparations

312. Tellurium and its compounds

313. Xylometazoline and its salts

314. Tetrachloroethylene

315. Carbon tetrachloride

316. Hexaethyl tetraphosphate

317. Thallium and its compounds

318. *Thevetia neriifolia Juss.*, glycoside extract

319. Ethionamide*

320. Phenothiazine* and its compounds

321. Thiourea and its derivatives, with the exception of those listed in Annex IV, Part 1

322. Mephenesin* and its esters

323. Vaccines, toxins or serums listed in the Annex to the second Council Directive of 20 May 1975 on the approximation of provisions laid down by law, regulation or administrative action relating to proprietary medicinal products (OJ No L 147, 9. 6. 1975, p. 13)

324. Tranylcypromine* and its salts

325. Trichloronitromethane (chloropicrine)

326. 2,2,2-Tribromoethanol (tribromoethyl alcohol)

327. Trichlormethine* and its salts

328. Tretamine*

329. Gallamine triethiodide*

330. *Urginea scilla Stern.* and its galenical preparations

331. Veratrine, its salts and galenical preparations

332. *Schoenocaulon officinale Lind.* (seeds and galenical preparations)

333. *Veratrum album L.* (roots and galenical preparations)

334. Vinyl chloride monomer

335. Ergocalciferol* and cholecalciferol (vitamins D_2 and D_3)

336. Salts of O-alkyldithiocarbonic acids

337. Yohimbine and its salts

338. Dimethyl sulfoxide*

339. Diphenhydramine* and its salts

340. 4-tert-Butylphenol

341. 4-tert-Butylpyrocatechol

342. Dihydrotachysterol*

343. Dioxane

344. Morpholine and its salts

345. *Pyrethrum album L.* and its galenical preparations

346. 2-[4-Methoxybenzyl-*N*-(2-pyridyl)amino] ethyldimethylamine

347. Tripelennamine*

348. Tetrachlorosalicylanilides

349. Dichlorosalicylanilides

350. Tetrabromosalicylanilides

351. Dibromosalicylanilides, e.g. metabromsalan*, dibromsalan*

352. Bithionol*

353. Thiuram monosulphides

354. Thiuram disulphides

355. Dimethylformamide

356. 4-Phenylbut-3-en-2-one

357. Benzoates of 4-hydroxy-3-methoxycinnamyl alcohol except for normal content in natural essences used

358. Furo [3,2-g] chromen-7-one and its alkyl-substituted derivatives (e.g. trioxysalan* and 8-methoxypsoralen), except for normal content in natural essences used

359. Oil from the seeds of *Laurus nobilis L.*

360. *Sassafras officinale Nees* oil containing safrole

361. 5,5'-Di-isopropyl-2,2'-dimethylbiphenyl-4,4'-diyl dihypoiodite

ANNEX III

PART 1

List of substances which cosmetic products must not contain except subject to the restrictions and conditions laid down

Reference number	Substance	Restrictions			Conditions of use and warnings which must be printed on the label
		Field of application and/or use	Maximum authorized concentration in the finished cosmetic product	Other limitations and requirements	
a	b	c	d	e	f
1	Boric acid	(a) Talcs (b) Products for oral hygiene (c) Other products	(a) 5 % (b) 0·5 % (c) 3 %	(a) Not to be used in products for children under three years old	(a) Not to be used for babies
2	Mercaptoacetic acid and its salts and esters	(a) Hair waving or straightening products: — home use — professional use (b) Depilatories (c) Other hair care products which are removed after application	(a) — 8 % ready for use pH ≤ 9·5 — 11 % ready for use pH ≤ 9·5 (b) 5 % pH ≤ 12·65 (c) 2 % percentages calculated as mercaptoacetic acid		
3	Oxalic acid, its esters and alkaline salts	Hair treatment products	5 %		For hairdressers only
4	Chlorobutanol *	Preservative	0·5 %	Prohibited in aerosols	Contains chlorobutanol
5	Ammonia		6 % calculated as NH_3		Above 2 %: Contains ammonia

Reference number	Substance	Restrictions			Conditions of use and warnings which must be printed on the label
		Field of application and/or use	Maximum authorized concentration in the finished cosmetic product	Other limitations and requirements	
a	b	c	d	e	f
6	Tosylchloramide sodium *		0·2 %		
7	Chlorates of the alkali metals	(a) Toothpaste (b) Other uses	(a) 5 % (b) 3 %		
8	Dichloromethane		35 % (when mixed with 1, 1, 1-trichloroethane, total concentration must not exceed 35 %)	0·2 % as maximum impurity content	For preparations in aerosol dispensers. Do not spray on a naked flame or any incandescent material
9	*o* and *m*-Phenylenediamines their N-substituted derivatives and their salts; N-substituted derivatives of *p*-phenylenediamines (1)	Oxidizing colouring agents for hair dyeing	6 % calculated as free base		Can cause an allergic reaction. Sensitivity test advisable before use Contains phenylenediamines. Do not use to dye eyelashes or eyebrows
10	Methylphenylenediamines, their N-substituted derivatives and their salts (1)	Oxidizing colouring agents for hair dyeing	10 % calculated as free base		Can cause an allergic reaction. Sensitivity test advisable before use Contains phenylenediamines. Do not use to dye eyelashes or eyebrows

(1) These substances may be used singly or in combination provided that the sum of the ratios of the levels of each of them in the cosmetic product at the maximum level authorized for each of them does not exceed 2.

Reference number	Substance	Restrictions			Conditions of use and warnings which must be printed on the label
		Field of application and/or use	Maximum authorized concentration in the finished cosmetic product	Other limitations and requirements	
a	b	c	d	e	f
11	Diaminophenols (1)	Oxidizing colouring agents for hair dyeing	10 % calculated as free base		Can cause an allergic reaction. Sensitivity test advisable before use Contains diaminophenols. Do not use to dye eyelashes or eyebrows
12	Dichlorophen *		0·5 % maximum		Contains dichlorophen*
13	Hydrogen peroxide	Oxidation colouring agents for hair dyeing	40 % volume, i.e. 12 % H_2O_2		Contains x % hydrogen peroxide
14	Formaldehyde	(a) Nail hardeners (b) Use as a preservative (c) For mouth hygiene products	(a) 5 % (b) 0·2 % (c) 0·1 % } calculated as formaldehyde	(b) Prohibited as a preservative in aerosol dispensers and in mouth hygiene products	(a) Protect cuticles with grease or oil. Contains x % formaldehyde (b) Contains formaldehyde
15	Hexachlorophene *	Preservative	0·1 %	Not to be used in products for children or personal hygiene products	Not to be used for babies. Contains hexachlorophene
16	Hydroquinone (2)		2 %		Do not use to dye eyelashes or eyebrows Rinse eyes immediately if product comes into contact with them Contains hydroquinone

(1) These substances may be used singly or in combination provided that the sum of the ratios of the levels of each of them in the cosmetic product at the maximum level authorized for each of them does not exceed 1.
(2) These substances may be used singly or in combination provided that the sum of the ratios of the levels of each of them in the cosmetic product at the maximum level authorized for each of them does not exceed 2.

