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(1) Text with EEA relevance



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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 adopted under the EC Treaty/Euratom Treaty whose publication is obligatory)

# REGULATIONS

#### REGULATION (EC) No 78/2009 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL

#### of 14 January 2009

on the type-approval of motor vehicles with regard to the protection of pedestrians and other vulnerable road users, amending Directive 2007/46/EC and repealing Directives 2003/102/EC and 2005/66/EC

(Text with EEA relevance)

THE EUROPEAN PARLIAMENT AND THE COUNCIL OF THE EURO-PEAN UNION,

Having regard to the Treaty establishing the European Community, and in particular Article 95 thereof,

Having regard to the proposal from the Commission,

Having regard to the opinion of the European Economic and Social Committee  $(^1)$ ,

Acting in accordance with the procedure laid down in Article 251 of the Treaty (<sup>2</sup>),

Whereas:

(1) The internal market comprises an area without internal frontiers in which the free movement of goods, persons, services and capital must be ensured. To that end a Community type-approval system for motor vehicles is in place. The technical requirements for the type-approval of motor vehicles with regard to pedestrian protection should be harmonised to avoid the adoption of requirements that differ from one Member State to another and to ensure the proper functioning of the internal market.

- (2) This Regulation is one of the separate regulatory acts in the context of the Community type-approval procedure under Directive 2007/46/EC of the European Parliament and of the Council of 5 September 2007 establishing a framework for the approval of motor vehicles and their trailers, and of systems, components and separate technical units intended for such vehicles (Framework Directive) (<sup>3</sup>). In order to achieve the aims set out in recital 1 of this Regulation, Annexes I, III, IV, VI and XI to Directive 2007/46/EC should be amended.
- (3) Experience has shown that legislation concerning motor vehicles has often been of a highly detailed technical content. It is therefore appropriate to adopt a regulation instead of a directive in order to avoid discrepancies between transposing measures and an unnecessary level of legislation in the Member States, as there will be no need for transposition into national legislation. Therefore, Directive 2003/102/EC of the European Parliament and of the Council of 17 November 2003 relating to the protection of pedestrians and other vulnerable road users before and in the event of a collision with a motor vehicle (4) and Directive 2005/66/EC of the European Parliament and of the Council of 26 October 2005 relating to the use of frontal protection systems on motor vehicles (5) which provides requirements for the installation and use of frontal protection systems on vehicles and thus a level of protection for pedestrians, should be replaced by this Regulation in order to ensure consistency in this area. This implies that Member States repeal the transposing legislation of the repealed Directives.

<sup>(1)</sup> OJ C 211, 19.8.2008, p. 9.

<sup>(2)</sup> Opinion of the European Parliament of 18 June 2008 (not yet published in the Official Journal) and Council Decision of 16 December 2008.

<sup>(&</sup>lt;sup>3</sup>) OJ L 263, 9.10.2007, p. 1.

<sup>(4)</sup> OJ L 321, 6.12.2003, p. 15.

<sup>(&</sup>lt;sup>5</sup>) OJ L 309, 25.11.2005, p. 37.

- (4) The requirements for the second phase of implementation of Directive 2003/102/EC have been shown not to be feasible. In this respect, Article 5 of that Directive requested the Commission to submit any proposals necessary to overcome the problems of feasibility of these requirements and possibly make use of active safety systems, whilst ensuring there was no reduction in the safety levels provided to the vulnerable road user.
- (5) A study commissioned by the Commission shows that pedestrian protection can be significantly improved by a combination of passive and active measures which afford a higher level of protection than the previously existing provisions. In particular, the study shows that the active safety system 'brake assist', combined with changes to passive safety requirements, would significantly increase the level of pedestrian protection. Providing for the obligatory installation of brake assist systems in new motor vehicles is therefore appropriate. However, this should not replace, but rather complement, high-level passive safety systems.
- (6) Vehicles equipped with collision avoidance systems may not have to fulfil certain requirements laid down in this Regulation to the extent that they will be able to avoid collisions with pedestrians rather than merely mitigate the effects of such collisions. After assessing whether such technology can effectively avoid collisions with pedestrians and other vulnerable road users, the Commission may present proposals amending this Regulation to allow for the use of collision avoidance systems.
- (7) With the increasing number of heavier vehicles being used on urban roads, it is appropriate that provisions on pedestrian protection apply not only to vehicles of maximum mass not exceeding 2 500 kg, but also, after a limited transitional period, to vehicles of categories M<sub>1</sub> and N<sub>1</sub> exceeding that limit.
- (8) In order to enhance the protection of pedestrians at the earliest possible stage, manufacturers who wish to apply for a type-approval in compliance with new requirements before they become mandatory should be able to do so under the condition that the necessary implementing measures are already in force.
- (9) The measures necessary for the implementation of this Regulation should be adopted in accordance with Council Decision 1999/468/EC of 28 June 1999 laying down the procedures for the exercise of implementing powers conferred on the Commission (<sup>1</sup>).

- (10) In particular, the Commission should be empowered to adopt technical provisions for the application of the test requirements and implementing measures based on the results of monitoring. Since those measures are of general scope and are designed to amend non-essential elements of this Regulation, *inter alia*, by supplementing it with new non-essential elements, they must be adopted in accordance with the regulatory procedure with scrutiny provided for in Article 5a of Decision 1999/468/EC.
- (11) In order to ensure a smooth transition from the provisions of Directives 2003/102/EC and 2005/66/EC to this Regulation, the application of this Regulation should be deferred by a certain period after its entry into force.
- (12) Since the objective of this Regulation, namely the realisation of the internal market through the introduction of common technical requirements concerning pedestrian protection, cannot be sufficiently achieved by the Member States and can therefore, by reason of its scale, be better achieved at Community level, the Community may adopt measures, in accordance with the principle of subsidiarity as set out in Article 5 of the Treaty. In accordance with the principle of proportionality, as set out in that Article, this Regulation does not go beyond what is necessary in order to achieve that objective,

HAVE ADOPTED THIS REGULATION:

#### CHAPTER I

#### SUBJECT MATTER, SCOPE AND DEFINITIONS

#### Article 1

## Subject matter

This Regulation lays down requirements for the construction and functioning of motor vehicles and frontal protection systems in order to reduce the number and severity of injuries to pedestrians and other vulnerable road users who are hit by the fronts of vehicles and in order to avoid such collisions.

#### Article 2

#### Scope

- 1. This Regulation shall apply to the following:
- (a) motor vehicles of category M<sub>1</sub> as defined in Article 3(11) of Directive 2007/46/EC and in point 1 of Section A of Annex II thereto, subject to paragraph 2 of this Article;
- (b) motor vehicles of category N<sub>1</sub> as defined in Article 3(11) of Directive 2007/46/EC and in point 2 of Section A of Annex II thereto, subject to paragraph 2 of this Article;

<sup>(&</sup>lt;sup>1</sup>) OJ L 184, 17.7.1999, p. 23.

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(c) frontal protection systems fitted as original equipment to the vehicles referred to in points (a) and (b) or supplied as separate technical units intended for fitting to such vehicles.

2. Sections 2 and 3 of Annex I to this Regulation shall not apply to:

- (a) vehicles of category  $N_1$ ; and
- (b) vehicles of category  $M_1$  derived from  $N_1$  and of maximum mass exceeding 2 500 kg;

where the driver position 'R-point' is either forward of the front axle or longitudinally rearwards of the front axle transverse centreline by a maximum of 1 100 mm.

#### Article 3

#### Definitions

For the purposes of this Regulation:

- 1. 'A-pillar' means the foremost and outermost roof support extending from the chassis to the roof of the vehicle;
- 2. 'brake assist system' means a function of the braking system that deduces an emergency braking event from a characteristic of the driver's brake demand and, under such conditions:
  - (a) assists the driver to deliver the maximum achievable braking rate; or
  - (b) is sufficient to cause full cycling of the Anti-lock Braking System;
- 'bumper' means any front, lower, outer structures of a vehicle, including attachments thereto, which are intended to give protection to a vehicle when involved in a low speed frontal collision with another vehicle; it does not include, however, any frontal protection system;
- 4. 'frontal protection system' means a separate structure or structures, such as a bull bar, or a supplementary bumper which, in addition to the original-equipment bumper, is intended to protect the external surface of the vehicle from damage in the event of a collision with an object, with the exception of structures having a mass of less than 0,5 kg, intended to protect only the vehicle's lights;
- 'maximum mass' means the technically permissible maximum laden mass stated by the manufacturer pursuant to point 2.8 of Annex I to Directive 2007/46/EC;
- 'vehicles of category N<sub>1</sub>' derived from M<sub>1</sub>' means those vehicles of N<sub>1</sub> category which, forward of the A-pillars, have the same general structure and shape as a pre-existing M<sub>1</sub> category vehicle;

7. 'vehicles of category  $M_1$ ' derived from  $N_1$ ' means those vehicles of  $M_1$  category which, forward of the A-pillars, have the same general structure and shape as a pre-existing  $N_1$  category vehicle.

#### CHAPTER II

#### **OBLIGATIONS OF THE MANUFACTURERS**

#### Article 4

#### **Technical requirements**

1. In accordance with Article 9, manufacturers shall ensure that vehicles placed on the market are equipped with a type-approved brake assist system in accordance with the requirements of Section 4 of Annex I and that such vehicles comply with the requirements of Sections 2 or 3 of Annex I.

2. In accordance with Article 10, manufacturers shall ensure that frontal protection systems either fitted as original equipment to vehicles placed on the market or supplied as separate technical units comply with the requirements of Sections 5 and 6 of Annex I.

3. Manufacturers shall provide to the approval authorities appropriate data on the specifications and test conditions of the vehicle and frontal protection system. The data shall include information required to check the functioning of any active safety devices installed in the vehicle.

4. In the case of frontal protection systems to be supplied as separate technical units, manufacturers shall provide to the approval authorities appropriate data about the systems specifications and test conditions.

5. Frontal protection systems, as separate technical units, shall not be distributed, offered for sale or sold unless accompanied by a list of vehicle types for which the frontal protection system is type-approved, as well as by clear assembly instructions. The assembly instructions shall contain specific installation prescriptions, including fixing modes for the vehicles for which the unit has been approved, to enable the approved components to be mounted on that vehicle in a manner that complies with the relevant provisions of Section 6 of Annex I.

6. The Commission shall adopt implementing measures laying down technical provisions for the application of the requirements set out in Annex I. Those measures, designed to amend non-essential elements of this Regulation, *inter alia*, by supplementing it, shall be adopted in accordance with the regulatory procedure with scrutiny referred to in Article 40(2) of Directive 2007/46/EC.

#### Article 5

#### Application for EC type-approval

1. The manufacturer shall submit to the approval authority the information document, established in accordance with the model set out in Part 1 of Annex II, when applying for EC type-approval of a type of a vehicle with regard to pedestrian protection.

The manufacturer shall submit to the technical service responsible for conducting the type-approval tests a vehicle which is representative of the vehicle type to be approved.

2. The manufacturer shall submit to the approval authority the information document, established in accordance with the model set out in Part 2 of Annex II, when applying for EC type-approval of a type of a vehicle with regard to it being fitted with a frontal protection system.

The manufacturer shall submit to the technical service responsible for conducting the type-approval tests a vehicle which is representative of the vehicle type to be approved fitted with a frontal protection system. At the request of that technical service, the manufacturer shall also submit specific components or samples of materials used.

3. The manufacturer shall submit to the approval authority the information document, established in accordance with the model set out in Part 3 of Annex II, when applying for EC separate technical unit type-approval of a type of a frontal protection system.

The manufacturer shall submit to the technical service responsible for conducting the type-approval tests one sample of the type of frontal protection system to be approved. Where that technical service considers it necessary, it may request further samples. The sample(s) shall be clearly and indelibly marked with the applicant's trade name or mark and the type designation. The manufacturer shall make provision for the subsequent compulsory display of the EC type-approval mark.

#### CHAPTER III

#### OBLIGATIONS OF THE AUTHORITIES OF THE MEMBER STATES

#### Article 6

#### Granting of EC type-approval

1. If the relevant requirements are met, the approval authority shall grant EC type-approval and issue a type-approval number in accordance with the numbering system set out in Annex VII to Directive 2007/46/EC.

2. For the purposes of Section 3 of that type-approval number, one of the following letters shall be used:

- (a) for the approval of vehicles with regard to pedestrian protection:
  - 'A' if the vehicle complies with Section 2 of Annex I,
  - 'B' if the vehicle complies with Section 3 of Annex I;

- (b) for the approval of a vehicle with regard to it being fitted with a frontal protection system or the approval of a frontal protection system to be supplied as a separate technical unit:
  - 'A' if the frontal protection system complies with Section 5 of Annex I with respect to the application of points 5.1.1.1, 5.1.2.1, 5.2 and 5.3 thereof,
  - B' if the frontal protection system complies with Section 5 of Annex I with respect to the application of points 5.1.1.2, 5.1.2.1, 5.2 and 5.3 thereof,
  - 'X' if the frontal protection system complies with Section 5 of Annex I with respect to the application of points 5.1.1.3, 5.1.2.2, 5.2 and 5.3 thereof.

3. An approval authority shall not assign the same number to another type of vehicle or type of frontal protection system.

4. For the purposes of paragraph 1, the approval authority shall deliver the EC type-approval certificate established in accordance with the following:

- (a) the model set out in Part 1 of Annex III for a type of a vehicle with regard to pedestrian protection;
- (b) the model set out in Part 2 of Annex III for a type of a vehicle with regard to it being fitted with a frontal protection system;
- (c) the model set out in Part 3 of Annex III for a type of a frontal protection system to be supplied as a separate technical unit.

#### Article 7

#### EC type-approval mark

Every frontal protection system approved in accordance with this Regulation under the type-approval of a vehicle with regard to it being fitted with a frontal protection system, or the type-approval of a frontal protection system to be supplied as a separate technical unit, shall comply with the requirements of this Regulation and shall be granted, and consequently bear, an EC type-approval mark established in accordance with the provisions set out in Annex IV.

#### Article 8

#### Modification of the type and amendments to approvals

Any modification of the vehicle forward of the A-pillars or of the frontal protection system which affects either the structure, the main dimensions, the materials of the outer surfaces of the vehicle, the fixing methods or the external or internal component arrangement, and which may have a significant influence on the results of the tests, shall be regarded as an amendment pursuant to Article 13 of Directive 2007/46/EC and thus require a new application for type-approval.

#### Article 9

#### Timetable for application to vehicles

1. With effect from the date set out in the second paragraph of Article 16, national authorities shall refuse, on grounds relating to pedestrian protection, to grant EC type-approval or national type-approval, in respect of the following new vehicle types:

- (a) category M<sub>1</sub> which do not comply with the technical provisions set out in Section 4 of Annex I;
- (b) category  $M_1$  of maximum mass not exceeding 2 500 kg which do not comply with the technical provisions set out in Section 2 or Section 3 of Annex I;
- (c) category N<sub>1</sub> derived from M<sub>1</sub> and of maximum mass not exceeding 2 500 kg which do not comply with the technical provisions set out in Sections 2 and 4 or Sections 3 and 4 of Annex I.

2. With effect from 24 February 2011, national authorities shall, on grounds relating to pedestrian protection, consider the certificates of conformity to be no longer valid for the purposes of Article 26 of Directive 2007/46/EC, and shall prohibit the registration, sale and entry into service of the following new vehicles which do not comply with the technical provisions set out in Section 4 of Annex I to this Regulation:

- (a) vehicles of category M<sub>1</sub>;
- (b) vehicles of category  $N_1$  derived from  $M_1$  and of maximum mass not exceeding 2 500 kg.

3. With effect from 24 February 2013, national authorities shall refuse, on grounds relating to pedestrian protection, to grant EC type-approval or national type-approval, in respect of the following new vehicle types:

- (a) category  $M_1$  of maximum mass not exceeding 2 500 kg which do not comply with the technical provisions set out in Section 3 of Annex I;
- (b) category N<sub>1</sub> derived from M<sub>1</sub> and of maximum mass not exceeding 2 500 kg which do not comply with the technical provisions set out in Section 3 of Annex I.

4. With effect from 31 December 2012, national authorities shall, on grounds relating to pedestrian protection, consider the certificates of conformity to be no longer valid for the purposes of Article 26 of Directive 2007/46/EC, and shall prohibit the registration, sale and entry into service of the following new vehicles which do not comply with the technical provisions set out in Section 2 or Section 3 of Annex I to this Regulation:

- (a) vehicles of category M<sub>1</sub> of maximum mass not exceeding 2 500 kg;
- (b) vehicles of category  $N_1$  derived from  $M_1$ , and of maximum mass not exceeding 2 500 kg.

5. With effect from 24 February 2015, national authorities shall refuse, on grounds relating to pedestrian protection, to grant EC type-approval or national type-approval in respect of the following new vehicle types:

- (a) category M<sub>1</sub> of maximum mass exceeding 2 500 kg which do not comply with the technical provisions set out in Section 3 of Annex I;
- (b) category  $N_1$  which do not comply with the technical provisions set out in Sections 3 and 4 of Annex I.

6. With effect from 24 August 2015, national authorities shall, on grounds relating to pedestrian protection, consider the certificates of conformity to be no longer valid for the purposes of Article 26 of Directive 2007/46/EC, and shall prohibit the registration, sale and entry into service of new category N<sub>1</sub> vehicles which do not comply with the technical provisions set out in Section 4 of Annex I to this Regulation.