Reference number	Substance	Restrictions			Conditions of use and warnings which must be printed on the label
		Field of application and/or use	Maximum authorized concentration in the finished cosmetic product	Other limitations and requirements	
a	b	c	d	e	f
17	Potassium or sodium hydroxide	(a) Nail cuticle solvent (b) Hair straightener (c) Other uses as a neutralizer	(a) 5 % by weight (1) (b) 2 % by weight (1) (c) up to pH 11		(a) Avoid contact with eyes. Can cause blindness. Keep away from children (b) Avoid contact with eyes. Can cause blindness. Keep away from children
18	Lanolin				Contains lanolin
19	α-Naphthol	Hair dye	0·5 %		Contains α-naphthol
20	Sodium nitrite	Only as rust inhibitor	0·2 %	Do not use with secondary amines	
21	Nitromethane	Only as rust inhibitor	0·3 %		
22	Phenol	Soaps and shampoos	1 %		Contains phenol
23	Picric acid	Only as rust inhibitor	1 %		Contains picric acid
24	Pyrogallol (2)	For dyeing hair only	5 %		Do not use to dye eyelashes or eyebrows. Rinse eyes immediately if product comes into contact with them. Contains pyrogallol

(1) The sum of the two hydroxides expressed by weight as sodium hydroxide.

(2) These substances may be used singly or in combination provided that the sum of the ratios of the levels of the content of each of them in the cosmetic product at the maximum level authorized for each of them does not exceed 2.

Reference number	Substance	Restrictions			Conditions of use and warnings which must be printed on the label
		Field of application and/or use	Maximum authorized concentration in the finished cosmetic product	Other limitations and requirements	
a	b	c	d	e	f
25	Quinine and its salts	(a) Shampoos (b) Hair lotions	(a) 0·5 % calculated as quinine base (b) 0·2 % calculated as quinine base		
26	Resorcinol (1)	(a) Hair dyes	(a) 5 %		(a) Can cause an allergic reaction. Contains resorcinol. Rinse hair well after application. Do not use to dye eyelashes or eyebrows. Rinse eyes immediately if product comes into contact with them
		(b) Hair lotions	(b) 0·5 %		(b) Can cause an allergic reaction. Contains resorcinol
		(c) Shampoos	(c) 0·5 %		(c) Can cause an allergic reaction. Contains resorcinol. Rinse hair well after application
27	Ammonium sulphides, alkali and alkaline earth sulphides		2 % in pastes 20 % for monosulphides in aqueous solution without additive		
28	Zinc (chloride and sulphate)		1 % calculated as zinc		
29	Zinc 4-hydroxybenzene-sulphonate	(a) Astringent (b) Deodorant	(a) 6 % calculated as the anhydrous substance (b) 6 % calculated as the anhydrous substance		(a) Avoid contact with eyes (b) Do not spray into eyes

(1) These substances may be used singly or in combination provided that the sum of the ratios of the levels of the content of each of them in the cosmetic product at the maximum level authorized for each of them does not exceed 2.

PART 2

LIST OF COLOURING AGENTS WHICH CAN BE CONTAINED IN COSMETICS PRODUCTS INTENDED TO COME INTO CONTACT WITH THE MUCOUS MEMBRANES (1) (2) (3)

(a) **Reds**

Reference number	Colour index number	Colouring agent number according to the EEC Directives of 1962 concerning food colouring matters or other indications (4)	Restrictions		
			Field of application	Maximum concentration authorized	Purity conditions (4)
1	12 085			3 %	
2	12 150				
3	12 490				
4	14 720	E 122			E 122
5	14 815	E 125			E 125
6	15 525				
7	15 580				
8	15 585		r		
9	15 630 15 630(Ba) 15 630(Sr)			3 %	
10	15 850	E 180			E 180
11	15 865 15 865(Sr)				
12	15 880				
13	16 185	E 123			E 123
14	16 255	E 124			E 124
15	16 290	E 126			E 126
16	45 170 45 170(Ba)		r		
17	45 370				Not more than 1% 2-(6-hydroxy-3-oxo-3*H*-xanthen-9-yl) benzoic acid and 2% 2-(bromo-6-hydroxy-3-oxo-3*H*-xanthen-9-yl) benzoic acid
18	45 380				Ditto
19	45 405		r		Ditto

(1) These colouring agents may also be used in cosmetics coming into contact with other parts of the body.

(2) For certain colouring agents, restrictions are provided which may relate to the field of application of the colouring agent (the letter 'r' in the column of restrictions relating to the field of application signifies that the colouring agent is prohibited in the manufacture of cosmetic products which can come into contact with the mucous membranes of the eye, especially eye make-up and eye make-up removers) or to the maximum authorized concentration.

(3) Lakes or salts of these colouring agents using substances not prohibited under Annex II or not excluded under Annex V from the scope of the Directive are equally allowed.

(4) Colouring agents whose number is preceded by the letter 'E' in accordance with the EEC Directives of 1962 concerning foodstuffs and colouring matters must fulfil the purity requirements laid down in those Directives.

Reference number	Colour index number	Colouring agent number according to the EEC Directives of 1962 concerning food colouring matters or other indications	Restrictions		
			Field of application	Maximum concentration authorized	Purity conditions
20	45 410				Ditto
21	45 425				Not more than 1% 2-(6-hydroxy-3-oxo-3*H*-xanthen-9-yl) benzoic acid and 3% 2-(iodo-6-hydroxy-3-oxo-3*H*-xanthen-9-yl) benzoic acid
22	45 430	E 127			E 127 Ditto
23	58 000				
24	73 360				
25	75 470	E 120			E 120
26	77 015	E 420			E 420
27	77 491	E 172			E 172
28		E 163			E 163
29		E 162			E 162

(b) **Oranges and yellows**

1	10 316		r		
2	11 920				
3	12 075				
4	13 015	E 105			E 105
5	14 270	E 103			E 103
6	15 510		r		
7	15 980	E 111			E 111
8	15 985	E 110			E 110
9	19 140	E 102			E 102
10	45 350			6%	
11	47 005	E 104			E 104
12	75 100				
13	75 120	E 160 b			E 160 b
14	75 125	E 160 d			E 160 d

Reference number	Colour index number	Colouring agent number according to the EEC Directives of 1962 concerning food colouring matters or other indications	Restrictions		
			Field of application	Maximum concentration authorized	Purity conditions
15	75 130	E 160 a			E 160 a
16	75 135	E 161 d			E 161 d
17	75 300	E 100			E 100
18	77 489	E 172			E 172
19	77 492	E 172			E 172
20	40 820	E 160 e			E 160 e
21	40 825	E 160 f			E 160 f
22		E 101			E 101
23	45 395			When used in lipstick the colouring agent is admitted only in free acid form and in a maximum concentration of 1 %	
24		E 160 c			E 160 c

(c) **Greens and blues**

1	42 051	E 131			E 131
2	42 053				
3	42 090				
4	44 090				
5	61 565				
6	61 570				
7	69 825				
8	73 000				
9	73 015	E 132			E 132
10	74 260		r		
11	75 810	E 140			E 140
12		E 141			E 141
13	77 007				
14	77 346				
15	77 510				Free from cyanide ions
16	69 800	E 130			E 130

(d) **Violets, browns, blacks and whites**

Reference number	Colour index number	Colouring agent number according to the EEC Directives of 1962 concerning food colouring matters or other indications	Restrictions		
			Field of application	Maximum concentration authorized	Purity conditions
1	28 440	E 151			E 151
2	42 640				
3	60 725				
4	73 385				
5	77 000	E 173			E 173
6	77 002				
7	77 004				
8	77 005				
9	77 120				
10	77 220	E 170			E 170
11	77 231				
12	77 266	Part of E 153			E 153
13	77 267	Part of E 153			E 153
14	77 400				
15	77 480	E 175			E 175
16	77 499	E 172			E 172
17	77 713				
18	77 742				
19	77 745				
20	77 820	E 174			E 174
21	77 891	E 171 Titanium dioxide (and its mixtures with mica)			E 171
22	77 947				
23	75 170	Guanine or pearl essence			
24 (white 9) aluminium, zinc, magnesium and calcium stearates					
25		E 150 Caramel			E 150

ANNEX IV

PART 1

LIST OF SUBSTANCES PROVISIONALLY ALLOWED

Reference number	Substance	Restrictions			Conditions of use and warnings which must be printed on the label
		Field of application and/or use	Maximum authorized concentration in the finished cosmetic product	Other limitations and requirements	
a	b	c	d	e	f
1	Methanol	Denaturant for ethanol and isopropyl alcohol	5 % Calculated as a % of ethanol and isopropyl alcohol		
2	Thiomersal*	Solely as a preservative in eye make-up	0·007 % Calculated as Hg. When mixed with other mercury compounds permitted under this Directive, total Hg concentration must not exceed 0·007 %		Contains thiomersal*
3	Phenylmercuric compounds	Ditto	Ditto		Contains phenylmercuric compounds
4	Chloroform	Toothpaste	4 %		
5	2,3-Dihydroxypropyl 4-aminobenzoate		5 %		Contains 2,3-dihydroxypropyl 4-aminobenzoate
6	Quinolin-8-ol and bis(8-hydroxyquinolinium) sulphate		0·3 % in base	Not to be used in products applied after sunbathing. Not to be used in talcum powder for babies	Not to be used for babies

Reference number	Substance	Restrictions			Conditions of use and warning which must be printed on the label
		Field of application and/or use	Maximum authorized concentration in the finished cosmetic product	Other limitations and requirements	
a	b	c	d	e	f
7	Ammonium monofluorophosphate	Oral hygiene products	0·15 % Calculated as F. When mixed with other fluorine compounds permitted under this Annex, total F concentration must not exceed 0·15 %		Contains ammonium monofluorophosphate
8	Sodium monofluorophosphate	Ditto	0·15 % Ditto		Contains sodium monofluorophosphate
9	Potassium monofluorophosphate	Ditto	0·15 % Ditto		Contains potassium monofluorophosphate
10	Calcium monofluorophosphate	Ditto	0·15 % Ditto		Contains calcium monofluorophosphate
11	Calcium fluoride	Ditto	0·15 % Ditto		Contains calcium fluoride
12	Sodium fluoride	Ditto	0·15 % Ditto		Contains sodium fluoride
13	Potassium fluoride	Ditto	0·15 % Ditto		Contains potassium fluoride
14	Ammonium fluoride	Ditto	0·15 % Ditto		Contains ammonium fluoride
15	Aluminium fluoride	Ditto	0·15 % Ditto		Contains aluminium fluoride
16	Stannous fluoride	Ditto	0·15 % Ditto		Contains stannous fluoride

Reference number	Substance	Restrictions			Conditions of use and warnings which must be printed on the label
		Field of application and/or use	Maximum authorized concentration in the finished cosmetic product	Other limitations and requirements	
a	b	c	d	e	f
17	Hexadecyl-trimethyl-ammonium fluoride	Ditto	0·15 % Ditto		Contains hexadecyl-trimethyl-ammonium fluoride
18	3-(*N*-Hexadecyl-*N*-2-hydroxyethylammonio) propylbis (2-hydroxyethyl) ammonium difluoride	Ditto	0·15 % Ditto		Contains 3-(*N*-Hexadecyl-*N*-2-hydroxyethylammonio) propylbis (2-hydroxyethyl) ammonium difluoride
19	*NN'N'*-Tris(polyoxyethylene)-*N*-hexadecylpropylenediamine dihydrofluoride	Ditto	0·15 % Ditto		Contains *NN'N'*-tris(polyoxyethylene)-*N*-hexadecylpropylenediamine dihydrofluoride
20	Octadecyl-ammonium fluoride	Ditto	0·15 % Ditto		Contains octadecyl-ammonium fluoride
21	Sodium fluorosilicate	Ditto	0·15 % Ditto		Contains sodium fluorosilicate
22	Potassium fluorosilicate	Ditto	0·15 % Ditto		Contains potassium fluorosilicate
23	Ammonium fluorosilicate	Ditto	0·15 % Ditto		Contains ammonium fluorosilicate
24	Magnesium fluorosilicate	Ditto	0·15 % Ditto		Contains magnesium fluorosilicate
25	Safrole		100 ppm		
26	1,3-Bis(hydroxymethyl) imidazolidine-2-thione	Hair-care preparations	(a) Up to 2 % (b) From 2 to 8 %	(a) Prohibited in aerosol dispensers (b) Ditto	(a) Contains 1,3-bis(hydroxymethyl) imidazolidine-2-thione (b) — Rinse hair thoroughly after use — Contains 1,3-bis(hydroxymethyl) imidazolidine-2-thione