7. With effect from 24 February 2018, national authorities shall, on grounds relating to pedestrian protection, consider the certificates of conformity to be no longer valid for the purposes of Article 26 of Directive 2007/46/EC, and shall prohibit the registration, sale and entry into service of the following new vehicles:

- (a) category M<sub>1</sub> of maximum mass not exceeding 2 500 kg, which do not comply with the technical provisions set out in Section 3 of Annex I to this Regulation;
- (b) category N<sub>1</sub> derived from M<sub>1</sub>, and of maximum mass not exceeding 2 500 kg, which do not comply with the technical provisions set out in Section 3 of Annex I to this Regulation.

8. With effect from 24 August 2019, national authorities shall, on grounds relating to pedestrian protection, consider the certificates of conformity to be no longer valid for the purposes of Article 26 of Directive 2007/46/EC, and shall prohibit the registration, sale and entry into service of the following new vehicles:

- (a) category M<sub>1</sub> of maximum mass exceeding 2 500 kg, which do not comply with the technical provisions set out in Section 3 of Annex I to this Regulation;
- (b) category N<sub>1</sub> which do not comply with the technical provisions set out in Section 3 of Annex I to this Regulation.

9. Without prejudice to paragraphs 1 to 8 of this Article and subject to the entry into force of the measures adopted pursuant to Article 4(6), if a manufacturer so requests, the national authorities shall not, on grounds relating to pedestrian protection, refuse to grant EC type-approval or national type-approval for a new type of vehicle or prohibit the registration, sale or entry into service of a new vehicle, where the vehicle concerned complies with the technical provisions set out in Sections 3 or 4 of Annex I.

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#### Article 10

#### Application to frontal protection systems

1. National authorities shall refuse to grant EC type-approval or national type-approval of a new type of vehicle with regard to it being fitted with a frontal protection system, or EC separate technical unit type-approval of a new type of frontal protection system, which does not comply with the requirements laid down in Sections 5 and 6 of Annex I.

2. National authorities shall, on grounds relating to frontal protection systems, consider the certificates of conformity to be no longer valid for the purposes of Article 26 of Directive 2007/46/EC and shall prohibit the registration, sale and entry into service of new vehicles which do not comply with the requirements laid down in Sections 5 and 6 of Annex I to this Regulation.

3. The requirements set out in Sections 5 and 6 of Annex I to this Regulation shall apply to frontal protection systems supplied as separate technical units for the purposes of Article 28 of Directive 2007/46/EC.

#### Article 11

#### Collision avoidance systems

1. Upon assessment by the Commission, vehicles equipped with collision avoidance systems may not have to fulfil the test requirements laid down in Sections 2 and 3 of Annex I in order to be granted an EC type-approval or a national type-approval for a type of a vehicle with regard to pedestrian protection, or to be sold, registered or to enter into service.

2. The Commission shall present the assessment to the European Parliament and to the Council, accompanied by proposals amending this Regulation if appropriate.

Any measures proposed shall ensure levels of protection which are at least equivalent, in terms of actual effectiveness, to those provided by Sections 2 and 3 of Annex I.

#### Article 12

#### Monitoring

1. The national authorities shall provide the Commission with the results of the monitoring referred to in points 2.2, 2.4 and 3.2 of Annex I on a yearly basis and at the latest by 28 February of the year following that of their acquisition.

The requirement to provide those results shall cease to apply from 24 February 2014.

2. The Commission may, on the basis of the results of the monitoring completed under points 2.2, 2.4 and 3.2 of Annex I, adopt implementing measures as appropriate.

Those measures, designed to amend non-essential elements of this Regulation, *inter alia*, by supplementing it, shall be adopted in accordance with the regulatory procedure with scrutiny referred to in Article 40(2) of Directive 2007/46/EC.

3. The Commission, acting on the basis of relevant information communicated by the approval authorities and interested parties as well as on the basis of independent studies, shall monitor the technical developments in the field of enhanced passive safety requirements, brake assist and other active safety technologies which may provide improved protection to vulnerable road users.

4. By 24 February 2014, the Commission shall review the feasibility and application of any such enhanced passive safety requirements. It shall review the functioning of this Regulation with regard to the use and effectiveness of brake assist and other active safety technologies.

5. The Commission shall submit a report to the European Parliament and the Council, accompanied by proposals on the subject as appropriate.

#### Article 13

#### Penalties

1. Member States shall lay down the provisions on penalties applicable for infringement by manufacturers of the provisions of this Regulation and shall take all measures necessary to ensure that they are implemented. The penalties provided for shall be effective, proportionate and dissuasive. Member States shall notify those provisions to the Commission by 24 August 2010 and shall notify it without delay of any subsequent amendment affecting them.

2. The types of infringements which are subject to a penalty shall include at least the following:

- (a) making false declarations during the approval procedures or procedures leading to a recall;
- (b) falsifying test results for type-approval;
- (c) withholding data or technical specifications which could lead to recall or withdrawal of type-approval;
- (d) refusal to provide access to information.

#### CHAPTER IV

#### TRANSITIONAL AND FINAL PROVISIONS

#### Article 14

#### Amendments to Directive 2007/46/EC

Directive 2007/46/EC shall be amended in accordance with Annex V to this Regulation.

# Article 15

# Repeal

Article 16

# Entry into force

Directives 2003/102/EC and 2005/66/EC shall be repealed with effect from the date set out in the second paragraph of Article 16 of this Regulation.

References to the repealed Directives shall be construed as references to this Regulation.

This Regulation shall enter into force on the 20th day following its publication in the *Official Journal of the European Union*.

It shall apply from 24 November 2009 with the exception of Article 4(6) and Article 9(9) which shall apply from the day of entry into force and Article 9(2) to (8) which shall apply from the dates set therein.

This Regulation shall be binding in its entirety and directly applicable in all Member States.

Done at Strasbourg, 14 January 2009.

For the European Parliament The President H.-G. PÖTTERING For the Council The President A. VONDRA

#### LIST OF ANNEXES

Annex I Technical provisions for the testing of vehicles and frontal protection systems

- Annex II Model Information documents to be supplied by the manufacturer
  - Part 1 Information document relating to the EC type-approval of a vehicle with regard to pedestrian protection
  - Part 2 Information document relating to the EC type-approval of a vehicle with regard to it being fitted with a frontal protection system
  - Part 3 Information document relating to the EC type-approval of a frontal protection system to be supplied as a separate technical unit
- Annex III EC type-approval model certificates
  - Part 1 EC type-approval certificate relating to the type-approval of a vehicle with regard to pedestrian protection
  - Part 2 EC type-approval certificate relating to the type-approval of a vehicle with regard to it being fitted with a frontal protection system
  - Part 3 EC type-approval certificate relating to the type-approval of a frontal protection system to be supplied as a separate technical unit
- Annex IV EC type-approval mark

Appendix Example of the EC type-approval mark

Annex V Amendments to Directive 2007/46/EC

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#### ANNEX I

#### Technical provisions for the testing of vehicles and frontal protection systems

- 1. For the purposes of this Annex, the following definitions shall apply:
- 1.1. 'bonnet leading edge' means the front of the upper outer structure, including the bonnet and wings, the upper and side members of the headlight surround and any other attachments;
- 1.2. 'bonnet leading edge reference line' means the geometric trace of the points of contact between a straight edge 1 000 mm long and the front surface of the bonnet, when the straight edge, held parallel to the vertical longitudinal plane of the vehicle and inclined rearwards by 50 ° and with the lower end 600 mm above the ground, is traversed across and in contact with the bonnet leading edge. For vehicles having the bonnet top surface inclined at essentially 50 °, so that the straight edge makes a continuous contact or multiple contacts rather than a point contact, the reference line is determined with the straight edge makes first contact, then that contact is taken to be the bonnet leading edge reference line, at that lateral position. For vehicles of such shape that the top end of the straight edge makes first contact, then the geometric trace of 1 000 mm wrap around distance will be used as the bonnet leading edge reference line at that lateral position. The top edge of the bumper shall also be regarded as the bonnet leading edge for the purposes of this Regulation, if it is touched by the straight edge during this procedure;
- 1.3. '1 000 mm wrap around distance' means the geometric trace described on the frontal upper surface by one end of a 1 000 mm long flexible tape, when it is held in a vertical fore and aft plane of the vehicle and traversed across the front of the bonnet bumper and frontal protection system. The tape is held taut throughout the operation with one end held in contact with the ground reference level, vertically below the front face of the bumper and the other end held in contact with the frontal upper surface. The vehicle is positioned in the normal ride attitude;
- 1.4. 'bonnet top' means the outer structure which includes the upper surface of all outer structures except the windscreen, the A-pillars and structures rearwards of them; it therefore includes, but is not limited to, the bonnet, wings, scuttle, wiper spindle and lower windscreen frame;
- 1.5. 'frontal upper surface' means the outer structure that includes the upper surface of all outer structures except the windscreen, the A-pillars and structure rearwards of them;
- 1.6. 'ground reference level' means the horizontal plane parallel to the ground level, representing the ground level for a vehicle placed at rest on a flat surface with the hand brake on, with the vehicle positioned in its normal ride attitude;
- 1.7. 'normal ride attitude' means the vehicle attitude in running order positioned on the ground, with the tyres inflated to the recommended pressures, the front wheels in the straight-ahead position, with maximum capacity of all fluids necessary for operation of the vehicle, with all standard equipment as provided by the vehicle manufacturer, with a mass of 75 kg placed on the driver's seat and with a mass of 75 kg placed on the front passenger's seat, and with the suspension set for a driving speed of 40 km/h or 35 km/h in normal running conditions specified by the manufacturer (especially for vehicles with an active suspension or a device for automatic levelling);
- 1.8. 'windscreen' means the frontal glazing of the vehicle which meets all the relevant requirements of Annex I to Council Directive 77/649/EEC of 27 September 1977 on the approximation of the laws of the Member States relating to the field of vision of motor vehicle drivers (<sup>1</sup>);
- 1.9. 'Head performance criterion' (HPC) means a calculation, over a specified time period, of the maximum resultant acceleration experienced during the impact. It shall be calculated from the resultant of accelerometer time histories as the maximum (depending on  $t_1$  and  $t_2$ ) of the equation:

$$HPC = \left[\frac{1}{t_2 - t_1} \int_{t_1}^{t_2} a \, dt\right]^{2,5} (t_2 - t_1)$$

In that formula, 'a' is the resultant acceleration as a multiple of 'g' and  $t_1$  and  $t_2$  are the two time instants (expressed in seconds) during the impact, defining the beginning and the end of the recording for which the value of HPC is a maximum. Values of HPC for which the time interval  $(t_1 - t_2)$  is greater than 15 ms are ignored for the purposes of calculating the maximum value;

<sup>(&</sup>lt;sup>1</sup>) OJ L 267, 19.10.1977, p. 1.

- 1.10. 'radius of curvature' means the radius of the arc of a circle which comes closest to the rounded form of the component under consideration.
- 2. The following tests are required to be performed on vehicles:
- 2.1. Legform to bumper:

One of the following tests is required to be performed:

(a) lower legform to bumper:

the test is performed at an impact speed of 40 km/h. The maximum dynamic knee bending angle shall not exceed  $21,0^{\circ}$ , the maximum dynamic knee shearing displacement shall not exceed 6,0 mm, and the acceleration measured at the upper end of the tibia shall not exceed 200 g;

(b) upper legform to bumper:

the test is performed at an impact speed of 40 km/h. The instantaneous sum of the impact forces with respect to time shall not exceed 7,5 kN and the bending moment on the test impactor shall not exceed 510 Nm.

2.2. Upper legform to bonnet leading edge:

The test is performed at an impact speed up to 40 km/h. The instantaneous sum of the impact forces with respect to time should not exceed a possible target of 5,0 kN and the bending moment on the test impactor shall be recorded and compared with the possible target of 300 Nm.

This test shall be completed for monitoring purposes only and the results shall be fully recorded.

2.3. Child/small adult headform to bonnet top:

The test is performed at an impact speed of 35 km/h using a 3,5 kg test impactor. The HPC shall not exceed 1 000 over 2/3 of the bonnet test area and 2 000 for the remaining 1/3 of the bonnet test area.

2.4. Adult headform to windscreen:

The test is performed at an impact speed of 35 km/h using a 4.8 kg test impactor. The HPC shall be recorded and compared with the possible target of 1 000.

This test shall be completed for monitoring purposes only and the results shall be fully recorded.

- 3. The following tests are required to be performed on vehicles:
- 3.1. Legform to bumper:

One of the following tests is required to be performed:

(a) lower legform to bumper:

the test is performed at an impact speed of 40 km/h. The maximum dynamic knee bending angle shall not exceed  $19,0^{\circ}$ , the maximum dynamic knee shearing displacement shall not exceed 6,0 mm, and the acceleration measured at the upper end of the tibia shall not exceed 170 g.

In addition, the manufacturer may nominate bumper test widths of up to 264 mm in total where the acceleration measured at the upper end of the tibia shall not exceed 250 g;

(b) upper legform to bumper:

the test is performed at an impact speed of 40 km/h. The instantaneous sum of the impact forces with respect to time shall not exceed 7,5 kN and the bending moment on the test impactor shall not exceed 510 Nm.

#### 3.2. Upper legform to bonnet leading edge:

The test is performed at an impact speed up to 40 km/h. The instantaneous sum of the impact forces with respect to time shall be compared with a possible maximum of 5,0 kN and the bending moment on the test impactor shall be compared with a possible maximum of 300 Nm.

This test shall be completed for monitoring purposes only and the results shall be fully recorded.

3.3. Child/small adult headform to bonnet top:

The test is performed at an impact speed of 35 km/h using a 3.5 kg test impactor. The HPC shall comply with the requirements of point 3.5.

3.4. Adult headform to bonnet top:

The test performed at an impact speed of 35 km/h using a 4,5 kg test impactor. The HPC shall comply with the requirements of point 3.5.

- 3.5. The HPC recorded shall not exceed 1 000 over one half of the child headform test area and, in addition, shall not exceed 1 000 over 2/3 of the combined child and adult headform test areas. The HPC for the remaining areas shall not exceed 1 700 for both headforms.
- 4. The following tests are required to be performed on vehicles:
- 4.1. A reference test to identify the system operation point at which the anti-lock braking system (ABS) activates.
- 4.2. A test to verify that the operation of the brake assist system is correctly triggered so as to apply the maximum achievable deceleration characteristics of the vehicle.
- 5. The following tests are required to be performed on frontal protection systems (FPS):
- 5.1. One of the following legform tests, under points 5.1.1 or 5.1.2, is required to be performed:
- 5.1.1. Lower legform to FPS:

All the tests shall be performed at an impact speed of 40 km/h.

- 5.1.1.1. For an FPS approved for fitting to vehicles that comply with the requirements of Section 2 the maximum dynamic knee bending angle shall not exceed 21,0 °, the maximum dynamic knee shearing displacement shall not exceed 6,0 mm, and the acceleration measured at the upper end of the tibia shall not exceed 200 g.
- 5.1.1.2. For an FPS approved for fitting to vehicles that comply with the requirements of Section 3 the maximum dynamic knee bending angle shall not exceed 19,0 °, the maximum dynamic knee shearing displacement shall not exceed 6,0 mm, and the acceleration measured at the upper end of the tibia shall not exceed 170 g.
- 5.1.1.3. For an FPS approved for fitting only to vehicles which do not comply with either Section 2 or Section 3 the test requirements set out in points 5.1.1.1 and 5.1.1.2 may be replaced by the test requirements set out in either point 5.1.1.3.1 or point 5.1.1.3.2.
- 5.1.1.3.1. The maximum dynamic knee bending angle shall not exceed 24,0 °, the maximum dynamic knee shearing displacement shall not exceed 7,5 mm, and the acceleration measured at the upper end of the tibia shall not exceed 215 g.
- 5.1.1.3.2. A pair of tests shall be performed on the vehicle, one with the FPS fitted, and a second without the FPS fitted. Each pair of tests shall be performed in equivalent locations as agreed with the relevant approval authority. The values for the maximum dynamic knee bending angle, the maximum dynamic knee shearing displacement and the acceleration measured at the upper end of the tibia shall be recorded. In each case the value recorded for the vehicle fitted with the FPS shall not exceed 90 % of the value recorded for the vehicle without the FPS fitted.

5.1.2. Upper legform to FPS:

All the tests shall be performed at an impact speed of 40 km/h.

- 5.1.2.1. The instantaneous sum of the impact forces with respect to time shall not exceed 7,5 kN and the bending moment on the test impactor shall not exceed 510 Nm.
- 5.1.2.2. For an FPS approved for fitting only to vehicles which do not comply with either Section 2 or Section 3, the test requirements set out in point 5.1.2.1 may be replaced by the test requirements set out in either point 5.1.2.2.1 or point 5.1.2.2.2.
- 5.1.2.2.1. The instantaneous sum of the impact forces with respect to time shall not exceed 9,4 kN and the bending moment on the test impactor shall not exceed 640 Nm.
- 5.1.2.2.2. A pair of tests shall be performed on the vehicle, one with the FPS fitted, and a second without the FPS fitted. Each pair of tests shall be performed in equivalent locations as agreed with the relevant approval authority. The values for the instantaneous sum of the impact forces and the bending moment on the test impactor shall be recorded. In each case the value recorded for the vehicle fitted with the FPS shall not exceed 90 % of the value recorded for the vehicle without the FPS fitted.
- 5.2. Upper legform to FPS leading edge

The test is performed at an impact speed 40 km/h. The instantaneous sum of the impact forces with respect to time, to the top and the bottom of the impactor, should not exceed a possible target of 5,0 kN and the bending moment on the test impactor should not exceed a possible target of 300 Nm. Both results shall be recorded for monitoring purposes.

5.3. Child/small adult headform to FPS

The test is performed at an impact speed of 35 km/h using a 3,5 kg headform test impactor for the child/small adult. The HPC calculated from the resultant of the accelerometer time histories shall not exceed 1 000 in all cases.

- 6. Construction and installation provisions for FPS:
- 6.1. The following requirements apply equally to FPS fitted to new vehicles and to FPS to be supplied as separate technical units for fitting to specified vehicles.
- 6.1.1. The components of the FPS shall be so designed that all rigid surfaces which can be contacted by a 100 mm sphere, have a minimum radius of curvature of 5 mm.
- 6.1.2. The total mass of the FPS, including all brackets and fixings, shall not exceed 1,2 % of the maximum mass of the vehicle for which it is designed, subject to a maximum of 18 kg.
- 6.1.3. The height of the FPS, when fitted to a vehicle, shall be no more than 50 mm above the height of the bonnet leading edge reference line.
- 6.1.4. The FPS shall not increase the width of the vehicle to which it is fitted. If the overall width of the FPS is more than 75 % of the width of the vehicle, the ends of the FPS shall be turned in towards the external surface in order to minimise the risk of fouling. This requirement is considered to be satisfied if either the FPS is recessed or integrated within the bodywork or the end of the FPS is turned so that it is not contactable by a 100 mm sphere and the gap between the end of the FPS and the surrounding bodywork does not exceed 20 mm.
- 6.1.5. Subject to point 6.1.4, the gap between the components of the FPS and the underlying external surface shall not exceed 80 mm. Local discontinuities in the general contour of the underlying body (such as apertures in grilles, air intakes, etc.) shall be ignored.
- 6.1.6. At any lateral position across the vehicle, in order to preserve the benefits of the vehicle bumper, the longitudinal distance between the most forward part of the bumper and the most forward part of the FPS shall not exceed 50 mm.
- 6.1.7. The FPS shall not reduce significantly the effectiveness of the bumper. This requirement shall be considered to be satisfied if there are no more than two vertical components and no horizontal components of the FPS overlapping the bumper.

| The FPS shall not be inclined forward of the vertical. The top parts of the FPS shall not extend upwards or rear-<br>wards (towards the windscreen) more than 50 mm from the bonnet leading edge reference line of the vehicle |
|--|
| with the FPS removed.  |

- 6.1.9. Conformity with the requirements of the vehicle type-approval shall not be compromised by the fitting of a FPS.
- 7. By derogation to Sections 2, 3 and 5, the relevant approval authority may consider the requirements for any of the tests laid down therein to be fulfilled by any equivalent testing carried out under the requirements of another test pursuant to this Annex.

#### ANNEX II

## Model Information documents to be supplied by the manufacturer

Part 1

Information document relating to the EC type-approval of a vehicle with regard to pedestrian protection

Part 2

Information document relating to the EC type-approval of a vehicle with regard to it being fitted with a frontal protection system

Part 3

Information document relating to the EC type-approval of a frontal protection system to be supplied as a separate technical unit

## PART 1

#### MODEL

#### Information document No ... relating to the EC type-approval of a vehicle with regard topedestrian protection

The following information, if applicable, shall be supplied in triplicate and include a list of contents. Any drawings shall be supplied in appropriate scale and in sufficient detail on size A4 or on a folder of A4 format. Photographs, if any, shall show sufficient detail.

If the systems, components or separate technical units have electronic controls, information concerning their performance shall be supplied.

- 0. GENERAL
- 0.1. Make (trade name of manufacturer):
- 0.2. Type:
- 0.2.1. Commercial name(s) (if available):
- 0.3. Means of identification of type, if marked on the vehicle (<sup>b</sup>) (<sup>1</sup>):
- 0.3.1. Location of that marking:
- 0.4. Category of vehicle (<sup>c</sup>):
- 0.5. Name and address of manufacturer:
- 0.8. Name(s) and address(es) of assembly plant(s):
- 0.9. Name and address of the manufacturer's representative (if any):
- 1. GENERAL CONSTRUCTION CHARACTERISTICS OF THE VEHICLE
- 1.1. Photographs and/or drawings of a representative vehicle:
- 1.6. Position and arrangement of the engine:
- 9. BODYWORK
- 9.1. Type of bodywork:
- 9.2. Materials used and methods of construction:
- 9.23. Pedestrian protection
- 9.23.1. A detailed description, including photographs and/or drawings, of the vehicle with respect to the structure, the dimensions, the relevant reference lines and the constituent materials of the frontal part of the vehicle (interior and exterior) shall be provided. This description shall include detail of any active protection system installed.

#### PART 2

#### MODEL

# Information document No ... relating to the EC type-approval of a vehicle with regard to it being fitted with a frontal protection system

The following information, if applicable, shall be supplied in triplicate and include a list of contents. Any drawings shall be supplied in appropriate scale and in sufficient detail on size A4 or on a folder of A4 format. Photographs, if any, shall show sufficient detail.

If the systems, components or separate technical units make use of specialist materials, information concerning their performance shall be supplied.

- 0. GENERAL
- 0.1. Make (trade name of manufacturer):
- 0.2. Type:
- 0.2.1. Commercial name(s) (if available):
- 0.3. Means of identification of type, if marked on the vehicle (<sup>b</sup>) (<sup>1</sup>):
- 0.3.1. Location of that marking:
- 0.4. Category of vehicle (<sup>c</sup>):
- 0.5. Name and address of manufacturer:
- 0.7. Location and method of affixing of the EC type-approval mark:
- 0.8. Name(s) and address(es) of assembly plant(s):
- 0.9. Name and address of the manufacturer's representative (if any):
- 1. GENERAL CONSTRUCTION CHARACTERISTICS OF THE VEHICLE
- 1.1. Photographs and/or drawings of a representative vehicle:
- 2. MASSES AND DIMENSIONS: (in kg and mm) (Refer to drawing where applicable)
- 2.8. Technically permissible maximum laden mass stated by the manufacturer:
- 2.8.1. Distribution of this mass among the axles (maximum and minimum):
- 9. BODYWORK
- 9.1. Type of bodywork:
- 9.24. Frontal protection system
- 9.24.1. General arrangement (drawings or photographs) indicating the position and attachment of the frontal protection systems:

- 9.24.2. Drawings and/or photographs, where relevant, of air intake grilles, radiator grille, decorative trim, badges, emblems and recesses and any other external projections and parts of the exterior surface which can be regarded as critical (e.g. lighting equipment). If the parts listed in the first sentence are not critical, for documentation purposes they may be replaced by photographs, accompanied if necessary by dimensional details and/or text:
- 9.24.3. Complete details of fittings required and full instructions, including torque requirements, for fitting:
- 9.24.4. Drawing of bumpers:
- 9.24.5. Drawing of the floor line at the vehicle front end:

#### PART 3

#### MODEL

# Information document No ... relating to the EC type-approval of a frontal protection system to be supplied as a separate technical unit

The following information, if applicable, shall be supplied in triplicate and include a list of contents. Any drawings shall be supplied in appropriate scale and in sufficient detail on size A4 or on a folder of A4 format. Photographs, if any, shall show sufficient detail.

If the systems, components or separate technical units make use of specialist materials, information concerning their performance shall be supplied.

- 0. GENERAL
- 0.1. Make (trade name of manufacturer):
- 0.2. Type:
- 0.2.1. Commercial name(s) (if available):
- 0.5. Name and address of manufacturer:
- 0.7. Location and method of affixing of the EC type-approval mark:
- 0.8. Name(s) and address(es) of assembly plant(s):
- 0.9. Name and address of the manufacturer's representative (if any):

#### 1. DESCRIPTION OF THE DEVICE

- 1.1. Detailed technical description (including photographs or drawings):
- 1.2. Assembly and mounting instructions, including required torques:
- 1.3. Listing of vehicle types to which it may be fitted:
- 1.4. Any restrictions of use and conditions for fitting:

<sup>(</sup>b) If the means of identification of type contains characters not relevant to describe the vehicle, component or separate technical unit types covered by this information document, such characters shall be represented in the documentation by the symbol ?? (e.g. ABC??123??).

<sup>(</sup>c) Classified according to the definitions listed in Section A of Annex II to Directive 2007/46/EC of the European Parliament and of the Council of 5 September 2007 establishing a framework for the approval of motor vehicles and their trailers, and of systems, components and separate technical units intended for such vehicles (Framework Directive) (OJ L 263, 9.10.2007, p. 1).

<sup>(1)</sup> Delete where not applicable (there are cases where nothing needs to be deleted when more than one entry is applicable).

#### ANNEX III

## EC type-approval model certificates

Part 1

EC type-approval certificate relating to the type-approval of a vehicle with regard to pedestrian protection

# Part 2

EC type-approval certificate relating to the type-approval of a vehicle with regard to it being fitted with a frontal protection system

#### Part 3

EC type-approval certificate relating to the type-approval of a frontal protection system to be supplied as a separate technical unit

## PART 1

# MODEL

#### (maximum format: A4 (210 × 297 mm))

#### EC TYPE-APPROVAL CERTIFICATE

Stamp of EC Type-approval authority

Communication concerning the:

- EC type-approval (1)
- extension of EC type-approval (1),
- refusal of EC type-approval (<sup>1</sup>),
- withdrawal of EC type-approval (<sup>1</sup>),

of a type of vehicle with regard to pedestrian protection

with regard to Regulation (EC) No 78/2009 of the European Parliament and of the Council of 14 January 2009 as implemented by ...

last amended by Regulation (EC) No  $\dots/\dots$  (<sup>2</sup>)

EC type-approval No:

Reason for extension:

#### SECTION I

- 0.1. Make (trade name of manufacturer):
- 0.2. Type:
- 0.2.1. Commercial name(s) (if available)
- 0.3. Means of identification of type, if marked on the vehicle (<sup>3</sup>):
- 0.3.1. Location of that marking:
- 0.4. Category of vehicle (<sup>4</sup>):
- 0.5. Name and address of manufacturer:
- 0.8. Names and address(es) of assembly plant(s):
- 0.9. Name and address of the manufacturer's representative (if any):

#### SECTION II

- 1. Additional information (where applicable) (see Addendum)
- 2. Technical service responsible for carrying out the tests:
- 3. Date of test report:
- 4. Number of test report:

- (2) Insert number of amending Regulation.
- (3) If the means of identification of type contains characters not relevant to describe the vehicle, component or separate technical unit types covered by this information, such characters shall be represented in the documentation by the symbol '?' (e.g. ABC??123??).
- (4) As defined in Section A of Annex II to Directive 2007/46/EC of the European Parliament and of the Council of 5 September 2007 establishing a framework for the approval of motor vehicles and their trailers, and of systems, components and separate technical units intended for such vehicles (Framework Directive) (OJ L 263, 9.10.2007, p. 1).

<sup>(1)</sup> Delete where not applicable.

5. Remarks (if any) (see Addendum):

6. Place:

- 7. Date:
- 8. Signature:

Attachments: Information package.

Test report.

Addendum to EC type-approval certificate No  $\ldots$  concerning the type-approval of a vehicle with regard to pedestrian protection with regard to Regulation (EC) No 78/2009

- 1. Additional information
- 1.1. Brief description of the vehicle type as regards its structure, dimensions, lines and constituent materials:
- 1.2. Site of engine: forward/rear/central (1)
- 1.3. Drive: front-wheel/rear-wheel (1)
- 1.4. Mass of vehicle submitted for testing (as defined in accordance with point 1.7 of Annex I to Regulation (EC) No 78/2009):
  - Front axle:
  - Rear axle:
  - Total:
- 1.5. Test results according to the requirements of Annex I to Regulation (EC) No 78/2009:
- 1.5.1. Section 2 test results:

| Test   | Value recorded                |         | Pass/fail (1) |
|--|-------------------------------|---------|---------------|
| Lower legform to bumper (where per-<br>formed) | Bending angle                 | degrees |               |
|  | Shear displacement            | mm      |               |
|  | Acceleration at tibia         | gg      |               |
| Upper legform to bumper (where per-<br>formed) | Sum of impact forces          | kN      |               |
|  | Bending moment                | Nm      |               |
| Upper legform to bonnet leading edge           | Sum of impact forces          | kN      | (2)           |
|  | Bending moment                | Nm      | (2)           |
| Child/small adult headform (3,5 kg) to         | HPC values                    |         |               |
| bonnet top                                     | in Zone A                     |         |               |
|  | (12 results ( <sup>3</sup> )) |         |               |
|  | HPC values                    |         |               |
|  | in Zone B                     |         |               |
|  | (6 results ( <sup>3</sup> ))  |         |               |
| Adult headform (4,8 kg) to windscreen          | HPC values                    |         | (2)           |
|  | (5 results ( <sup>3</sup> ))  |         |               |

(1) According to the values specified in Section 2 of Annex I to Regulation (EC) No 78/2009.

(2) For monitoring purposes only.

 $(^3)\,$  According to Commission [implementing legislation].

(1) Delete where not applicable.

## 1.5.2. Section 3 test results:

| Test   | Value recorded               |         | Pass/fail (1) |
|--|------------------------------|---------|---------------|
| Lower legform to bumper (where per-<br>formed) | Bending angle                | degrees |               |
|  | Shear displacement           | mm      |               |
|  | Acceleration at tibia        | g       |               |
| Upper legform to bumper (where per-<br>formed) | Sum of impact forces         | kN      |               |
|  | Bending moment               | Nm      |               |
| Upper legform to bonnet leading edge           | Sum of impact forces         | kN      | (2)           |
|  | Bending moment               | Nm      | (2)           |
| Child/small adult headform (3,5 kg) to         | HPC values                   |         |               |
| bonnet top                                     | (9 results ( <sup>3</sup> )) |         |               |
| Adult headform (4,5 kg) to windscreen          | HPC values                   |         |               |
|  | (9 results ( <sup>3</sup> )) |         |               |

 $(^1)\,$  According to the values specified in Section 3 of Annex I to Regulation (EC) No 78/2009.

(<sup>2</sup>) For monitoring purposes only.

(3) According to Commission [implementing legislation].

Remarks: (e.g., valid for left-hand drive and right-hand drive vehicles)

#### 1.5.3. Section 4 requirements:

| Details of brake assist system supplied (1). |  |
|--|--|
| Remarks ( <sup>2</sup> ):                    |  |

(1) Provide details of system operation method.

(2) Provide details of testing completed to verify system.

# PART 2

# MODEL

#### (maximum format: A4 (210 × 297 mm))

#### EC TYPE-APPROVAL CERTIFICATE

Stamp of EC Type-approval authority

Communication concerning the:

- EC type-approval (1)
- extension of EC type-approval (1),
- refusal of EC type-approval (1),
- withdrawal of EC type-approval (1),

of a type of a vehicle with regard to it being fitted with a frontal protection system

with regard to Regulation (EC) No 78/2009 of the European Parliament and of the Council of 14 January 2009 as implemented by ...

last amended by Regulation (EC) No  $\dots/\dots$  (<sup>2</sup>)

EC type-approval No:

Reason for extension:

#### SECTION I

- 0.1. Make (trade name of manufacturer):
- 0.2. Type:
- 0.2.1. Commercial name(s) (if available):
- 0.3. Means of identification of type, if marked on the vehicle (3):
- 0.3.1. Location of that marking:
- 0.4. Category of vehicle (<sup>4</sup>):
- 0.5. Name and address of manufacturer:
- 0.7. Location and method of affixing of the EC type-approval mark:
- 0.8. Address(es) of assembly plant(s):
- 0.9. Name and address of the manufacturer's representative (if any):

<sup>(1)</sup> Delete where not applicable.

<sup>(2)</sup> Insert number of amending Regulation.

<sup>(3)</sup> If the means of identification of type contains characters not relevant to describe the vehicle, component or separate technical unit types covered by this information, such characters shall be represented in the documentation by the symbol '?' (e.g. ABC??123??).

<sup>(4)</sup> As defined in Section A of Annex II to Directive 2007/46/EC of the European Parliament and of the Council of 5 September 2007 establishing a framework for the approval of motor vehicles and their trailers, and of systems, components and separate technical units intended for such vehicles (Framework Directive) (OJ L 263, 9.10.2007, p. 1).

## SECTION II

- 1. Additional information (where applicable): See Addendum
- 2. Technical service responsible for carrying out the tests:
- 3. Date of test report:
- 4. Number of test report:
- 5. Remarks (if any): See Addendum
- 6. Place:
- 7. Date:
- 8. Signature:

Attachments: Information package. Test report.