Reference number	Substance	Restrictions			Conditions of use and warnings which must be printed on the label
		Field of application and/or use	Maximum authorized concentration in the finished cosmetic product	Other limitations and requirements	
a	b	c	d	e	f
27	1,3-Bis (hydroxymethyl)-3-thiourea	Ditto	6 %	Ditto	— Rinse hair thoroughly after use — Contains 1,3-bis(hydroxymethyl)-2-thiourea
28	Hydroxymethyl-2-thiourea	Ditto	6 %	Ditto	— Rinse hair thoroughly after use — Contains hydroxymethyl-2-thiourea
29	1-Hydroxymethylimidazolidine-2-thione	Ditto	6 %	Ditto	— Rinse hair thoroughly after use — Contains 1-hydroxymethylimidazolidine-2-thione
30	1-Monomorpholinomethyl-2-thiourea	Ditto	6 %	Ditto	— Rinse thoroughly after use — Contains 1-morpholinomethyl-2-thiourea
31	1,3 Bis(morpholinomethyl)-2-thiourea	Ditto	6 %	Ditto	— Rinse hair thoroughly after use — Contains 1,3 bis(morpholinomethyl)-2-thiourea
32	1,1,1-Trichloroethane (methyl chloroform)	Solvent for aerosol dispensers	35 % When mixed with dichloromethane, total concentration must not exceed 35 %		Do not spray on a naked flame or any incandescent material
33	Tribromosalicylanilides (e.g. tribromsalan*)	Soap	1 %		Contains tribromosalicylanilides

PART 2

LIST OF COLOURING AGENTS PROVISIONALLY ALLOWED WHICH MAY BE CONTAINED IN COSMETIC PRODUCTS INTENDED TO COME INTO CONTACT WITH THE MUCOUS MEMBRANES IN ACCORDANCE WITH ARTICLE 5 (1) (2) (3)

(a) **Reds**

Reference number	Colour index number	Colouring agent number according to the EEC Directives of 1962 concerning food colouring matters or other indications (4)	Restrictions		
			Field of application	Maximum concentration authorized	Purity conditions (4)
1	12 120				
2	12 350				
3	12 385				
4	14 700		r		
5	15 500 15 500(Ba)		Use of Basalts prohibited in lipsticks		
6	15 585(Ba)				
7	15 620				
8	15 800				
9	16 035				
10	26 100				
11	27 290				
12	45 160				
13	75 480				
14	75 580				

(b) **Oranges and yellows**

1	18 965				
2	45 340				
3	47 000		r		

(1) These colouring agents may also be used in cosmetics coming into contact with other parts of the body.

(2) For certain colouring agents, restrictions are provided which may relate to the field of application of the colouring agent (the letter 'r' in the column of restrictions relating to the field of application signifies that the colouring agent is prohibited in the manufacture of cosmetic products which can come into contact with the mucous membranes of the eye, especially eye make-up and eye make-up removers) or to the maximum authorized concentration.

(3) Lakes or salts of these colouring agents using substances not prohibited under Annex II or not excluded under Annex V from the scope of the Directive are equally allowed.

(4) Colouring agents whose number is preceded by the letter 'E' in accordance with the EEC Directives of 1962 concerning foodstuffs and colouring matters must fulfil the purity requirements laid down in those Directives.

(c) **Greens and blues**

Reference number	Colour index number	Colouring agent number according to the EEC Directives of 1962 concerning food colouring matters or other indications	Restrictions		
			Field of application	Maximum concentration authorized	Purity conditions
1	42 040				
2	42 140				
3	42 170				
4	42 735				
5	44 040				
6	44 045				
7	59 040				
8	61 554				
9	62 085				
10	77 288				Free from chromate ions
11	77 289				Ditto
12	77 520				
13	74 160				

(d) **Violets, browns, blacks and whites**

1	20 170				
2	27 755	E 152			E 152
3	42 580				
4	45 190				
5	77 019				
6	77 163	Bismuth chloride oxide (and its mixtures with mica)			
7	77 265				
8	77 718				

PART 3

(A) LIST OF COLOURING AGENTS PROVISIONALLY ALLOWED FOR COSMETIC PRODUCTS WHICH DO NOT COME INTO CONTACT WITH THE MUCOUS MEMBRANES

Reds

12310, 12335, 12420, 12430, 12440, 16140, 16155, 16250, 17200, 18000, 18050, 18055, 18065, 26105, 45100, 50240, E121

Oranges and yellows

11680, 11710, 13065, 15575, 16230, 18690, 18736, 18745, 19120, 19130, 21230, 71105

Blues and greens

10006, 10020, 42045, 42050, 42080, 42755, 44025, 62095, 62550, 63000, 71255, 74100, 74220, 74350, αα-bis(5-bromo-4-hydroxy-6-methyl-*m*-cumenyl)toluene-2, α-sultone, ααbis(3,5-dibromo-4-hydroxy-o-tolyl)toluene-2, α-sultone, 1,4-bis(butylamino)anthraquinone

Violets, browns, blacks and whites

12010, 12196, 12480, 16580, 27905, 42555, 42571, 43625, 46500, 51319, 61710, 61800, sodium 2,4-diamino-azobenzenesulphonate and five related colouring agents (Brown FK), α-(5-bromo-6-hydroxy-*m*-tolyl)-α-(3-bromo-5-methyl-4-oxocyclohexa-2,5-dienylidene)toluene-2-sulphonic acid

(B) LIST OF COLOURING AGENTS PROVISIONALLY ALLOWED FOR COSMETIC PRODUCTS WHICH COME INTO CONTACT ONLY BRIEFLY WITH THE SKIN

Reds

11210, 12090, 12155, 12170, 12315, 12370, 12459, 12460, 13020, 14895, 14905, 16045, 16180, 18125, 18130, 24790, 27300, 27306, 28160, 45220, 60505, 60710, 62015, 73300

Yellows and oranges

11720, 11725, 11730, 11765, 11850, 11855, 11860, 11870, 12055, 12140, 12700, 12740, 12770, 12790, 13900, 14600, 15970, 15975, 18820, 18900, 19555, 21090, 21096, 21100, 21108, 21110, 21115, 22910, 25135, 25220, 26090, 29020, 40215, 40640, 41000, 45376, 47035, 48040, 48055, 56205, 4-(3-chlorphenylazo)-3-hydroxy-2 naphth-*O*-anisidide, trisodium 3-hydroxypyren-5,8,10-trisulphonate

Blues and greens

10025, 26360, 42052, 42085, 42095, 42100, 50315, 50320, 50400, 50405, 51175, 52015, 52020, 52030, 61505, 61585, 62045, 62100, 62105, 62125, 62130, 62500, 62560, 63010, 64500, 74180

Violets, browns, blacks and whites

12145, 14805, 15685, 17580, 20285, 20470, 21010, 25410, 30045, 30235, 40625, 42510, 42520, 42525, 42535, 42650, 48013, 57020, 60730, 61100, 61105, 61705, 62030, 63165, 63615

ANNEX V

LIST OF SUBSTANCES EXCLUDED FROM THE SCOPE OF THE DIRECTIVE

1. Lead acetate (for use in hair treatment products only).

2. Hexachlorophene* (for all uses other than that stated in Part 1 of Annex III).

3. **Hormones**

   (a) — oestrone,

   — oestradiol and its esters,

   — oestriol and its esters;

   (b) — progesterone,

   — Ethisterone*.

4. p-Phenylenediamine and its salts.

5. Strontium and its salts, with the exception of those used in the colouring agents listed in Part 2 of Annex III and Parts 2 and 3 of Annex IV.

6. Zirconium and its derivatives.

7. Thiomersal* and phenylmercuric compounds (for use as preservatives in concentrated shampoos and creams containing non-ionic emulsifiers which render other preservatives ineffective; maximum concentration 0·003% calculated as Hg).

8. Lidocaine*.

9. Tyrothricin*.

COUNCIL DIRECTIVE

of 27 July 1976

on the approximation of the laws, regulations and administrative provisions of the Member States relating to restrictions on the marketing and use of certain dangerous substances and preparations

(76/769/EEC)

THE COUNCIL OF THE EUROPEAN COMMUNITIES,

Having regard to the Treaty establishing the European Economic Community, and in particular Article 100 thereof,

Having regard to the proposal from the Commission,

Having regard to the opinion of the European Parliament (1),

Having regard to the opinion of the Economic and Social Committee (2),

Whereas any rules concerning the placing on the market of dangerous substances and preparations must aim at protecting the public, and particular persons using such substances and preparations;

Whereas they should contribute to the protection of the environment from all substances and preparations which have characteristics of ecotoxicity or which could pollute the environment;

Whereas they should also aim to restore, preserve and improve the quality of human life;

Whereas dangerous substances and preparations are governed by rules in the Member States; whereas these rules differ as to the conditions of their marketing and use; whereas these differences constitute an obstacle to trade and directly affect the establishment and functioning of the common market;

Whereas this obstacle should therefore be removed; whereas this entails approximating the laws governing the matter in the Member States;

Whereas provisions relating to certain dangerous substances and preparations have already been laid down in Community Directives; whereas it is still necessary to establish rules for other products, in particular for those in respect of which international organizations have decided on restrictions such as polychlorinated biphenyls (PCB), a decision restricting the production and use of which was adopted by the Council of the OECD on 13 February 1973; whereas such a measure is necessary to prevent the absorption of PCB by the human body and the resultant danger to human health;

Whereas detailed examinations have shown that polychlorinated terphenyls (PCT) entail risks similar to those presented by PCBs; whereas the marketing and use of such substances should also be restricted;

Whereas it will be necessary, moreover, periodically to review the whole problem with a view to moving gradually towards a complete ban on PCBs and PCTs;

Whereas the use of chloro-1-ethylene (monomer vinyl chloride) as an aerosol propellant involves dangers to human health and the use thereof should be prohibited,

HAS ADOPTED THIS DIRECTIVE:

Article 1

1. Without prejudice to the application of other relevant Community provisions, this Directive is concerned with restricting the marketing and use in the Member States of the Community, of the dangerous substances and preparations listed in the Annex.

(1) OJ No C 60, 13. 3. 1975, p. 49.
(2) OJ No C 16, 23. 1. 1975, p. 25.

2. This Directive shall not apply to:

(a) the carriage of dangerous substances and preparations by rail, road, inland waterway, sea or air;

(b) dangerous substances and preparations exported to non-member countries;

(c) substances and preparations in transit and subject to customs inspection, provided that they undergo no processing.

3. For the purposes of this Directive:

(a) 'substances' means
chemical elements and their compounds as they occur in the natural state or as produced by industry;

(b) 'preparations' means
mixtures or solutions composed of two or more substances.

Article 2

Member States shall take all neccessary measures to ensure that the dangerous substances and preparations listed in the Annex may only be placed on the market or used subject to the conditions specified therein. Such restrictions shall not apply to marketing or use for Research and Development or analysis purposes.

Article 3

1. Member States shall bring into force the provisions necessary to comply with this Directive within 18 months of its notification and shall forthwith inform the Commission thereof.

2. Member States shall communicate to the Commission the text of the provisions of national law which they adopt in the field covered by this Directive.

Article 4

This Directive is addressed to the Member States.

Done at Brussels, 27 July 1976.

For the Council

The President

M. van der STOEL

ANNEX

Designation of the substance, of the groups of substances or of the preparation	Conditions of restriction
1. — Polychlorinated biphenyls (PCB), except mono- and dichlorinated biphenyls. — Polychlorinated terphenyls (PCT). — Preparations with a PCB or PCT content higher than 0·1% by weight.	May not be used except for the following categories: 1. closed-system electrical equipment: transformers, resistors and inductors; 2. large condensers ($\geq$ 1 kg total weight); 3. small condensers (provided that the PCB has a maximum chlorine content of 43% and does not contain more than 3·5% of penta- and higher chlorinated biphenyls). Small condensers which do not fulfil the above requirements may still be marketed for one year from the date of entry into force of this Directive. This restriction does not apply to small condensers already in use; 4. heat-transmitting fluids in closed-circuit heat-transfer installations (except in installations for processing foodstuffs, feedingstuffs, pharmaceutical and veterinary products; however, if PCBs are used in the abovementioned installations at the time of notification of this Directive, they may continue to be used until 31 December 1979 at the latest); 5. hydraulic fluids utilized in: (a) underground mining equipment; (b) machinery servicing cells for the electrolytic production of aluminium, in use when this Directive is adopted, until 31 December 1979 at the latest; 6. primary and intermediate products for further processing into other products which are not prohibited under this Directive.
2. Chloro-1-ethylene (monomer vinyl chloride)	May not be used as aerosol propellant for any use whatsoever.

COUNCIL DIRECTIVE

of 27 July 1976

amending Directive 71/354/EEC on the approximation of the laws of the Member States relating to units of measurement

(76/770/EEC)

THE COUNCIL OF THE EUROPEAN COMMUNITIES,

Having regard to the Treaty establishing the European Economic Community, and in particular Article 100 thereof,

Having regard to the Act of Accession, and in particular Article 29 thereof,

Having regard to Council Directive 71/354/EEC of 18 October 1971 on the approximation of the laws of the Member States relating to units of measurement [1], as amended by the Act of Accession, and in particular Article 1 (4) thereof,

Having regard to the proposal from the Commission,

Having regard to the opinion of the European Parliament [2],

Having regard to the opinion of the Economic and Social Committee [3],

Whereas, pursuant to the Act of Accession, the classification in Annex I to Directive 71/354/EEC of the units of measurement listed in Annex II to that Directive is to be decided on by 31 August 1976 at the latest;

Whereas, in Directive 71/354/EEC, provision is made for the review before 31 December 1977 of the situation as regards the units and names of units listed in Chapter II of Annex I to that Directive;

Whereas the 15th General Conference of Weights and Measures (CGPM), convened on 27 May 1975 in Paris by the International Committee of Weights and Measures (CIPM), adopted new international resolutions concerning the international system of units,

HAS ADOPTED THIS DIRECTIVE:

Article 1

Article 1 of Directive 71/354/EEC is replaced by the following:

'*Article 1*

1. Member States shall make the provisions of Chapter A of the Annex mandatory by 21 April 1978 at the latest.

2. Member States shall, with effect from 31 December 1977 at the latest, cease to authorize the use of the units of measurement listed in Chapter B of the Annex.