# Addendum to EC type-approval certificate No ... concerning the type-approval of a vehicle with regard to it being fitted with a frontal protection system with regard to Regulation (EC) No 78/2009

- 1. Additional information, if any:
- 2. Remarks:
- 3. Test results according to the requirements of Section 5 of Annex I to Regulation (EC) No 78/2009

| Test   | Value recorded                        |         | Pass/fail |
|--|---------------------------------------|---------|-----------|
| Lower legform to frontal protection sys-<br>tem                  | Bending angle                         | degrees |           |
| — three test positions<br>(where performed)                      | Shear displacement                    | mm      |           |
|  | Acceleration at tibia                 | g       |           |
| Upper legform to frontal protection sys-<br>tem                  | Sum of impact forces                  | kN      |           |
| — three test positions<br>(where performed)                      | Bending moment                        | Nm      |           |
| Upper legform to frontal protection sys-<br>tem leading edge     | Sum of impact forces                  | kN      |           |
| — three test positions<br>(monitoring only)                      | Bending moment                        | Nm      |           |
| Child/small adult headform (3,5 kg) to frontal protection system | HPC values<br>(at least three values) |         |           |

## PART 3

# MODEL

#### (maximum format: A4 (210 × 297 mm))

#### EC TYPE-APPROVAL CERTIFICATE

Stamp of EC Type-approval authority

Communication concerning the:

- EC type-approval (<sup>1</sup>),
- extension of EC type-approval (<sup>1</sup>),
- refusal of EC type-approval (<sup>1</sup>),
- withdrawal of EC type-approval (1),

of a type of frontal protection system to be supplied as a separate technical unit

with regard to Regulation (EC) No 78/2009 of the European Parliament and of the Council of 14 January 2009 as implemented by...

last amended by Regulation (EC) No .../... (2)

EC type-approval No:

Reason for extension:

#### SECTION I

- 0.1. Make (trade name of manufacturer):
- 0.2. Type:
- 0.3. Means of identification of type if marked on the frontal protection system (<sup>3</sup>):
- 0.3.1. Location of that marking:
- 0.5. Name and address of manufacturer:
- 0.7. Location and method of the affixing of the EC approval mark:
- 0.8. Name(s) and address(es) of assembly plant(s):
- 0.9. Name and address of the manufacturer's representative (if any):

#### SECTION II

- 1. Additional information: See Addendum
- 2. Technical service responsible for carrying out the tests:
- 3. Date of test report:

<sup>(1)</sup> Delete where not applicable.

<sup>(2)</sup> Insert number of amending Regulation.

<sup>(3)</sup> If the means of identification of type contains characters not relevant to describe the vehicle, component or separate technical unit types covered by this information, such characters shall be represented in the documentation by the symbol '?' (e.g. ABC??123??).

- 4. Number of test report:
- 5. Remarks (if any): See Addendum
- 6. Place:
- 7. Date:
- 8. Signature:

Attachments: Information package.

Test report.

Addendum to EC type-approval certificate No ... concerning the type-approval of a type of frontal protection system to be supplied as a separate technical unit with regard to Regulation (EC) No 78/2009

- 1. Additional information
- 1.1. Method of attachment:
- 1.2. Assembly and mounting instructions:
- 1.3. List of vehicles on which the frontal protection system may be fitted, any usage restrictions and necessary conditions for fitting:

.....

# 2. Remarks:

3. Test results according to the requirements of Section 5 of Annex I to Regulation (EC) No 78/2009

| Test   | Value recorded                        |         | Pass/fail |
|--|---------------------------------------|---------|-----------|
| Lower legform to frontal protection sys-<br>tem  | Bending angle                         | degrees |           |
| — three test positions<br>(where performed)  | Shear displacement                    | mm      |           |
|  | Acceleration at tibia                 | g       |           |
| Upper legform to frontal protection sys-<br>tem  | Sum of impact forces                  | kN      |           |
| — three test positions<br>(where performed)  | Bending moment                        | Nm      |           |
| Upper legform to frontal protection sys-<br>tem leading edge<br>— three test positions | Sum of impact forces                  | kN      |           |
| (monitoring only)  | Bending moment                        | Nm      |           |
| Child/small adult headform (3,5 kg) to frontal protection system                       | HPC values<br>(at least three values) |         |           |

#### ANNEX IV

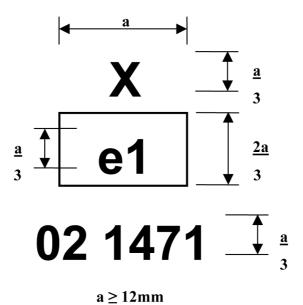
#### EC TYPE-APPROVAL MARK

- 1. This mark shall consist of:
- 1.1. A rectangle surrounding the lower-case letter 'e' followed by the distinguishing number or letter(s) of the Member State which has granted the EC type-approval
  - 1 for Germany,
  - 2 for France,
  - 3 for Italy,
  - 4 for the Netherlands,
  - 5 for Sweden,
  - 6 for Belgium,
  - 7 for Hungary,
  - 8 for the Czech Republic,
  - 9 for Spain,
  - 11 for the United Kingdom,
  - 12 for Austria,
  - 13 for Luxembourg,
  - 17 for Finland,
  - 18 for Denmark,
  - 19 for Romania,
  - 20 for Poland,
  - 21 for Portugal,
  - 23 for Greece,
  - 24 for Ireland,
  - 26 for Slovenia,
  - 27 for Slovakia,
  - 29 for Estonia,
  - 32 for Latvia,
  - 34 for Bulgaria,
  - 36 for Lithuania,
  - 49 for Cyprus,
  - 50 for Malta.
- 1.2. In the vicinity of the rectangle the 'base approval number' contained in Section 4 of the type-approval number referred to in Annex VII to Directive 2007/46/EC, preceded by the two figures indicating the sequence number assigned to the latest major technical amendment to this Regulation on the date the EC type-approval was granted. The sequence number for this Regulation is 02.
- 1.3. The following additional letters located above the rectangle:
- 1.3.1. 'A' to indicate that the frontal protection system was approved in compliance with the requirements of point 5.1.1.1 of Annex I and is suitable for fitting to vehicles that comply with Section 2 of Annex I;
- 1.3.2. 'B' to indicate that the frontal protection system was approved in compliance with the requirements of point 5.1.1.2 of Annex I and is suitable for fitting to vehicles that comply with Section 3 of Annex I;

- 1.3.3. 'X' to indicate that the frontal protection system was approved under the consideration, for the legform impactor test, allowed by points 5.1.1.3 or 5.1.2.2 of Annex I and is only suitable for fitting to vehicles that do not comply with either Section 2 or Section 3 of Annex I.
- 1.4. The EC type-approval mark shall be clearly legible, indelible and clearly visible when installed on the vehicle.
- 1.5. An example of the approval mark is given in the Appendix to this Annex.

## APPENDIX

## Example of the EC type-approval mark



The device bearing the EC type-approval mark shown above is for a frontal protection system type-approved in Germany (e1) pursuant to this Regulation (02) under the base approval number 1471.

The letter 'X' indicates that the frontal protection system was approved under the consideration, for the legform impactor test, allowed by either point 5.1.1.3 or 5.1.2.2 of Annex I.

#### ANNEX V

#### Amendments to Directive 2007/46/EC

Directive 2007/46/EC is hereby amended as follows:

- 1. in Annex I, Section 9.24 shall be replaced by the following:
  - '9.24. Frontal protection systems
  - 9.24.1. General arrangement (drawings or photographs) indicating the position and attachment of the frontal protection systems:
  - 9.24.2. Drawings and/or photographs, where relevant, of air intake grilles, radiator grille, decorative trim, badges, emblems and recesses and any other external projections and parts of the exterior surface which can be regarded as critical (e.g. lighting equipment). If the parts listed in the first sentence are not critical, for documentation purposes they may be replaced by photographs, accompanied if necessary by dimensional details and/or text:
  - 9.24.3. Complete details of fittings required and full instructions, including torque requirements, for fitting:
  - 9.24.4. Drawing of bumpers:
  - 9.24.5. Drawing of the floor line at the vehicle front end:';
- 2. in Annex III, Part I, point A, Section 9.24 shall be replaced by the following:
  - '9.24. Frontal protection systems
  - 9.24.1. General arrangement (drawings or photographs) indicating the position and attachment of the frontal protection systems:
  - 9.24.3. Complete details of fittings required and full instructions, including torque requirements, for fitting;
- 3. Annex IV is hereby amended as follows:
  - (a) in Part I:
    - (i) item 58 shall be replaced by the following:

| '58. Pedestrian pro-<br>tection | Regulation (EC)<br>No 78/2009 | L 35,<br>4.2.2009, p. 1 | Х |  | X' |  |  |  |
|---------------------------------|-------------------------------|-------------------------|---|--|----|--|--|--|
|                                 |                               |                         |   |  |    |  |  |  |

- (ii) footnote 7 shall be deleted;
- (iii) item 60 shall be deleted;
- (b) in the Appendix:
  - (i) item 58 shall be replaced by the following:

|  | '58. | Pedestrian protection | Regulation (EC) No 78/2009 | L 35, 4.2.2009, p. 1 | N/A (*) |
|--|------|-----------------------|----------------------------|----------------------|---------|
|--|------|-----------------------|----------------------------|----------------------|---------|

<sup>(\*)</sup> Any frontal protection system supplied with the vehicle shall comply with the requirements of Regulation (EC) No 78/2009, shall be provided with a type-approval number and shall be marked accordingly.'

- 4. in Annex VI, the Appendix is hereby amended as follows:
  - (a) item 58 shall be replaced by the following:

| '58. | Pedestrian protection | Regulation (EC) No 78/2009' |  |  |
|------|-----------------------|-----------------------------|--|--|
|------|-----------------------|-----------------------------|--|--|

- (b) item 60 shall be deleted;
- 5. Annex XI is hereby amended as follows:
  - (a) in Appendix 1:
    - (i) item 58 shall be replaced by the following:

| '58. Pedestrian protection | Regulation (EC) No 78/2009 | X | N/A (*) |  |  |
|----------------------------|----------------------------|---|---------|--|--|
|----------------------------|----------------------------|---|---------|--|--|

- (\*) Any frontal protection system supplied with the vehicle shall comply with the requirements of Regulation (EC) No 78/2009, shall be provided with a type-approval number and shall be marked accordingly.';
- (ii) Item 60 shall be deleted.
- (b) in Appendix 2:
  - (i) item 58 shall be replaced by the following:

| '58. | Pedestrian protection | Regulation (EC)<br>No 78/2009 | N/A |  |  | N/A' |  |  |  |  |  |  |
|------|-----------------------|-------------------------------|-----|--|--|------|--|--|--|--|--|--|
|------|-----------------------|-------------------------------|-----|--|--|------|--|--|--|--|--|--|

- (ii) item 60 shall be deleted;
- (c) in Appendix 3:
  - (i) item 58 shall be replaced by the following:

| '58. | Pedestrian protection | Regulation (EC) No 78/2009 | X' |
|------|-----------------------|----------------------------|----|
|------|-----------------------|----------------------------|----|

- (ii) item 60 shall be deleted;
- (d) in Appendix 4:
  - (i) item 58 shall be replaced by the following:

| '58. | Pedestrian protection | Regulation (EC)<br>No 78/2009 |  | N/A (*) |  |  |  |
|------|-----------------------|-------------------------------|--|---------|--|--|--|
|      |                       | 1                             |  |         |  |  |  |

<sup>(\*)</sup> Any frontal protection system supplied with the vehicle shall comply with the requirements of Regulation (EC) No 78/2009, shall be provided with a type-approval number and shall be marked accordingly.';

(ii) Item 60 shall be deleted.

## REGULATION (EC) No 79/2009 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL

#### of 14 January 2009

## on type-approval of hydrogen-powered motor vehicles, and amending Directive 2007/46/EC

(Text with EEA relevance)

THE EUROPEAN PARLIAMENT AND THE COUNCIL OF THE EURO-PEAN UNION,

Having regard to the Treaty establishing the European Community, and in particular Article 95 thereof,

Having regard to the proposal from the Commission,

Having regard to the opinion of the European Economic and Social Committee  $(^1)$ ,

Acting in accordance with the procedure laid down in Article 251 of the Treaty  $(^{2})$ ,

Whereas:

- (1) The internal market comprises an area without internal frontiers in which the free movement of goods, persons, services and capital is ensured. To that end, a comprehensive Community type-approval system for motor vehicles is in place. The technical requirements for the typeapproval of motor vehicles with regard to hydrogen propulsion should be harmonised to avoid the adoption of different requirements in different Member States and to ensure the proper functioning of the internal market while, at the same time, ensuring a high level of environmental protection and public safety.
- (2) This Regulation is a separate regulation for the purposes of the Community type-approval procedure provided for by Directive 2007/46/EC of the European Parliament and of the Council of 5 September 2007 establishing a framework for the approval of motor vehicles and their trailers, and of systems, components and separate technical units intended for such vehicles (Framework Directive) (<sup>3</sup>). Therefore, Annexes IV, VI and XI to that Directive should be amended accordingly.

- (3) Following the request of the European Parliament, a new regulatory approach has been applied to EC vehicle legislation. This Regulation should therefore lay down only fundamental provisions on requirements for the type-approval of hydrogen systems and components, whereas the technical specifications should be laid down by implementing measures adopted in accordance with Council Decision 1999/468/EC of 28 June 1999 laying down the procedures for the exercise of implementing powers conferred on the Commission (<sup>4</sup>).
- (4) In particular, the Commission should be empowered to establish the requirements and test procedures relating to new forms of hydrogen storage or usage, additional hydrogen components and the propulsion system. The Commission should also be empowered to establish specific procedures, tests and requirements with regard to the impact protection of hydrogen-powered vehicles and integrated system safety requirements. Since those measures are of general scope and are designed to amend nonessential elements of this Regulation by supplementing it with new non-essential elements, they must be adopted in accordance with the regulatory procedure with scrutiny provided for in Article 5a of Decision 1999/468/EC.
- (5) In the transport sector, one of the main aims should be a greater proportion of more environmentally friendly vehicles. Additional efforts should be undertaken in order to place more of those vehicles on the market. The introduction of vehicles with alternative fuels can significantly improve the quality of urban air and consequently also the state of public health.
- (6) Hydrogen is considered as a clean way of powering vehicles for the future, on the way towards a pollution-free economy based on the reuse of raw materials and on renewable energy resources, as vehicles propelled with hydrogen emit neither carbon-based pollutants nor greenhouse gases. Since hydrogen is an energy vector and not an energy source, the climate-policy value of hydrogen power depends on the source from which the hydrogen is obtained. Care should therefore be taken that hydrogen fuel is produced in a sustainable manner, as far as possible from renewable energy resources, so that the overall environmental balance of introducing hydrogen as a fuel for motor vehicles is positive.

<sup>(1)</sup> Opinion delivered on 9 July 2008.

<sup>(2)</sup> Opinion of the European Parliament of 3 September 2008 (not yet published in the Official Journal) and Council Decision of 16 December 2008.

<sup>(&</sup>lt;sup>3</sup>) OJ L 263, 9.10.2007, p. 1.

<sup>(&</sup>lt;sup>4</sup>) OJ L 184, 17.7.1999, p. 23.

4.2.2009

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- (7)The CARS 21 High Level Group stated in its final report that 'efforts with a view to increasing international harmonisation of motor vehicle regulations should be maintained where appropriate, with a view to involve the key vehicle markets and to extend harmonisation to areas not yet covered, notably both in the framework of the 1958 and the 1998 Agreements of the UNECE'. In line with this recommendation, the Commission should continue to support the development of internationally harmonised requirements for motor vehicles under the auspices of UNECE. In particular, if a Global Technical Regulation (GTR) on hydrogen and fuel cell vehicles is adopted, the Commission should consider the possibility of adapting the requirements laid down in this Regulation to those established in the GTR.
- (8) Hydrogen mixtures could be used as a transition fuel towards the use of pure hydrogen, to facilitate the introduction of hydrogen-powered vehicles in Member States where the natural gas infrastructure is good. The Commission should therefore develop requirements for the use of mixtures of hydrogen and natural gas/biomethane, especially a mixing ratio of hydrogen and gas which takes account of technical feasibility and environmental benefits.
- (9) Defining the type-approval framework for hydrogenpowered vehicles would contribute to the confidence in the new technology of potential users and the public at large.
- (10) Therefore, it is necessary to create an adequate framework in order to accelerate the placing on the market of vehicles with innovative propulsion technologies and vehicles which use alternative fuels with a low environmental impact.
- (11) The majority of manufacturers are making important investments in the development of hydrogen technology and have already started to place such vehicles on the market. In the future, it is likely that the share of hydrogenpowered vehicles in the total fleet will increase. Therefore, the specification of common requirements concerning the safety of hydrogen-powered vehicles is necessary. As manufacturers might follow different approaches to the development of hydrogen-powered vehicles, it is necessary to establish safety requirements in a technology-neutral manner.
- (12) It is necessary to establish those safety requirements for the hydrogen systems and their components which are necessary in order to obtain type-approval.
- (13) For type-approval of hydrogen-powered vehicles, it is necessary to establish requirements for the installation of hydrogen systems and their components in the vehicle.

- (14) Owing to the characteristics of the fuel, hydrogen-powered vehicles may require a specific treatment from rescue services. It is therefore necessary to lay down requirements for the clear and rapid identification of such vehicles, allowing the rescue services to be informed of the fuel stored on board the vehicle. Whilst the means of identification should be fit for that purpose it should, as far as possible, avoid being of a nature that is likely to give rise to concern among the public.
- (15) It is also important to set out the obligations of manufacturers concerning the adoption of appropriate measures to prevent misfuelling of hydrogen-powered vehicles.
- (16) Hydrogen-powered vehicles are unlikely to be successful on the market unless adequate filling-station infrastructure is made available in Europe. The Commission should therefore look into suitable measures to support the establishment of a Europe-wide filling-station network for hydrogen-powered vehicles.
- (17) Innovative small vehicles, designated under EC typeapproval legislation as L category vehicles, are considered as early users of hydrogen as a fuel. Introducing hydrogen for these vehicles requires less effort, as the technical challenge and level of investment required is not as high as in the case of M and N category vehicles, as defined in Annex II to Directive 2007/46/EC. The Commission should, no later than 1 January 2010, evaluate the possibility of regulating the type-approval of hydrogen L category vehicles.
- (18) Since the objective of this Regulation, namely the achievement of the internal market through the introduction of common technical requirements concerning motor vehicles using hydrogen, cannot be sufficiently achieved by the Member States and can therefore, by reason of its scale, be better achieved at Community level, the Community may adopt measures, in accordance with the principle of subsidiarity, as set out in Article 5 of the Treaty. In accordance with the principle of proportionality, as set out in that Article, this Regulation does not go beyond what is necessary in order to achieve that objective,

HAVE ADOPTED THIS REGULATION:

#### Article 1

#### Subject matter

This Regulation establishes requirements for the type-approval of motor vehicles with regard to hydrogen propulsion and for the type-approval of hydrogen components and hydrogen systems. This Regulation also establishes requirements for the installation of such components and systems. L 35/34

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# Article 2 Scope

This Regulation shall apply to:

- hydrogen-powered vehicles of categories M and N, as defined in Section A of Annex II to Directive 2007/46/EC, including impact protection and the electric safety of such vehicles;
- 2. hydrogen components designed for motor vehicles of categories M and N, as listed in Annex I;
- 3. hydrogen systems designed for motor vehicles of categories M and N, including new forms of hydrogen storage or usage.