3. Member States shall, with effect from 31 December 1979 at the latest, cease to authorize the use of the units of measurement listed in Chapter C of the Annex.

4. The units of measurement, names and symbols listed in Chapter D of the Annex shall be reviewed before 31 December 1979.

5. The use of the units of measurement temporarily retained in accordance with the provisions of Chapters B, C and D of the Annex may not be made mandatory by Member States where they have not been authorized since 21 April 1973.'

Article 2

The following Article is added to Directive 71/354/EEC:

'*Article 2a*

Member States may authorize the use of products, equipment and instruments using units which are not authorized under this Directive, which were already on the market prior to the dates laid down in this Directive and the manu-

(1) OJ No L 243, 29. 10. 1971, p. 29.
(2) OJ No C 125, 8. 6. 1976, p. 9.
(3) OJ No C 131, 12. 6. 1976, p. 55.

facture, placing on the market and use of products and equipment necessary to complete or replace components or parts of such products, equipment and instruments.'

Article 3

Annexes I and II to Directive 71/354/EEC are replaced by the Annex hereto.

Article 4

1. Member States shall bring into force the laws, regulations and administrative provisions necessary in order to comply with this Directive by 31 December 1977 at the latest and shall forthwith inform the Commission thereof.

2. Member States shall communicate to the Commission the texts of the main provisions of national law which they adopt in the field covered by this Directive.

Article 5

This Directive is addressed to the Member States.

Done at Brussels, 27 July 1976.

For the Council

The President

M. van der STOEL

ANNEX

LIST OF CONTENTS

CHAPTER A

UNITS OF MEASUREMENT THE USE OF WHICH MUST BE MADE MANDATORY AS FROM 21 APRIL 1978 AT THE LATEST

1. SI UNITS AND THEIR DECIMAL MULTIPLES AND SUBMULTIPLES

1.1. SI base units

Quantity	Unit	
	Name	Symbol
Length	metre	m
Mass	kilogramme	kg
Time	second	s
Electric current	ampere	A
Thermodynamic temperature	kelvin	K
Amount of substance	mole	mol
Luminous intensity	candela	cd

Definitions of SI base units:

Unit of length

The metre is the length equal to 1 650 763·73 wavelengths in vacuum of the radiation corresponding to the transition between the levels $2p_{10}$ and $5d_5$ of the krypton 86 atom.

(Eleventh CGPM (1960), resolution 6).

Unit of mass

The kilogramme is the unit of mass; it is equal to the mass of the international prototype of the kilogramme.

(Third CGPM (1901), page 70 of the conference report).

Unit of time

The second is the duration of 9 192 631 770 periods of the radiation corresponding to the transition between the two hyperfine levels of the ground state of the caesium 133 atom.

(Thirteenth CGPM (1967), resolution 1).

Unit of electric current

The ampere is that constant current which if maintained in two straight parallel conductors of infinite length, of negligible circular cross-section and placed one metre apart in a vacuum, would produce between these conductors a force equal to 2×10^{-7} newton per metre of length.

(CIPM (1946), resolution 2, approved by the ninth CGPM (1948)).

Unit of thermodynamic temperature

The kelvin, unit of thermodynamic temperature, is the fraction 1/273·16 of the thermodynamic temperature of the triple point of water.

(Thirteenth CGPM (1967), resolution 4).

Unit of amount of substance

The mole is the amount of substance of a system which contains as many elementary entities as there are atoms in 0·012 kg of carbon 12.

When the mole is used the elementary entities must be specified and may be atoms, molecules, ions, electrons, other particles or specified groups of such particles.

(Fourteenth CGPM (1971), resolution 3).

Unit of luminous intensity

The candela is the luminous intensity, in the perpendicular direction, of a surface of 1/600 000 m^2 of a black body at the temperature of freezing platinum under a pressure of 101 325 newtons/m^2.

(Thirteenth CGPM (1967), resolution 5).

1.1.1. **Special name and symbol of the SI unit of temperature for expressing Celsius temperature**

Quantity	Unit	
	Name	Symbol
Celsius temperature	degree Celsius	°C

Celsius temperature t is defined as the difference $t = T - T_0$ between the two thermodynamic temperatures T and T_0 where $T_0 = 273{\cdot}15$ kelvins. An interval of or difference in temperature may be expressed either in kelvins or in degrees Celsius. The unit of 'degree Celsius' is equal to the unit 'kelvin'.

1.2. **Other SI units**

1.2.1. **Supplementary SI units**

Quantity	Unit	
	Name	Symbol
Plane angle	radian	rad
Solid angle	steradian	sr

(Eleventh CGPM, 1960, resolution 12).

Definitions of supplementary SI units:

Plane angle unit

The radian is the plane angle between two radii which, on the circumference of a circle, cut an arc equal in length to the radius.

(ISO recommendation R 31, Part I, second edition, December 1965).

Solid angle unit

The steradian is the solid angle which has its apex at the centre of a sphere and which describes on the surface of the sphere an area equal to that of a square having as its side the radius of the sphere.

(ISO recommendation R 31, Part I, second edition, December 1965).

1.2.2. Derived SI units

Units derived coherently from SI base units and supplementary SI units are given as algebraic expressions in the form of products of powers of the SI base units and/or supplementary SI units with a numerical factor equal to 1.

1.2.3. Derived SI units having names and symbols

Quantity	Unit		Expression	
	Name	Symbol	In other SI units	In terms of base or supplementary SI units
Frequency	hertz	Hz		s^{-1}
Force	newton	N		$m \cdot kg \cdot s^{-2}$
Pressure, stress	pascal	Pa	$N \cdot m^{-2}$	$m^{-1} \cdot kg \cdot s^{-2}$
Energy, work, quantity of heat	joule	J	$N \cdot m$	$m^2 \cdot kg \cdot s^{-2}$
Power (1)	watt	W	$J \cdot s^{-1}$	$m^2 \cdot kg \cdot s^{-3}$
Quantity of electricity, electric charge	coulomb	C		$s \cdot A$
Electric tension, electric potential, electromotive force	volt	V	$W \cdot A^{-1}$	$m^2 \cdot kg \cdot s^{-3} \cdot A^{-1}$
Electric resistance	ohm	Ω	$V \cdot A^{-1}$	$m^2 \cdot kg \cdot s^{-3} \cdot A^{-2}$
Electric conductance	siemens	S	$A \cdot V^{-1}$	$m^{-2} \cdot kg^{-1} \cdot s^3 \cdot A^2$
Electric capacitance	farad	F	$C \cdot V^{-1}$	$m^{-2} \cdot kg^{-1} \cdot s^4 \cdot A^2$
Magnetic flux	weber	Wb	$V \cdot s$	$m^2 \cdot kg \cdot s^{-2} \cdot A^{-1}$
Mangetic flux density	tesla	T	$Wb \cdot m^{-2}$	$kg \cdot s^{-2} \cdot A^{-1}$
Electric inductance	henry	H	$Wb \cdot A^{-1}$	$m^2 \cdot kg \cdot s^{-2} \cdot A^{-2}$
Luminous flux	lumen	lm		$cd \cdot sr$
Illuminance	lux	lx	$lm \cdot m^{-2}$	$m^{-2} \cdot cd \cdot sr$
Activity	becquerel	Bq		s^{-1}
Absorbed dose (2)	gray	Gy	$J \cdot kg^{-1}$	$m^2 \cdot s^{-2}$

(1) Special names for the unit of power: the name volt-ampere (symbol 'VA') when it is used to express the apparent power of alternating electric current, and var (symbol 'var') when it is used to express reactive electric power. The 'var' is not included in CGPM resolutions.