#### Article 3

#### Definitions

1. For the purposes of this Regulation, the following definitions shall apply:

- (a) 'hydrogen-powered vehicle' means any motor vehicle that uses hydrogen as fuel to propel the vehicle;
- (b) 'propulsion system' means the internal combustion engine or fuel cell system used to propel the vehicle;
- (c) 'hydrogen component' means the hydrogen container and all other parts of the hydrogen-powered vehicle that are in direct contact with hydrogen or which form part of a hydrogen system;
- (d) 'hydrogen system' means an assembly of hydrogen components and connecting parts fitted on hydrogen-powered vehicles, excluding the propulsion systems or auxiliary power units;
- (e) 'maximum allowable working pressure' (MAWP) means the maximum pressure to which a component is designed to be subjected to and which is the basis for determining the strength of the component under consideration;
- (f) 'nominal working pressure' (NWP) means, as regards containers, the settled pressure at a uniform temperature of 288K (15 °C) for a full container, or as regards other components, the pressure level at which a component typically operates;
- (g) 'inner tank' means the part of the hydrogen container designed to use liquid hydrogen that contains the cryogenic hydrogen.
- 2. For the purposes of paragraph 1(d), 'hydrogen systems' shall include, *inter alia*, the following:
- (a) usage monitoring and control systems;

- (b) vehicle interface systems;
- (c) excess flow systems;
- (d) overpressure protection systems;
- (e) heat exchanger failure detection systems.

#### Article 4

#### **Obligations of manufacturers**

1. Manufacturers shall demonstrate that all new hydrogenpowered vehicles sold, registered or put into service within the Community and all hydrogen components or hydrogen systems sold or put into service within the Community are type-approved in accordance with this Regulation and its implementing measures.

2. For the purposes of vehicle type-approval, manufacturers shall equip hydrogen-powered vehicles with hydrogen components and systems that comply with the requirements of this Regulation and its implementing measures and are installed in accordance with this Regulation and its implementing measures.

3. For the purposes of the type-approval of components and systems, manufacturers shall ensure that hydrogen components and systems comply with the requirements of this Regulation and its implementing measures.

4. Manufacturers shall provide the approval authorities with appropriate information concerning the vehicle specifications and test conditions.

5. Manufacturers shall provide information for the purposes of inspection of hydrogen components and systems during the service life of the vehicle.

#### Article 5

# General requirements for hydrogen components and systems

Manufacturers shall ensure that:

 (a) hydrogen components and systems function in a correct and safe way and reliably withstand electrical, mechanical, thermal and chemical operating conditions without leaking or visibly deforming;

(b) hydrogen systems are protected against over-pressurisation;

- (c) the materials used for those parts of the hydrogen components and systems which are to be in direct contact with hydrogen are compatible with hydrogen;
- (d) hydrogen components and systems reliably withstand expected temperatures and pressures during their expected lifetime;
- (e) hydrogen components and systems reliably withstand the range of operating temperatures laid down in the implementing measures;
- (f) hydrogen components are marked in accordance with the implementing measures;
- (g) hydrogen components with directional flow have the flow direction clearly indicated;
- (h) hydrogen components and systems are designed in such a way that they can be installed in accordance with the requirements of Annex VI.

#### Article 6

# Requirements for hydrogen containers designed to use liquid hydrogen

Hydrogen containers designed to use liquid hydrogen shall be tested in accordance with the test procedures set out in Annex II.

#### Article 7

# Requirements for hydrogen components, other than containers, designed to use liquid hydrogen

1. Hydrogen components, other than containers, designed to use liquid hydrogen shall be tested in accordance with the test procedures set out in Annex III with regard to their type.

2. Pressure relief devices shall be designed so as to ensure that the pressure in the inner tank or in any other hydrogen component does not exceed a permissible value. The values shall be set in proportion to the maximum allowable working pressure (MAWP) of the hydrogen system. A safety system for heat exchangers shall be provided for the detection of their failure.

#### Article 8

# Requirements for hydrogen containers designed to use compressed (gaseous) hydrogen

1. Hydrogen containers designed to use compressed (gaseous) hydrogen shall be classified in accordance with point 1 of Annex IV.

2. The containers referred to in paragraph 1 shall be tested in accordance with the test procedures set out in Annex IV with regard to their type.

3. A detailed description of all principal properties of the material and tolerances used in the design of the container shall be provided, including the results of tests to which the material has been subjected.

#### Article 9

## Requirements for hydrogen components, other than containers, designed to use compressed (gaseous) hydrogen

Hydrogen components, other than containers, designed to use compressed (gaseous) hydrogen shall be tested in accordance with the test procedures set out in Annex V with regard to their type.

#### Article 10

# General requirements for the installation of hydrogen components and systems

Hydrogen components and systems shall be installed in accordance with the requirements of Annex VI.

#### Article 11

#### Timetable for application

1. With effect from 24 February 2011, national authorities shall refuse to grant:

- (a) EC type-approval or national type-approval in respect of new types of vehicle on grounds relating to hydrogen propulsion, where such vehicle does not comply with the requirements of this Regulation or of its implementing measures; and
- (b) EC type-approval in respect of new types of hydrogen component or system, where such component or system does not comply with the requirements of this Regulation or of its implementing measures.

2. With effect from 24 February 2012, national authorities shall:

- (a) on grounds relating to hydrogen propulsion, consider certificates of conformity for new vehicles to be no longer valid for the purposes of Article 26 of Directive 2007/46/EC, and prohibit the registration, sale and entry into service of such vehicles, where such vehicles do not comply with the requirements of this Regulation or of its implementing measures; and
- (b) prohibit the sale and entry into service of new hydrogen components or systems, where such components or systems do not comply with the requirements of this Regulation or of its implementing measures.

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3. Without prejudice to paragraphs 1 and 2, and subject to the entry into force of implementing measures adopted pursuant to Article 12(1), if a manufacturer so requests, national authorities shall not:

- (a) on grounds relating to hydrogen propulsion, refuse to grant EC type-approval or national type-approval for new types of vehicle, or EC type-approval for new types of hydrogen component or system, where such vehicle, component or system complies with the requirements of this Regulation and its implementing measures; or
- (b) prohibit the registration, sale and entry into service of new vehicles or the sale and entry into service of new hydrogen components or systems, where such vehicles, components or systems comply with the requirements of this Regulation and its implementing measures.

# Article 12

# Implementing measures

1. The Commission shall adopt the following implementing measures:

- (a) administrative provisions for the EC type-approval of vehicles, with regard to hydrogen propulsion, and hydrogen components and systems;
- (b) rules on the information to be provided by manufacturers for the purposes of the type-approval and inspection referred to in Article 4(4) and (5);
- (c) detailed rules for the test procedures set out in Annexes II to V;
- (d) detailed rules concerning the requirements for the installation of hydrogen components and systems set out in Annex VI;
- (e) detailed rules concerning the requirements for the safe and reliable functioning of hydrogen components and systems set out in Article 5;
- (f) detailed rules for the labelling or other means of clear and rapid identification of hydrogen-powered vehicles referred to in point 16 of Annex VI.

Those measures, designed to amend non-essential elements of this Regulation by supplementing it, shall be adopted in accordance with the regulatory procedure with scrutiny referred to in Article 13(2).

2. The Commission may adopt the following implementing measures:

- (a) specifications for requirements relating to any of the following:
  - the use of pure hydrogen or a mixture of hydrogen and natural gas/biomethane,
  - new forms of hydrogen storage or usage,
  - the impact protection of vehicles with regard to the integrity of hydrogen components and systems,
  - integrated system safety requirements, covering at least the detection of leakage and requirements relating to purge gas,
  - electrical isolation and electric safety;
- (b) other measures necessary for the application of this Regulation.

Those measures, designed to amend non-essential elements of this Regulation by supplementing it, shall be adopted in accordance with the regulatory procedure with scrutiny referred to in Article 13(2).

### Article 13

# **Committee procedure**

1. The Commission shall be assisted by the Technical Committee — Motor Vehicles (TCMV) established by Article 40(1) of Directive 2007/46/EC.

2. Where reference is made to this paragraph, Article 5a(1) to (4) and Article 7 of Decision 1999/468/EC shall apply, having regard to the provisions of Article 8 thereof.

# Article 14

### Amendments to Directive 2007/46/EC

Annexes IV, VI and XI to Directive 2007/46/EC shall be amended in accordance with Annex VII to this Regulation.

# Article 15

# Penalties for non-compliance

1. Member States shall lay down the provisions on penalties applicable for infringement by manufacturers of the provisions of this Regulation and its implementing measures and shall take all measures necessary to ensure that they are implemented. The penalties provided for shall be effective, proportionate and dissuasive. By 24 August 2010, Member States shall notify those provisions to the Commission, and shall notify it without delay of any subsequent amendment affecting them.

2. The types of infringement which are subject to a penalty shall include at least the following:

- (a) making false declarations during an approval procedure or a procedure leading to a recall;
- (b) falsifying test results for type-approval or in-use compliance;
- (c) withholding data or technical specifications which could lead to recall or withdrawal of type-approval;
- (d) refusal to provide access to information;

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(e) use of defeat devices.

# Article 16

# Entry into force

This Regulation shall enter into force on the 20th day following its publication in the *Official Journal of the European Union*.

It shall apply from 24 February 2011, with the exception of Article 11(3) and Article 12, which shall apply from the date of entry into force of this Regulation, and Article 11(2), which shall apply from the date set out therein.

This Regulation shall be binding in its entirety and directly applicable in all Member States.

Done at Strasbourg, 14 January 2009.

For the European Parliament The President H.-G. PÖTTERING For the Council The President A. VONDRA

### ANNEX I

# List of hydrogen components to be type-approved

Where fitted to a hydrogen-powered vehicle, the following hydrogen components must be type-approved:

- (a) components designed to use liquid hydrogen:
  - 1. container;
  - 2. automatic shut-off valve;
  - 3. check valve or non-return valve (if used as a safety device);
  - 4. flexible fuel line (if upstream of first automatic shut-off valve or other safety devices);
  - 5. heat exchanger;
  - 6. manual or automatic valve;
  - 7. pressure regulator;
  - 8. pressure relief valve;
  - 9. pressure, temperature and flow sensors (if used as a safety device);
  - 10. refuelling connection or receptacle;
  - 11. hydrogen leakage detection sensors;
- (b) components designed to use compressed (gaseous) hydrogen with a nominal working pressure of over 3,0 MPa:
  - 1. container;
  - 2. automatic shut-off valve;
  - 3. container assembly;
  - 4. fittings;
  - 5. flexible fuel line;
  - 6. heat exchanger;
  - 7. hydrogen filter;
  - 8. manual or automatic valve;
  - 9. non-return valve;
  - 10. pressure regulator;
  - 11. pressure relief device;
  - 12. pressure relief valve;
  - 13. refuelling connection or receptacle;
  - 14. removable storage system connector;
  - 15. pressure, temperature, hydrogen and flow sensors (if used as a safety device);
  - 16. hydrogen leakage detection sensors.

# ANNEX II

### Applicable test procedures for hydrogen containers designed to use liquid hydrogen

| Type of test               |  |  |  |  |  |
|----------------------------|--|--|--|--|--|
| Burst test                 |  |  |  |  |  |
| Bonfire test               |  |  |  |  |  |
| Maximum filling level test |  |  |  |  |  |
| Pressure test              |  |  |  |  |  |
| Leak test                  |  |  |  |  |  |

The test procedures to be applied for the type-approval of hydrogen containers designed to use liquid hydrogen must include:

- (a) Burst test: the purpose of the test is to provide evidence that the hydrogen container does not fail before a specified level of high pressure, the burst pressure (safety factor multiplied by the MAWP) is exceeded. In order to obtain type-approval, the value of the real burst pressure during the test must exceed the required minimum burst pressure.
- (b) Bonfire test: the purpose of the test is to provide evidence that the container with its fire protection system does not burst when tested under specified fire conditions.
- (c) Maximum filling level test: the purpose of the test is to provide evidence that the system, which prevents overfilling of the container, works adequately and that the level of hydrogen during the filling procedure never causes the opening of the pressure relief devices.
- (d) Pressure test: the purpose of the test is to provide evidence that the hydrogen container can withstand a specified level of high pressure. In order to prove this, the container is pressurised to a given value for a specified time. After the test the container must not show any signs of visible permanent deformation or visible leaks.
- (e) Leak test: the purpose of the test is to provide evidence that the hydrogen container does not show evidence of leakage under specified conditions. In order to prove this, the container is pressurised to its nominal working pressure. It must not show any evidence of leakage detected through cracks, pores or other similar defects.

### ANNEX III

|                                       |               | TYPE OF TEST             |                   |                     |                              |                                |                      |                           |                        |                                   |                  |  |
|---------------------------------------|---------------|--------------------------|-------------------|---------------------|------------------------------|--------------------------------|----------------------|---------------------------|------------------------|-----------------------------------|------------------|--|
| HYDROGEN COMPONENT                    | Pressure test | External<br>leakage test | Endurance<br>test | Operational<br>test | Corrosion<br>resistance test | Resistance to<br>dry-heat test | Ozone ageing<br>test | Temperature<br>cycle test | Pressure cycle<br>test | Hydrogen<br>compatibility<br>test | Seat leakage tes |  |
| Pressure relief devices               | ✓             | $\checkmark$             |                   | ~                   | ~                            |                                |                      | $\checkmark$              |                        | ~                                 |                  |  |
| Valves                                | ✓             | ✓                        | ~                 |                     | ~                            | ~                              | ✓                    | ✓                         |                        | ~                                 | ✓                |  |
| Heat exchangers                       | ✓             | ✓                        |                   |                     | ~                            | ~                              | ~                    | ✓                         |                        | ~                                 |                  |  |
| Refuelling connections or receptacles | ✓             | ~                        | ~                 |                     | ~                            | ~                              | ~                    | ~                         |                        | ~                                 | ~                |  |
| Pressure regulators                   | ✓             | ✓                        | ~                 |                     | ~                            | ~                              | ~                    | ✓                         |                        | ~                                 | ✓                |  |
| Sensors                               | ✓             | ✓                        |                   |                     | ~                            | ~                              | ✓                    | ✓                         |                        | ~                                 |                  |  |
| Flexible fuel lines                   | ✓             | $\checkmark$             |                   |                     | ✓                            | <b>√</b>                       | $\checkmark$         | ✓                         | ✓                      | 1                                 |                  |  |

# Applicable test procedures for hydrogen components, other than containers, designed to use liquid hydrogen

Subject to specific requirements in relation to any of the hydrogen components, the test procedures to be applied for the type-approval of hydrogen components, other than containers, designed to use liquid hydrogen must include:

- (a) Pressure test: the purpose of the test is to provide evidence that the hydrogen components can withstand a level of pressure which is higher than the working pressure of the component. The hydrogen components must not show any visible evidence of leak, deformation, rupture or cracks when the pressure is increased to a certain level.
- (b) External leakage test: the purpose of the test is to provide evidence that the hydrogen components are free from external leakage. The hydrogen components must not show evidence of porosity.
- (c) Endurance test: the purpose of the test is to provide evidence that the hydrogen components are capable of continuous reliable operation. The test consists of carrying out a specific number of test cycles for the hydrogen component under specified temperature and pressure conditions. A test cycle means the normal operation (i.e. one opening and one closing) of the hydrogen component.
- (d) Operational test: the purpose of the test is to provide evidence that the hydrogen components are capable of operating reliably.
- (e) Corrosion resistance test: the purpose of the test is to provide evidence that the hydrogen components are capable of resisting corrosion. In order to prove this, the hydrogen components are submitted to contact with specified chemicals.
- (f) Resistance to dry-heat test: the purpose of the test is to provide evidence that the non-metallic hydrogen components are capable of resisting high temperature. In order to prove this, the components are exposed to air at the maximum operating temperature.
- (g) Ozone ageing test: the purpose of the test is to provide evidence that the non-metallic hydrogen components are capable of resisting ageing due to ozone. In order to prove this, the components are exposed to air with high ozone concentration.

- (h) Temperature cycle test: the purpose of the test is to provide evidence that the hydrogen components are capable of resisting high variations of temperature. In order to prove this, the hydrogen components are submitted to a temperature cycle of specified duration from the minimum operating temperature up to the maximum operating temperature.
- (i) Pressure cycle test: the purpose of the test is to provide evidence that the hydrogen components are capable of resisting high variations of pressure. In order to prove this, the hydrogen components are submitted to a pressure change from atmospheric pressure to the maximum allowable working pressure (MAWP) and then back to atmospheric pressure within a short period of time.
- (j) Hydrogen compatibility test: the purpose of the test is to provide evidence that metallic hydrogen components (i.e. cylinders and valves) are not susceptible to hydrogen embrittlement. In hydrogen components that are subjected to frequent load cycles, conditions that can lead to local fatigue and the initiation and propagation of fatigue cracks in the structure must be avoided.
- (k) Seat leakage test: the purpose of the test is to provide evidence that hydrogen components are free from leakage while installed in the hydrogen system.

4.2.2009

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# ANNEX IV

### Applicable test procedures for hydrogen containers designed to use compressed (gaseous) hydrogen

|   |   | Applicable to | o container type |              |
|---|---|---------------|------------------|--------------|
| Type of test                            | 1 | 2             | 3                | 4            |
| Burst test                              | ✓ | ✓             | ✓                | $\checkmark$ |
| Ambient temperature pressure cycle test | ✓ | ✓             | ✓                | $\checkmark$ |
| LBB performance test                    | ✓ | ✓             | ✓                | $\checkmark$ |
| Bonfire test                            | ✓ | ✓             | ✓                | $\checkmark$ |
| Penetration test                        | ✓ | ~             | ✓                | $\checkmark$ |
| Chemical exposure test                  |   | ✓             | $\checkmark$     | $\checkmark$ |
| Composite flaw tolerance test           |   | ✓             | ✓                | $\checkmark$ |
| Accelerated stress rupture test         |   | ✓             | ✓                | $\checkmark$ |
| Extreme temperature pressure cycle test |   | ✓             | ✓                | $\checkmark$ |
| Impact damage test                      |   |               | ✓                | $\checkmark$ |
| Leak test                               |   |               |                  | ✓            |
| Permeation test                         |   |               |                  | $\checkmark$ |
| Boss torque test                        |   |               |                  | $\checkmark$ |
| Hydrogen gas cycle test                 |   |               |                  | ✓            |

1. Classification of hydrogen containers designed to use compressed (gaseous) hydrogen:

Type 1 Seamless metallic container

Type 2 Hoop wrapped container with a seamless metallic liner

Type 3 Fully wrapped container with a seamless or welded metallic liner

Type 4 Fully wrapped container with a non-metallic liner.

- 2. The test procedures to be applied for the type-approval of hydrogen containers designed to use compressed (gaseous) hydrogen must include:
  - (a) Burst test: the purpose of the test is to provide the value of the pressure at which the container bursts. In order to prove this, the container is pressurised to a given value, which must be higher than the nominal working pressure of the container. The burst pressure of the container must exceed a specified pressure. The burst pressure of the container must be recorded and be kept by the manufacturer throughout the service life of the container.
  - (b) Ambient temperature pressure cycle test: the purpose of the test is to provide evidence that the hydrogen container is capable of resisting high variations of pressure. In order to prove this, pressure cycles are carried out on the container until a failure occurs or until a specified number of cycles is reached by increasing and decreasing the pressure to a specified value. The containers must not fail before reaching a specified number of cycles. The number of cycles to failure, along with the location and description of the failure, must be documented. The manufacturer must keep the results throughout the service life of the container.
  - (c) Leak before break (LBB) performance test: the purpose of the test is to provide evidence that the hydrogen container fails by leakage before rupture. In order to prove this, pressure cycles are carried out on the container by increasing and decreasing the pressure to a specified value. The containers tested must either fail by leakage or exceed a specified number of test cycles without failure. The number of cycles to failure, along with the location and description of the failure, must be recorded.
  - (d) Bonfire test: the purpose of the test is to provide evidence that the container with its fire protection system does not burst when tested under specified fire conditions. The container, pressurised to working pressure, must only vent through the pressure relief device and must not rupture.

- (e) Penetration test: the purpose of the test is to provide evidence that the container does not rupture when penetrated by a bullet. In order to prove this, the complete container with its protective coating is pressurised and penetrated by a bullet. The container must not rupture.
- (f) Chemical exposure test: the purpose of the test is to provide evidence that the container can withstand exposure to specified chemical substances. In order to prove this, the container is exposed to various chemical solutions. The pressure of the container is increased to a given value and a burst test as referred to under point (a) is carried out. The container must achieve a specified burst pressure, which must be recorded.
- (g) Composite flaw tolerance test: the purpose of the test is to provide evidence that the hydrogen container is capable of resisting exposure to high pressure. In order to prove this, flaws of specified geometry are cut into the container sidewall and a specified number of pressure cycles carried out. The container must not leak or rupture within a number of cycles, but may fail by leakage during the remaining test cycles. The number of cycles to failure, along with the location and description of the failure, must be recorded.
- (h) Accelerated stress rupture test: the purpose of the test is to provide evidence that the hydrogen container is capable of resisting exposure to high pressure and high temperatures at the limit of the allowable operating range for an extended period of time. In order to prove this, the container is exposed for a specified time to specified pressure and temperature conditions, and subsequently undergoes a burst test as referred to under point (a). The container must achieve a specified burst pressure.
- (i) Extreme temperature pressure cycle test: the purpose of the test is to provide evidence that the hydrogen container can withstand variations of pressure under different temperature conditions. In order to prove this, the container, free of any protective coating, is hydrostatically cycle tested by being subjected to extreme ambient conditions, and subsequently undergoes a burst test and a leak test as referred to under points (a) and (k). When cycle tested, the containers must not show evidence of rupture, leakage or fibre unravelling. The containers must not burst at a specified pressure.
- (j) Impact damage test: the purpose of the test is to provide evidence that the hydrogen container remains operational after being submitted to the specified mechanical impacts. In order to prove this, the container is subjected to a drop test, and a specified number of pressure cycles are carried out. The container must not leak or rupture within a specified number of cycles, but may fail by leakage during the remaining test cycles.
- (k) Leak test: the purpose of the test is to provide evidence that the hydrogen container does not show evidence of leakage under the specified conditions. In order to prove this, the container is pressurised to its nominal working pressure. It must not show any evidence of leakage detected through cracks, pores or similar defects.
- (I) Permeation test: the purpose of the test is to provide evidence that the hydrogen container does not permeate more than a specified rate. In order to prove this, the container is pressurised with hydrogen gas to nominal working pressure and then monitored for permeation in a closed chamber for a specified time under specified temperature conditions.
- (m) Boss torque test: the purpose of the test is to provide evidence that the hydrogen container is capable of resisting the specified torque. In order to prove this, a torque is applied to the container from different directions. Then a burst test and a leak test as referred to under points (a) and (k) are carried out. The container must meet the burst and leak test requirements. The applied torque, leakage and burst pressure must be recorded.
- (n) Hydrogen gas cycle test: the purpose of the test is to provide evidence that the hydrogen container is capable of resisting high variations of pressure when hydrogen gas is used. In order to prove this, the container is subjected to a number of pressure cycles with the use of hydrogen gas and a leak test as referred to under point (k). Deteriorations, such as fatigue cracking or electrostatic discharge of the container, are inspected. The container must meet leak test requirements. The container must be free of any deterioration, such as fatigue cracking or electrostatic discharge.

### ANNEX V

# Applicable test procedures for hydrogen components, other than containers, designed to use compressed (gaseous) hydrogen

|  |                   |                                 | TYPE              | OF TEST                |                          |                          |
|--|-------------------|---------------------------------|-------------------|------------------------|--------------------------|--------------------------|
| HYDROGEN COMPONENT                       | Material<br>tests | Corrosion<br>resistance<br>test | Endurance<br>test | Pressure<br>cycle test | Internal<br>leakage test | External<br>leakage test |
| Pressure relief devices                  | ~                 | ✓                               | ✓                 | ✓                      | ✓                        | $\checkmark$             |
| Automatic valves                         | ~                 | ✓                               | ✓                 | ✓                      | ✓                        | ✓                        |
| Manual valves                            | ✓                 | ✓                               | ✓                 | ✓                      | ✓                        | $\checkmark$             |
| Non-return valves                        | ~                 | ✓                               | ✓                 | ✓                      | $\checkmark$             | $\checkmark$             |
| Pressure relief valves                   | ~                 | ~                               | ✓                 | ~                      | $\checkmark$             | $\checkmark$             |
| Heat exchangers                          | ~                 | ✓                               |                   | ~                      |                          | $\checkmark$             |
| Refuelling connections<br>or receptacles | ✓                 | ✓                               | ~                 | ~                      | ~                        | ✓                        |
| Pressure regulators                      | ~                 | ~                               | ✓                 | ~                      | $\checkmark$             | $\checkmark$             |
| Sensors for hydrogen systems             | ~                 | ~                               | ✓                 | ~                      |                          | $\checkmark$             |
| Flexible fuel lines                      | ~                 | ~                               | ✓                 | ~                      |                          | $\checkmark$             |
| Fittings                                 | ~                 | ~                               | ✓                 | ✓                      |                          | $\checkmark$             |
| Hydrogen filters                         | ~                 | ✓                               |                   | ~                      |                          | $\checkmark$             |
| Removable storage system con-<br>nectors | $\checkmark$      | $\checkmark$                    | ~                 | ~                      |                          | $\checkmark$             |

Subject to specific requirements for any of the hydrogen components, the test procedures to be applied for the type-approval of hydrogen components, other than containers, designed to use compressed (gaseous) hydrogen must include:

### 1. Material tests:

- 1.1. Hydrogen compatibility test set out in point (j) of Annex III.
- 1.2. Ageing test: the purpose of the test is to check whether the non-metallic material used in a hydrogen component can withstand ageing. No visible cracking of the test samples is allowed.
- 1.3. Ozone compatibility test: the purpose of the test is to check whether the elastomer material of a hydrogen component is compatible with ozone exposure. No visible cracking of the test samples is allowed.
- 2. Corrosion resistance test set out in point (e) of Annex III.
- 3. Endurance test set out in point (c) of Annex III.
- 4. Pressure cycle test set out in point (i) of Annex III. The hydrogen components must not show visible signs of deformation or extrusion and must fulfil the requirements of the internal and external leakage tests.
- 5. Internal leakage test: the purpose of the test is to provide evidence that the specified hydrogen components are free from internal leakage. In order to prove this, the hydrogen components are pressurised under different temperature conditions and observed for leakage. The hydrogen components must stay bubble free and must not leak internally at a higher rate than a specified number.
- 6. External leakage test set out in point (b) of Annex III.

### ANNEX VI

### Requirements for the installation of hydrogen components and systems

1. The hydrogen system must be installed in such a way that it is protected against damage.

It must be isolated from heat sources in the vehicle.

2. The hydrogen container may only be removed for replacement with another hydrogen container, for the purpose of refuelling or for maintenance.

In the case of an internal combustion engine, the container must not be installed in the engine compartment of the vehicle.

It must be adequately protected against all kinds of corrosion.

- 3. Measures must be taken to prevent misfuelling of the vehicle and hydrogen leakage during refilling and to make sure that the removal of a removable hydrogen storage system is done safely.
- 4. The refuelling connection or receptacle must be secured against maladjustment and protected from dirt and water. The refuelling connection or receptacle must be integrated with a non-return valve or a valve with the same function. If the refuelling connection is not mounted directly on the container, the refuelling line must be secured by a non-return valve or a valve with the same function which is mounted directly on or within the container.
- 5. The hydrogen container must be mounted and fixed so that the specified accelerations can be absorbed without damage to the safety related parts when the hydrogen containers are full.
- 6. The hydrogen fuel supply lines must be secured with an automatic shut-off valve mounted directly on or within the container. The valve shall close if a malfunction of the hydrogen system so requires or any other event that results in the leakage of hydrogen occurs. When the propulsion system is switched off, the fuel supply from the container to the propulsion system must be switched off and remain closed until the system is required to operate.
- 7. In the event of an accident, the automatic shut-off valve mounted directly on or within the container shall interrupt the flow of gas from the container.
- 8. Hydrogen components, including any protective materials that form part of such components, must not project beyond the outline of the vehicle or protective structure. This does not apply to a hydrogen component which is adequately protected and no part of which is located outside this protective structure.
- 9. The hydrogen system must be installed in such a way that it is protected against damage so far as is reasonably practicable, such as damage due to moving vehicle components, impacts, grit, the loading or unloading of the vehicle or the shifting of loads.
- 10. Hydrogen components must not be located near the exhaust of an internal combustion engine or other heat source, unless such components are adequately shielded against heat.
- 11. The ventilating or heating system for the passenger compartment and places where leakage or accumulation of hydrogen is possible must be designed so that hydrogen is not drawn into the vehicle.
- 12. In the event of an accident, it must be ensured so far as is reasonably practicable that the pressure relief device and the associated venting system remain capable of functioning. The venting system of the pressure relief device must be adequately protected against dirt and water.
- 13. The passenger compartment of the vehicle must be separated from the hydrogen system in order to avoid accumulation of hydrogen. It must be ensured that any fuel leaking from the container or its accessories does not escape to the passenger compartment of the vehicle.
- 14. Hydrogen components that could leak hydrogen within the passenger or luggage compartment or other non-ventilated compartment must be enclosed by a gas-tight housing or by an equivalent solution as specified in the implementing measures.
- 15. Electrically operated devices containing hydrogen must be insulated in such a manner that no current passes through hydrogen containing parts in order to prevent electric sparks in the case of a fracture.

Metallic components of the hydrogen system must have electrical continuity with the vehicle's earth.

16. Labels or other means of identification must be used to indicate to rescue services that the vehicle is powered by hydrogen and that liquid or compressed (gaseous) hydrogen is used.

# ANNEX VII

# Amendments to Directive 2007/46/EC

Directive 2007/46/EC is hereby amended as follows:

1. In Part I of Annex IV, the following row shall be added to the table:

| Item 5 | Subject         | Regulatory act<br>reference   | Official Journal         | Applicability |                |       |       |       |       |       |    |    |                |
|--------|-----------------|-------------------------------|--------------------------|---------------|----------------|-------|-------|-------|-------|-------|----|----|----------------|
|        | Subject         |                               | reference                | $M_1$         | M <sub>2</sub> | $M_3$ | $N_1$ | $N_2$ | $N_3$ | $O_1$ | 02 | 03 | 0 <sub>4</sub> |
| ·62    | Hydrogen system | Regulation (EC)<br>No 79/2009 | L 35, 4.2.2009,<br>p. 32 | Х             | Х              | Х     | Х     | Х     | X'    |       |    |    |                |

2. In the Appendix to Part I of Annex IV, the following row shall be added to the table:

|     | Subject         | Regulatory act reference   | Official Journal reference | M <sub>1</sub> |
|-----|-----------------|----------------------------|----------------------------|----------------|
| ·62 | Hydrogen system | Regulation (EC) No 79/2009 | L 35, 4.2.2009, p. 32      | X'             |

3. In the Appendix to Annex VI, the following row shall be added to the table:

|      | Subject                                     | Regulatory act reference (1) | As amended by | Applicable to versions |
|------|---|------------------------------|---------------|------------------------|
| ·62. | Hydrogen system Regulation (EC) No 79/2009' |                              |               |                        |

4. In Appendix 1 to Annex XI, the following row shall be added to the table:

| Item | Subject                                       | Regulatory act reference | $M_1 \le 2500$ ( <sup>1</sup> ) kg | M <sub>1</sub> > 2 500 ( <sup>1</sup> ) kg | M <sub>2</sub> | M <sub>3</sub> |
|------|---|--------------------------|------------------------------------|--|----------------|----------------|
| ·62  | Hydrogen system Regulation (EC)<br>No 79/2009 |                          | Q                                  | G + Q                                      | G + Q          | G + Q'         |

5. In Appendix 2 to Annex XI, the following row shall be added to the table:

| Item | Subject         | Regulatory act reference      | M <sub>1</sub> | M <sub>2</sub> | M <sub>3</sub> | $N_1$ | $N_2$ | N <sub>3</sub> | $O_1$ | 02 | 03 | 0 <sub>4</sub> |
|------|-----------------|-------------------------------|----------------|----------------|----------------|-------|-------|----------------|-------|----|----|----------------|
| ·62  | Hydrogen system | Regulation (EC)<br>No 79/2009 | А              | А              | А              | А     | А     | A'             |       |    |    |                |

6. In Appendix 3 to Annex XI, the following row shall be added to the table:

| Item | Subject         | Regulatory act reference   | $M_1$ |
|------|-----------------|----------------------------|-------|
| ·62  | Hydrogen system | Regulation (EC) No 79/2009 | X'    |

7. In Appendix 4 to Annex XI, the following row shall be added to the table:

| Item | Subject         | Regulatory act reference      | $M_2$ | M <sub>3</sub> | $N_1$ | $N_2$ | $N_3$ | $O_1$ | 02 | 03 | 0 <sub>4</sub> |
|------|-----------------|-------------------------------|-------|----------------|-------|-------|-------|-------|----|----|----------------|
| ·62  | Hydrogen system | Regulation (EC)<br>No 79/2009 | Q     | Q              | Q     | Q     | Q'    |       |    |    |                |

8. In Appendix 5 to Annex XI, the following row shall be added to the table:

| Item | Subject         | Regulatory act reference   | Mobile crane of category N <sub>3</sub> |
|------|-----------------|----------------------------|---|
| ·62  | Hydrogen system | Regulation (EC) No 79/2009 | Χ'                                      |

# REGULATION (EC) No 80/2009 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 14 January 2009 on a Code of Conduct for computerised reservation systems and repealing Council Regulation (EEC) No 2299/89 (Text with EEA relevance) THE EUROPEAN PARLIAMENT AND THE COUNCIL OF THE EURO-The refusal by parent carriers to provide the same infor-(5)mation on schedules, fares and availability to systems other than their own and to accept bookings made by those systems can seriously distort competition between CRSs. (6)It is necessary to maintain effective competition between participating carriers and parent carriers and ensure respect for the principle of non-discrimination among air carriers irrespective of their participation in the CRS. (7) In order to ensure transparent and comparable terms of competition in the market, parent carriers should be subject to specific rules. (8) System vendors should clearly separate the CRSs from any airline's internal or any other kind of reservation system and should refrain from reserving distribution facilities to their parent carriers, in order to avoid that a parent carrier could have privileged access to the CRSs. Council Regulation (EEC) No 2299/89 of 24 July 1989 on (9) In order to protect consumers' interests, it is necessary to present an unbiased initial display to users of a CRS and to ensure that information on all participating carriers is equally accessible in order not to favour one participating carrier over another. (10)The use of an unbiased display increases the transparency of transport products and services offered by participating carriers and enhances consumer confidence. System vendors should ensure that CRS marketing data is (11)available to all participating carriers without discrimination, and transport providers should not be able to use such data in order to unduly influence the choice of the In the present market context it remains necessary nonetravel agent or the choice of the consumer.