(2) And other quantities of ionizing radiations of the same dimensions.

Units derived from SI base units may be expressed in terms of the units listed in Chapter A.

In particular, derived SI units may be expressed by the special names and symbols given in the above table; for example, the SI unit of dynamic viscosity may be expressed as $m^{-1} \cdot kg \cdot s^{-1}$ or $N \cdot s \cdot m^{-2}$ or $Pa \cdot s$.

1.3. Prefixes and their symbols used to designate certain decimal multiples and submultiples

Factor	Prefix	Symbol	Factor	Prefix	Symbol
10^{18}	exa	E	10^{-1}	deci	d
10^{15}	peta	P	10^{-2}	centi	c
10^{12}	tera	T	10^{-3}	milli	m
10^{9}	giga	G	10^{-6}	micro	μ
10^{6}	mega	M	10^{-9}	nano	n
10^{3}	kilo	k	10^{-12}	pico	p
10^{2}	hecto	h	10^{-15}	femto	f
10^{1}	deca	da	10^{-18}	atto	a

The names and symbols of the decimal multiples and submultiples of the unit of mass are formed by attaching prefixes to the word 'gramme' and their symbols to the symbol 'g'.

Where a derived unit is expressed as a fraction, its decimal multiples and submultiples may be designated by attaching a prefix to units in the numerator or the denominator, or in both these parts.

Compound prefixes, that is to say prefixes formed by the juxtaposition of several of the above prefixes, may not be used.

1.4. Special authorized names and symbols

1.4.1. Special names and symbols of decimal multiples and submultiples of SI units

Quantity	Unit		
	Name	Symbol	Value
Volume	litre	l	$1\ l = 1\ dm^3 = 10^{-3}\ m^3$
Mass	metric ton	t	$1\ t = 1\ Mg = 10^3\ kg$
Pressure, stress	bar	bar	$1\ bar = 10^5\ Pa$

1.4.2. Special names and symbols of decimal multiples and submultiples of SI units which may be used only in specialized fields

Quantity	Unit		
	Name	Symbol	Value
Area of farmland and building land	are	a	$1\ a = 10^2\ m^2$
Mass per unit length of textile yarns and threads	tex* (1)	tex*	$1\ tex = 10^{-6}\ kg \cdot m^{-1}$

(1) The character * after a unit name or symbol indicates that these do not appear in the lists drawn up by the CGPM, CIPM, or BIPM. This applies to the whole of this Annex.

Note: The prefixes and their symbols listed in 1.3 may be used in conjunction with the units and symbols contained in Tables 1.4.1 and 1.4.2.

The multiple 10^2 a is, however, called a 'hectare'.

2. UNITS WHICH ARE DEFINED ON THE BASIS OF SI UNITS BUT ARE NOT DECIMAL MULTIPLES OR SUBMULTIPLES THEREOF

Quantity	Unit		
	Name	Symbol	Value
Plane angle	revolution* (a)		1 revolution = 2π rad
	grade* or gon*	gon *	1 gon = $\frac{\pi}{200}$ rad
	degree	°	$1° = \frac{\pi}{180}$ rad
	minute of angle	′	$1' = \frac{\pi}{10\,800}$ rad
	second of angle	″	$1'' = \frac{\pi}{648\,000}$ rad
Time	minute	min	1 min = 60 s
	hour	h	1 h = 3 600 s
	day	d	1 d = 86 400 s

(a) No international symbol exists.

Note: The prefixes listed in 1.3 may only be used in conjunction with the names 'grade' or 'gon' and the symbols only with the symbol 'gon'.

3. UNITS DEFINED INDEPENDENTLY OF THE SEVEN SI BASE UNITS

The unified atomic mass unit is one-twelfth of the mass of an atom of the nuclide ^{12}C.

The electronvolt is the kinetic energy acquired by an electron passing in a vacuum from one point to another whose potential is one volt higher.

Quantity	Unit		
	Name	Symbol	Value
Mass	unified atomic mass unit	u	1 u $\approx 1{\cdot}6605655 \times 10^{-27}$ kg
Energy	electronvolt	eV	1eV $\approx 1{\cdot}6021892 \times 10^{-19}$ J

The value of these units, expressed in SI units, is not exactly known.

The above values are taken from CODATA Bulletin No 11 of December 1973 of the International Council of Scientific Unions.

Note: The prefixes and their symbols listed in 1.3 may be used in conjunction with these two units and with their symbols.

4. UNITS AND NAMES OF UNITS PERMITIED IN SPECIALIZED FIELDS ONLY

Quantity	Unit	
	Name	Value
Vergency of optical systems	dioptre*	1 dioptre = 1 m^{-1}
Mass of precious stones	metric carat	1 metric carat = 2×10^{-4} kg

Note: The prefixes listed in 1.3 may be used in conjunction with the above units.

5. COMPOUND UNITS

Compound units are formed by combining the units mentioned in Chapter A.

CHAPTER B

UNITS OF MEASUREMENT REFERRED TO IN ARTICLE 1 (2)

6. SPECIAL UNITS

Quantities, names of units, symbols and values:

6.1. Volume (forestry and timber industry)

Festmeter*	1 Fm* = 1 m^3
Raummeter*	1 Rm* = 1 m^3

6.2. Force

kilogramme force kilopond*	1 kgf 1 kp* } = 9·806 65 N

6.3. Pressure

torr	1 torr = $\frac{101\,325}{760}$ Pa
technical atmosphere*	1 at* = 98 066·5 Pa
metre of water* (conventionally: 1 mH_2O)	1 mH_2O* = 9 806·65 Pa
millimetre of mercury* (1) (conventionally: 1 mmHg)	1 mmHg* = 133·322 Pa

6.4. Power

Pferdestärke* paardekracht* cheval vapeur* cavallo vapore*	1 PS* 1 pk* 1 CV* 1 cv* } = 735·498 75 W

6.5. Quantity of heat

calorie 15 °C	1 cal^*_{15} = 4·185 5 J
thermie*	1 th* = 4·185 5 × 10^6 J
frigorie*	1 fg* = 4·185 5 × 10^3 J
calorie IT	1 cal_{IT} = 4·186 8 J
thermo-chemical calorie*	1 $cal^*_{th\,ch}$ = 4·184 J

6.6. Luminance

stilb	1 sb = 10^4 cd · m^{-2}

Note: The prefixes and their symbols listed in 1.3 may be used in conjunction with the units and symbols contained in 6.5 and 6.6, with the torr and with the metre of water (see 6.3.).