- (12)Agreements between subscribers and the system vendor on the Marketing Information Data Tapes (MIDT) could include a compensation scheme in favour of subscribers.
- (13)The provision of information on rail and rail-air services on the CRS displays should be facilitated.

PEAN UNION.

Having regard to the Treaty establishing the European Community, and in particular Articles 71 and 80(2) thereof,

Having regard to the proposal from the Commission,

Having regard to the opinion of the European Economic and Social Committee (1),

After consulting the Committee of the Regions,

Having regard to the opinion of the European Data Protection Supervisor (2),

Acting in accordance with the procedure laid down in Article 251 of the Treaty (3),

Whereas:

- (1)a code of conduct for computerised reservation systems (<sup>4</sup>) has made a major contribution to ensuring fair and unbiased conditions for air carriers in a computerised reservation system (hereinafter CRS), thereby protecting the interests of consumers.
- (2) An important share of airline reservations is still made through CRSs.
- (3) Technological and market developments allow for a substantial simplification of the legislative framework by giving more flexibility to system vendors and air carriers to negotiate booking fees and fare content. This should allow them to adapt in a flexible way to the needs and requests of travel agents and consumers and to distribute more efficiently their transport products.
- (4) theless to maintain certain provisions on CRSs, in so far as they contain transport products, in order to prevent abuse of competition and to ensure the supply of neutral information to consumers.

<sup>(1)</sup> OJ C 224, 30.8.2008, p. 57.

<sup>(&</sup>lt;sup>2</sup>) OJ C 233, 11.9.2008, p. 1.

<sup>(3)</sup> Opinion of the European Parliament of 4 September 2008 (not yet published in the Official Journal) and Council Decision of 16 December 2008

<sup>(&</sup>lt;sup>4</sup>) OJ L 220, 29.7.1989, p. 1.

- (14) According to Regulation (EC) No 1008/2008 of the European Parliament and of the Council of 24 September 2008 on common rules for the operation of air services in the Community (recast) (<sup>1</sup>), air carriers must publish their fares inclusive of all applicable taxes, and charges, surcharges and fees which are unavoidable and foreseeable. CRS displays should provide information on fares inclusive of the same price categories to ensure that travel agents can communicate that information to their clients.
- (15) Information on bus services for air-transport products or rail-transport products incorporated alongside air transport products should, in the future, be featured in the principal display of CRSs.
- (16) CRSs should be encouraged to provide, in the future, easily understandable information about  $CO_2$  emissions and the fuel consumption of the flight. This could be shown through average fuel consumption data per person in litre/100 km and average  $CO_2$  emissions per person in g/km, and could be compared with data of the best alternative train/bus connection for journeys of less than five hours.
- (17) Air carriers from the Community and from third countries should be afforded equivalent treatment with regard to CRS services.
- (18) In order to ensure the correct application of this Regulation, the Commission should have appropriate enforcement powers, including the possibility to investigate infringements, whether on its own initiative or on the basis of a complaint, to order the undertakings concerned to bring such infringements to an end, and to impose fines.
- (19) The Commission should regularly monitor the application of this Regulation and in particular its effectiveness in preventing anti-competitive and discriminatory practices in the market for distribution of travel services through CRSs, notably given the presence of carriers with close links to system vendors.
- (20) This Regulation is without prejudice to the application of Articles 81 and 82 of the Treaty. This Regulation is complementary to general rules on competition which remain fully applicable to abuse of competition such as antitrust violations or abuses of a dominant position.
- (21) The protection of individuals with regard to the processing of personal data is governed by Directive 95/46/EC of the European Parliament and of the Council of 24 October 1995 on the protection of individuals with regard to the processing of personal data and on the free movement of such data (<sup>2</sup>). The provisions of this Regulation particularise and complement Directive 95/46/EC with regard to the activities of a CRS.

(22) Regulation (EEC) No 2299/89 should be repealed,

HAVE ADOPTED THIS REGULATION:

#### SECTION 1

### INTRODUCTORY PROVISIONS

#### Article 1

### Subject matter and scope

This Regulation shall apply to any computerised reservation system (CRS), in so far as it contains air-transport products, when offered for use or used in the Community.

This Regulation shall also apply to rail-transport products, which are incorporated alongside air-transport products into the principal display of a CRS when offered for use or used in the Community.

### Article 2

# Definitions

For the purposes of this Regulation, the following definitions shall apply:

- 1. 'transport product' means the carriage of a passenger between two airports or rail stations;
- 2. 'scheduled air service' means a series of flights possessing all the following characteristics:
  - (a) on each flight seats and/or capacity to transport cargo and/or mail are available for individual purchase by the public (either directly from the air carrier or from its authorised agents);
  - (b) it is operated so as to serve traffic between the same two or more airports, either:
    - according to a published timetable, or,
    - with flights so regular or frequent that they constitute a recognisably systematic series;
- 'fares' means the prices to be paid by passengers to air carriers, rail-transport operators, their agents or other ticket sellers for the carriage of those passengers on transport services and any conditions under which those prices apply, including remuneration and conditions offered to agency and other auxiliary services;

<sup>(1)</sup> OJ L 293, 31.10.2008, p. 3.

<sup>(&</sup>lt;sup>2</sup>) OJ L 281, 23.11.1995, p. 31.

- 4. 'computerised reservation system' or 'CRS' means a computerised system containing information about, *inter alia*, schedules, availability and fares, of more than one air carrier, with or without facilities to make reservations or issue tickets, to the extent that some or all of these services are made available to subscribers;
- 5. 'system vendor' means any entity and its affiliates which is or are responsible for the operation or marketing of a CRS;
- 'distribution facilities' means facilities provided by a system vendor for the provision of information about air carriers' and rail-transport operators' schedules, availability, fares and related services and for making reservations and/or issuing tickets, and for any other related services;
- 7. 'parent carrier' means any air carrier or rail-transport operator which directly or indirectly, alone or jointly with others, controls, or participates in the capital with rights or representation on the board of directors, supervisory board or any other governing body of, a system vendor, as well as any air carrier or rail-transport operator which it controls;
- 8. 'participation in the capital with rights or representation on the board of directors, supervisory board or any other governing body of a system vendor' means an investment to which are attached rights or representation on the board of directors, supervisory board or any other governing body of a system vendor, and conferring the possibility of exercising, alone or jointly with others, decisive influence on the running of the business of the system vendor;
- 9. 'control' means a relationship constituted by rights, contracts or any other means which, either separately or in combination and having regard to the considerations of fact or law involved, confer the possibility of exercising decisive influence on an undertaking, in particular by:
  - (a) ownership or the right to use all or part of the assets of an undertaking;
  - (b) rights or contracts which confer a decisive influence on the composition, voting or decisions of the organs of an undertaking;
- 10. 'participating carrier' means an air carrier or rail-transport operator which has an agreement with a system vendor for the distribution of transport products through a CRS;

- 11. 'subscriber' means a person or an undertaking, other than a participating carrier, using a CRS under contract with a system vendor with the purpose of making reservations of airtransport and related products on behalf of a client;
- 'principal display' means a comprehensive neutral display of data concerning transport services between city-pairs, within a specified time period;
- 13. 'ticket' means a valid document giving entitlement to transport, or an equivalent in paperless form, issued or authorised by the air carrier, rail-transport operator or an authorised agent;
- 14. 'bundled product' means a prearranged combination of transport with other services not ancillary to transport and offered at an inclusive price;
- 15. 'booking fee' means the price to be paid by air carriers to system vendors for the services provided by the CRS.

# SECTION 2

### RULES OF CONDUCT FOR SYSTEM VENDORS

### Article 3

### Relationship with transport providers

- 1. A system vendor shall not:
- (a) attach unfair and/or unjustified conditions to any contract with a participating carrier or require the acceptance of supplementary conditions which, by their nature or according to commercial usage, have no connection with participation in its CRS;
- (b) make it a condition of participation in its CRS that a participating carrier may not at the same time be a participant in another system or that a participating carrier may not freely use alternative reservation systems such as its own Internet booking system and call centres.

2. A system vendor shall load and process data provided by participating carriers with equal care and timeliness, subject only to the constraints of the loading method selected by individual participating carriers.

3. A system vendor shall publicly disclose, unless this is otherwise made public, the existence and extent of a direct or indirect capital holding of an air carrier or rail-transport operator in a system vendor, or of a system vendor in an air carrier or rail-transport operator.

### Article 4

# **Distribution facilities**

1. A system vendor shall not reserve any specific loading and/or processing procedure, any other distribution facility, or any changes to these, for one or more participating carriers, including its parent carrier(s). The system vendor shall provide information about changes to its distribution facilities and loading/processing procedures to all participating carriers.

2. A system vendor shall ensure that its distribution facilities are separated, at least by means of software and in a clear and verifiable manner, from any carrier's private inventory and management and marketing facilities.

### Article 5

### Displays

1. A system vendor shall provide a principal display or displays for each individual transaction through its CRS and shall include therein the data provided by participating carriers in a neutral and comprehensive manner and without discrimination or bias. Criteria to be used for ranking shall not be based on any factor directly or indirectly relating to carrier identity and shall be applied on a non-discriminatory basis to all participating carriers. The principal display(s) shall not mislead the user, shall be easily accessible and shall respect the rules set out in Annex I.

2. In the case of information provided by a CRS to the consumer, a subscriber shall use a neutral display in accordance with paragraph 1 unless another display is required to meet a preference indicated by a consumer.

3. Flights operated by air carriers subject to an operating ban pursuant to Regulation (EC) No 2111/2005 of the European Parliament and of the Council of 14 December 2005 on the establishment of a Community list of air carriers subject to an operating ban within the Community and on informing air transport passengers of the identity of the operating air carrier (<sup>1</sup>) must be clearly and specifically identified in the display.

4. The system vendor shall introduce a specific symbol in the CRS display which shall be identifiable by the users for the purposes of the information on the identity of the operating air carrier provided for under Article 11 of Regulation (EC) No 2111/2005.

5. This Article shall not apply to a CRS used by an air carrier, or rail-transport operator, or a group of air carriers, or of rail-transport operators, in its or their own office or offices and sales counters or on their own websites clearly identified as such.

### Article 6

#### **Relationship with subscribers**

1. A system vendor shall not attach unfair and/or unjustified conditions to a contract with a subscriber, such as preventing a subscriber from subscribing to or using any other system or systems, requiring the acceptance of supplementary conditions which have no connection with subscription in its CRS, or imposing an obligation to accept an offer of technical equipment or software.

2. Where a subscriber is an autonomous enterprise that employs fewer than 50 persons and whose annual turnover and/or annual balance sheet total does not exceed EUR 10 million, it may terminate its contract with a system vendor by giving notice, which need not exceed three months, to expire not before the end of the first year of that contract. In such a case, a system vendor shall not be entitled to recover more than the costs directly related to the termination of the contract.

#### Article 7

### Marketing Information Data Tapes ('MIDT')

1. Any marketing, booking and sales data may be made available by system vendors provided that such data are offered with equal timeliness and on a non-discriminatory basis to all participating carriers, including parent carriers. Data may and, on request, shall cover all participating carriers and/or subscribers.

2. Participating carriers shall not use such data in order to influence the choice of the subscriber.

3. Where such data result from the use of the distribution facilities of a CRS by a subscriber established in the Community, they shall include no identification either directly or indirectly of that subscriber unless the subscriber and the system vendor agree on the conditions for the appropriate use of such data. This applies equally to the supply of such data by the system vendors to any other party for use by this party other than for billing settlement.

4. Agreements between subscriber(s) and system vendor(s) on the MIDT shall be made available to the public.

# Article 8

### Equivalent treatment in third countries

1. Without prejudice to international agreements to which the Community or the Member States are parties, where the treatment of Community air carriers by a system vendor operating in a third country is not equivalent to the treatment of the third country participating carriers with regard to any matter contained in this Regulation, the Community to treat air carriers of that third country in a manner that is equivalent to the treatment of Community air carriers in that third country.

<sup>(&</sup>lt;sup>1</sup>) OJ L 344, 27.12.2005, p. 15.

2. The Commission shall monitor the application of the discriminatory or non-equivalent treatment of Community air carriers by system vendors in third countries. At the request of a Member State or on its own initiative, the Commission shall investigate potential cases of discrimination against Community air carriers in CRSs of third countries. Where such discrimination is found, before taking a decision, the Commission shall inform the Member States and interested parties and seek their comments, including by holding a meeting of relevant experts from the Member States.

### SECTION 3

# RULES OF CONDUCT FOR TRANSPORT PROVIDERS

# Article 9

# Data provided by participating carriers

Participating carriers, and intermediaries handling the data, shall ensure that the data which they submit to a CRS are accurate and that the data allow the system vendor to respect the rules set out in Annex I.

### Article 10

### Specific rules for parent carriers

1. A parent carrier shall not, subject to reciprocity as referred to in paragraph 2, discriminate against a competing CRS by refusing to provide the latter, on request and with equal timeliness, with the same data on schedules, fares and availability relating to its own transport products as those which it provides to its own CRS or to distribute its transport products through another CRS, or by refusing to accept or to confirm with equal timeliness a reservation made through a competing CRS for any of its transport products which are distributed through its own CRS. The parent carrier shall be obliged to accept and to confirm only those bookings which are in conformity with its fares and conditions.

2. A competing CRS shall not refuse to store data concerning timetables, fares and available seats in respect of transport services offered by a parent carrier and shall load and process data with equal care and timeliness as that accorded to its other customers and subscribers on any of the markets, subject only to the constraints of the loading method selected by individual carriers.

3. The parent carrier shall not be obliged to accept any costs in this connection except for reproduction of the data to be provided and for accepted bookings. The booking fee payable to a CRS for an accepted booking made in accordance with paragraph 1 shall be in line with the fee charged by the same CRS to other participating carriers for equivalent transactions. 4. A parent carrier shall neither directly nor indirectly discriminate in favour of its own CRS by linking the use of any specific CRS by a subscriber with the receipt of any commission or other incentive or disincentive for the sale of its transport products.

5. A parent carrier shall neither directly nor indirectly discriminate in favour of its own CRS by requiring the use of any specific CRS by a subscriber for sale or issue of tickets for any transport products provided either directly or indirectly by itself.

### SECTION 4

### PROTECTION OF PERSONAL DATA

# Article 11

### Processing, access and storage of personal data

1. Personal data collected in the course of the activities of a CRS for the purpose of making reservations or issuing tickets for transport products shall only be processed in a way compatible with these purposes. With regard to the processing of such data, a system vendor shall be considered as a data controller in accordance with Article 2(d) of Directive 95/46/EC.

2. Personal data shall only be processed in so far as processing is necessary for the performance of a contract to which the data subject is party or in order to take steps at the request of the data subject prior to entering into a contract.

3. Where special categories of data referred to under Article 8 of Directive 95/46/EC are involved, such data shall only be processed where the data subject has given his or her explicit consent to the processing of those data on an informed basis.

4. Information under the control of the system vendor concerning identifiable individual bookings shall be stored offline within seventy-two hours of the completion of the last element in the individual booking and destroyed within three years. Access to such data shall be allowed only for billing-dispute reasons.

5. Marketing, booking and sales data made available by a system vendor shall include no identification, either directly or indirectly, of natural persons or, where applicable, of the organisations or companies on whose behalf they are acting.

6. Upon request, a subscriber shall inform the consumer of the name and address of the system vendor, the purposes of the processing, the duration of the retention of personal data and the means available to the data subject of exercising his or her access rights.

7. A data subject shall be entitled to have access free of charge to data relating to him or her regardless of whether the data are stored by the system vendor or by the subscriber.

8. The rights recognised in this Article are complementary to and shall exist in addition to the data subject rights laid down by Directive 95/46/EC, by the national provisions adopted pursuant thereto and by the provisions of international agreements to which the Community is party.

9. The provisions of this Regulation particularise and complement Directive 95/46/EC for the purposes mentioned in Article 1. Save as otherwise provided, the definitions in that Directive shall apply. Where the specific provisions with regard to the processing of personal data in the context of the activities of a CRS laid down in this Article do not apply, this Regulation shall be without prejudice to the provisions of that Directive, the national provisions adopted pursuant thereto and the provisions of international agreements to which the Community is party.