7. SPECIAL CASE OF TEMPERATURE

The name 'degree kelvin and the symbol '°K' (instead of kelvin, symbol K) may be used until 31 December 1977.

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(1) Except where this unit is used for measuring blood pressure (see Chapter C, section 11).

8. IMPERIAL UNITS*

Quantities, names of units, symbols and approximate values

8.1. Length	
chain	1 chain = 20·12 m
furlong	1 fur = 201·2 m
nautical mile (UK)	1 nautical mile = 1 853 m
8.2. Area	
rood	1 rood = 1 012 m^2
8.3. Volume	
cubic yard	1 cu yd = 0·7646 m^3
bushel	1 bu = 36·37 × 10^{-3} m^3
8.4. Mass	
dram	1 dr = 1·772 × 10^{-3} kg
cental	1 ctl = 45·36 kg
8.5. Pressure	
inch of water	1 in H_2O = 249·089 Pa
8.6. Force	
ton-force	1 tonf = 9·964 × 10^3 N
8.7. Illuminance	
foot candle	1 ft candle = 10·76 lx
8.8. Speed	
knot (UK)	1 knot = 0·51477 m · s^{-1}

CHAPTER C

UNITS OF MEASUREMENT TO IN ARTICLE 1 (3)

9. IMPERIAL UNITS*

Quantities, names of units, symbols and approximate values

9.1. Length

hand	1 hand = 0·1016 m
yard	1 yd = 0·9144 m

9 2. Area

square inch	1 sq in = $6{\cdot}452 \times 10^{-4}$ m²
square yard	1 sq yd = 0·8361 m²
square mile	1 sq mile = $2{\cdot}59 \times 10^{6}$ m²

9.3. Volume

cubic inch	1 cu in = $16{\cdot}39 \times 10^{-6}$ m³
cubic foot	1 cu ft = 0·0283 m³
cran	1 cran = $170{\cdot}5 \times 10^{-3}$ m³

9.4. Mass

grain	1 gr = $0{\cdot}0648 \times 10^{-3}$ kg
stone	1 st = 6·35 kg
quarter	1 qr = 12·70 kg
hundredweight	1 cwt = 50·80 kg
ton	1 ton = 1 016 kg

9.5. Force

pound-force	1 lbf = 4·448 N

9.6. Energy

British thermal unit	1 Btu = 1055·06 J
foot pound-force	1 ft lbf = 1·356 J
therm	1 therm = $105{\cdot}506 \times 10^{6}$ J

9.7. Power

horsepower	1 hp = 745·7 W

9.8. Temperature

degree Fahrenheit	$1\ ^{\circ}F = \left(\frac{5}{9}\right)$ K

10. CGS UNITS

Quantities, names of units, symbols and values

Quantity	Unit		
	Name	Symbol	Value
Force	dyne	dyn	1 dyn = 10^{-5} N
Energy	erg	erg	1 erg = 10^{-7} J
Dynamic viscosity	poise	P	1 P = 10^{-1} Pa · s
Kinematic viscosity	stokes	St	1 St = 10^{-4} m² · s^{-1}
Acceleration of free fall	gal	Gal	1 Gal = 10^{-2} m · s^{-2}

11. OTHER UNITS

Quantities, names of units, symbols and values

Quantity	Unit		
	Name	Symbol	Value
Wavelength, atomic distances	ångström	Å	1 Å = 10^{-10} m
Effective cross-sectional area	barn	barn	1 b = 10^{-28} m^2
Mass	quintal* (a)		1 quintal = 10^2 kg
Pressure	standard atmosphere	atm	1 atm = 101 325 Pa
Blood pressure	millimetre of mercury* (conventionally: 1 mmHg)	mmHg*	1 mmHg = 133·322 Pa
Volume (forestry and timber trade)	stere	st	1 st = 1 m^3

(a) No international symbol exists.

Note: The prefixes and their symbols listed in 1.3 may be used in conjunction with the units and symbols contained in sections 10 and 11, apart from the 'quintal'.

CHAPTER D

UNITS, NAMES AND SYMBOLS REFERRED TO IN ARTICLE 1 (4)

12. IMPERIAL UNITS*

Quantities, names of units, symbols and approximate values

12.1 Length	
inch	1 in = $2{\cdot}54 \times 10^{-2}$ m
foot	1 ft = 0·3048 m
fathom (1)	1 fm = 1·829 m
mile	1 mile = 1 609 m
12.2 Area	
square foot	1 sq ft = $0{\cdot}929 \times 10^{-1}$ m²
acre	1 ac = 4 047 m²
12.3. Volume	
fluid ounce	1 fl oz = $28{\cdot}41 \times 10^{-6}$ m³
gill	1 gill = $0{\cdot}1421 \times 10^{-3}$ m³
pint	1 pt = $0{\cdot}5683 \times 10^{-3}$ m³
quart	1 qt = $1{\cdot}137 \times 10^{-3}$ m³
gallon	1 gal = $4{\cdot}546 \times 10^{-3}$ m³
12.4. Mass	
ounce (avoirdupois)	1 oz = $28{\cdot}35 \times 10^{-3}$ kg
troy ounce	1 oz tr = $31{\cdot}10 \times 10^{-3}$ kg
pound	1 lb = 0·4536 kg

(1) For marine navigation only.

13. OTHER UNITS

Quantities, names of units, symbols and values

Quantity	Unit		
	Name	Symbol	Value
Activity of a radioactive source	curie	Ci	1 Ci = $3{\cdot}7 \times 10^{10}$ Bq
Plane angle		g* (1)	1 g = $\frac{\pi}{200}$ rad
Absorbed dose	rad	rd (2)	1 rd = 10^{-2} Gy
Equivalent absorbed dose	rem*	rem*	1 rem = 1 rd
Exposure to ionizing radiations	röntgen	R	1 R = $2{\cdot}58 \times 10^{-4}$ C · kg^{-1}

(1) Symbol for 'grade'.
(2) The symbol recommended by the International Bureau of Weights and Measures (BIPM) is 'rad'.

Note: The prefixes and their symbols listed in 1.3 may be used in conjunction with the units and symbols contained in this section, with the exception of 'g'.

14. COMPOUND UNITS (TO BE USED TEMPORARILY)

Until the dates indicated in Article 1, the units listed in Chapters B, C and D may be used in conjunction with one another or with those contained in Chapter A to form compound units.