10. Where a system vendor operates databases in different capacities such as, as a CRS, or as a host for airlines, technical and organisational measures shall be taken to prevent the circumvention of data protection rules through the interconnection between the databases, and to ensure that personal data are only accessible for the specific purpose for which they were collected.

# SECTION 5

# AUDIT

# Article 12

# Auditor and audited report

1. Every system vendor shall, every four years and, in addition, upon request from the Commission, submit an independently audited report detailing the ownership structure and governance model. Costs related to the audited report shall be borne by the system vendor.

2. The system vendor shall inform the Commission of the identity of the auditor before confirmation of the appointment. The Commission may object and, within two months and after consultation with the auditor, the system vendor and any other party claiming a legitimate interest, shall decide whether or not the auditor is to be replaced.

### SECTION 6

### INFRINGEMENTS AND PENALTIES

# Article 13

# Infringements

Where the Commission, acting on a complaint or on its own initiative, finds that there is an infringement of this Regulation, it may by decision require the undertakings or associations of undertakings concerned to bring such an infringement to an end. Investigations regarding possible infringements of this Regulation shall fully take into account the results of any inquiry under Articles 81 and 82 of the Treaty.

#### Article 14

### Powers of investigation

In order to carry out the duties assigned to it by this Regulation, the Commission may, by simple request or decision, require undertakings or associations of undertakings to provide all necessary information, including the provision of specific audits notably on issues covered by Articles 4, 7, 10 and 11.

### Article 15

### Fines

1. The Commission may, by decision, impose on undertakings and associations of undertakings fines not exceeding 10 % of the total turnover in the preceding business year where, intentionally or negligently, they infringe this Regulation.

2. The Commission may, by decision, impose on undertakings and associations of undertakings fines not exceeding 1 % of the total turnover in the preceding business year where, intentionally or negligently, they supply incorrect or incomplete information or do not supply information within the required time limit in response to a request made by a decision adopted pursuant to Article 14.

3. In fixing the amount of the fines, regard shall be had both to the gravity and to the duration of the infringement.

4. Fines shall not be of a criminal nature.

5. The Court of Justice of the European Communities shall have unlimited jurisdiction to review decisions whereby the Commission has imposed a fine. It may cancel, reduce or increase the fine.

### Article 16

### Procedures

1. Before taking decisions pursuant to Articles 13 and 15, the Commission shall issue to the undertakings or associations of undertakings concerned a statement of objections and give them an opportunity to submit their views in writing and, if they so request, at an oral hearing.

2. The Commission shall not disclose information of the kind covered by the obligation of professional secrecy which it has obtained pursuant to this Regulation.

Any person who submits information to the Commission under this Regulation shall clearly identify any material which it considers to be confidential, giving reasons, and provide a separate nonconfidential version by the date set by the Commission.

3. Where the Commission considers that on the basis of the information in its possession there are insufficient grounds for acting on a complaint, it shall inform the complainant of its reasons and set a time limit within which the complainant may make known its views in writing.

If the complainant makes known its views within the time limit set by the Commission and the written submissions made by the complainant do not lead to a different assessment of the complaint, the Commission shall reject the complaint by decision. If the complainant fails to make known its views within the time limit set by the Commission, the complaint shall be deemed to have been withdrawn.

Where the Commission issues a statement of objections, it shall provide the complainant with a copy of the non-confidential version and set a time limit within which the complainant may make known its views in writing.

4. If so requested, the Commission shall grant access to the file to the parties to whom it has addressed a statement of objections and to the complainant. Access shall be granted after the notification of the statement of objections. The right of access to the file shall not extend to business secrets, other confidential information and internal documents of the Commission.

5. If the Commission considers it necessary, it may hear other natural or legal persons.

# SECTION 7

### FINAL PROVISIONS

# Article 17

### Repeal

1. Regulation (EEC) No 2299/89 shall be repealed.

2. References to the repealed Regulation shall be construed as references to this Regulation and be read in accordance with the correlation table set out in Annex II.

### Article 18

### Review

1. The Commission shall, on a regular basis, monitor the application of this Regulation, if necessary with the assistance of specific audits as provided for in Article 14. It shall, in particular, examine the effectiveness of this Regulation in ensuring non-discrimination and fair competition in the market for CRS services.

2. The Commission shall, when appropriate, report to the European Parliament and to the Council on the application of Article 8 with regards to equivalent treatment in third countries and shall propose any appropriate measure in order to alleviate discriminatory conditions, including the conclusion or modification of bilateral air transport agreements between the Community and third countries.

3. By 29 March 2013, the Commission shall draw up a report on the application of this Regulation which shall assess the need to maintain, amend or repeal this Regulation.

### Article 19

# Entry into force

This Regulation shall enter into force on 29 March 2009.

This Regulation shall be binding in its entirety and directly applicable in all Member States.

Done at Strasbourg, 14 January 2009.

For the European Parliament The President H.-G. PÖTTERING For the Council The President A. VONDRA

# ANNEX I

### RULES APPLICABLE TO PRINCIPAL DISPLAYS

- 1. Where prices are shown in the principal display, and/or where a ranking based on prices is chosen, prices shall be inclusive of the fares and of all applicable taxes, charges, surcharges and fees to be paid to the air carrier or rail-transport operator, and which are unavoidable and foreseeable at the time when shown on the display.
- 2. No discrimination on the basis of airports or rail stations serving the same city shall be exercised in constructing and selecting transport products for a given city-pair for inclusion in a principal display.
- 3. Flights other than scheduled air services must be clearly identified. A consumer shall be entitled to have, on request, a principal display limited to scheduled or non-scheduled services only.
- 4. Flights involving stops en route must be clearly identified.
- 5. Where flights are operated by an air carrier which is not the air carrier identified by the carrier designator code, the actual operator of the flight must be clearly identified. That requirement will apply in all cases, except for short-term ad hoc arrangements.
- 6. Information on bundled products shall not be featured in the principal display.
- 7. At the choice of the subscriber, travel options in the principal display shall be ranked either by fares or in the following order:
  - (i) non-stop travel options ranked by departure time;
  - (ii) all other travel options ranked by elapsed journey time.
- 8. Except as provided in point 10, no travel option may be featured more than once in any principal display.
- 9. Where travel options are ranked in accordance with point 7(i) and (ii), and where train services for the same city-pair are offered on the CRS, at least the best ranked train service or air-rail service shall be featured on the first screen of the principal display.
- 10. Where air carriers operate under code-share arrangements, each of the air carriers concerned not more than two shall be allowed to have a separate display using its individual carrier-designator code. Where more than two air carriers are involved, the designation of the two carriers shall be a matter for the carrier actually operating the flight.

# ANNEX II

# **CORRELATION TABLE**

| Regulation (EEC) No 2299/89 | This Regulation       |
|-----------------------------|-----------------------|
| Article 1                   | Article 1             |
| Article 2                   | Article 2             |
| Article 3(1) and (2)        | _                     |
| Article 3(3)                | Article 3(1)          |
| Article 3(4)                | Article 4(1)          |
| Article 3a                  | Article 10(1) and (3) |
| Article 4(1)                | Article 9             |
| Article 4(2)                | _                     |
| Article 4(3)                | Article 3(2)          |
| Article 4a(1) and (2)       | Article 4(1)          |
| Article 4a(3)               | Article 4(2)          |
| Article 4a(4)               | —                     |
| Article 5                   | Article 5             |
| Article 6                   | Articles 7 and 11     |
| Article 7                   | Article 8             |
| Article 8                   | Article 10(4) and (5) |
| Article 9                   | Article 6             |
| Article 9a                  | Articles 5(2) and 11  |
| Article 10                  | —                     |
| Article 11                  | Article 13            |
| Article 12                  | Article 14            |
| Article 13                  | Article 14            |
| Article 14                  | Article 16(2)         |
| Article 15                  | Article 14            |
| Article 16                  | Article 15(1) to (4)  |
| Article 17                  | Article 15(5)         |
| Article 18                  | —                     |
| Article 19                  | Article 16(1) and (5) |
| Article 20                  | _                     |
| Article 21                  | _                     |
| Article 21a                 | —                     |
| Article 21b                 | —                     |
| Article 22                  | Article 11            |
| Article 23                  | Article 18            |
| Annex I                     | Annex I               |

# REGULATION (EC) No 81/2009 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL

### of 14 January 2009

# amending Regulation (EC) No 562/2006 as regards the use of the Visa Information System (VIS) under the Schengen Borders Code

THE EUROPEAN PARLIAMENT AND THE COUNCIL OF THE EUROPEAN UNION,

Having regard to the Treaty establishing the European Community, and in particular Article 62(2)(a) thereof,

Having regard to the proposal from the Commission,

Acting in accordance with the procedure laid down in Article 251 of the Treaty  $(^{1})$ ,

# Whereas:

- (1) Regulation (EC) No 562/2006 of the European Parliament and of the Council of 15 March 2006 establishing a Community Code on the rules governing the movement of persons across borders (Schengen Borders Code) (<sup>2</sup>) lays down the conditions, criteria and detailed rules governing checks at border crossing points and surveillance at the border, including checks in the Schengen Information System.
- (2) Regulation (EC) No 767/2008 of the European Parliament and of the Council of 9 July 2008 concerning the Visa Information System (VIS) and the exchange of data between Member States on short-stay visas (VIS Regulation) (<sup>3</sup>) aims at improving the implementation of the common visa policy. It also provides that the purposes of the VIS include facilitating both checks at external border crossing points and the fight against fraud.
- (3) Regulation (EC) No 767/2008 lays down search criteria and conditions for the access of competent authorities, for the purpose of carrying out checks at external border crossing points, to data for verifying the identity of visa holders, the authenticity of the visa and whether the entry conditions are fulfilled, and for identifying any person who may not fulfil, or who no longer fulfils, the conditions for entry, stay or residence on the territory of the Member States.
- (4) Since only a verification of fingerprints can confirm with certainty that a person wishing to enter the Schengen area is the person to whom the visa has been issued, provision should be made for the use of the VIS at external borders.

- (5) In order to verify whether the entry conditions for thirdcountry nationals laid down in Article 5 of Regulation (EC) No 562/2006 are fulfilled and to manage their tasks successfully, border guards should use all necessary information available, including data which may be consulted in the VIS.
- (6) In order to prevent circumvention of border crossing points where the VIS may be used and to guarantee its full effectiveness, there is a particular need to use the VIS in a harmonised way when entry checks are carried out at the external borders.
- (7) Since in cases of repeated visa applications it is appropriate for biometric data to be reused and copied from the first visa application in the VIS, use of the VIS for entry checks at the external borders should be compulsory.
- (8) The use of the VIS should entail a systematic search in the VIS using the number of the visa sticker in combination with a verification of fingerprints. However, given the potential impact of such searches on waiting times at border crossing points, it should be possible, for a transitional period by way of derogation and in strictly defined circumstances, to consult the VIS without a systematic verification of fingerprints. Member States should ensure that this derogation is used only where the conditions therefor are fully met and that the duration and frequency of application of this derogation is kept to a strict minimum at the individual border crossing points.
- (9) Regulation (EC) No 562/2006 should therefore be amended accordingly.
- (10) Since the objectives of this Regulation, namely the establishment of the rules applicable on the use of the VIS at the external borders, cannot be sufficiently achieved by the Member States and can therefore be better achieved at Community level, the Community may adopt measures, in accordance with the principle of subsidiarity as set out in Article 5 of the Treaty. In accordance with the principle of proportionality, as set out in that Article, this Regulation does not go beyond what is necessary in order to achieve those objectives.
- (11) This Regulation respects the fundamental rights and observes the principles recognised by Article 6(2) of the Treaty on European Union and reflected in the European Convention for the Protection of Human Rights and Fundamental Freedoms as well as in the Charter of Fundamental Rights of the European Union.

<sup>(1)</sup> Opinion of the European Parliament of 2 September 2008 (not yet published in the Official Journal) and Council Decision of 27 November 2008.

<sup>(&</sup>lt;sup>2</sup>) OJ L 105, 13.4.2006, p. 1.

<sup>(&</sup>lt;sup>3</sup>) OJ L 218, 13.8.2008, p. 60.

- (12) As regards Iceland and Norway, this Regulation constitutes a development of the provisions of the Schengen *acquis* within the meaning of the Agreement concluded by the Council of the European Union and the Republic of Iceland and the Kingdom of Norway concerning the association of those two States with the implementation, application and development of the Schengen *acquis* (<sup>1</sup>), which fall within the area referred to in Article 1, point A, of Council Decision 1999/437/EC of 17 May 1999 on certain arrangements for the application of that Agreement (<sup>2</sup>).
- (13) As regards Switzerland, this Regulation constitutes a development of provisions of the Schengen *acquis* within the meaning of the Agreement concluded between the European Union, the European Community and the Swiss Confederation on the Swiss Confederation's association with the implementation, application and development of the Schengen *acquis* (<sup>3</sup>), which fall within the area referred to in Article 1, point A, of Decision 1999/437/EC read in conjunction with Article 3 of Council Decision 2008/146/EC (<sup>4</sup>).
- (14) As regards Liechtenstein, this Regulation constitutes a development of provisions of the Schengen *acquis* within the meaning of the Protocol signed between the European Union, the European Community, the Swiss Confederation and the Principality of Liechtenstein on the accession of the Principality of Liechtenstein to the Agreement between the European Union, the European Community and the Swiss Confederation on the Swiss Confederation's association with the implementation, application and development of the Schengen *acquis* (<sup>5</sup>), which fall within the area referred to in Article 1, point A, of Decision 1999/437/EC read in conjunction with Article 3 of Council Decision 2008/261/EC (<sup>6</sup>).
- (15) In accordance with Articles 1 and 2 of the Protocol on the position of Denmark annexed to the Treaty on European Union and to the Treaty establishing the European Community, Denmark does not take part in the adoption of this Regulation and is therefore not bound by it or subject to its application. Given that this Regulation builds upon the Schengen *acquis* under the provisions of Title IV of Part Three of the Treaty establishing the European Community, Denmark should, in accordance with Article 5 of that Protocol, decide within a period of six months after the adoption of this Regulation whether it will implement it in its national law.
- (16) This Regulation constitutes a development of provisions of the Schengen *acquis* in which the United Kingdom does not take part, in accordance with Council Decision 2000/365/EC of 29 May 2000 concerning the request of the United Kingdom of Great Britain and Northern Ireland

- (<sup>2</sup>) OJ L 176, 10.7.1999, p. 31.
- (<sup>3</sup>) OJ L 53, 27.2.2008, p. 52.
- (4) OJ L 53, 27.2.2008, p. 1.
- (<sup>5</sup>) Council Document 16462/06;
- accessible on http://register.consilium.europa.eu.
- (<sup>6</sup>) OJ L 83, 26.3.2008, p. 3.

to take part in some of the provisions of the Schengen *acquis* (<sup>7</sup>). The United Kingdom is therefore not taking part in its adoption and is not bound by it or subject to its application.

- (17) This Regulation constitutes a development of provisions of the Schengen *acquis* in which Ireland does not take part, in accordance with Council Decision 2002/192/EC of 28 February 2002 concerning Ireland's request to take part in some of the provisions of the Schengen *acquis* (<sup>8</sup>). Ireland is therefore not taking part in its adoption and is not bound by it or subject to its application.
- (18) As regards Cyprus, this Regulation constitutes an act building on the Schengen *acquis* or otherwise related to it within the meaning of Article 3(2) of the 2003 Act of Accession.
- (19) This Regulation constitutes an act building on the Schengen *acquis* or otherwise related to it within the meaning Article 4(2) of the 2005 Act of Accession,

HAVE ADOPTED THIS REGULATION:

# Article 1

# Amendment

Article 7(3) of Regulation (EC) No 562/2006 is hereby amended as follows:

- 1. The following points shall be inserted after point (a):
  - '(aa) if the third country national holds a visa referred to in Article 5(1)(b), the thorough checks on entry shall also comprise verification of the identity of the holder of the visa and of the authenticity of the visa, by consulting the Visa Information System (VIS) in accordance with Article 18 of Regulation (EC) No 767/2008 of the European Parliament and of the Council of 9 July 2008 concerning the Visa Information System (VIS) and the exchange of data between Member States on short-stay visas (VIS Regulation) (\*);
  - (ab) by way of derogation, where:
    - traffic of such intensity arises that the waiting time at the border crossing point becomes excessive;
    - (ii) all resources have already been exhausted as regards staff, facilities and organisation; and

<sup>(1)</sup> OJ L 176, 10.7.1999, p. 36.

<sup>(7)</sup> OJ L 131, 1.6.2000, p. 43.

<sup>(&</sup>lt;sup>8</sup>) OJ L 64, 7.3.2002, p. 20.

(iii) on the basis of an assessment there is no risk related to internal security and illegal immigration;

the VIS may be consulted using the number of the visa sticker in all cases and, on a random basis, the number of the visa sticker in combination with the verification of fingerprints.

However, in all cases where there is doubt as to the identity of the holder of the visa and/or the authenticity of the visa, the VIS shall be consulted systematically using the number of the visa sticker in combination with the verification of fingerprints.

This derogation may be applied only at the border crossing point concerned for as long as the above conditions are met;

(ac) the decision to consult the VIS in accordance with point (ab) shall be taken by the border guard in command at the border crossing point or at a higher level.

The Member State concerned shall immediately notify the other Member States and the Commission of any such decision;

(ad) each Member State shall transmit once a year a report on the application of point (ab) to the European Parliament and the Commission, which shall include the number of third-country nationals who were checked in the VIS using the number of the visa sticker only and the length of the waiting time referred to in point (ab)(i); (ae) points (ab) and (ac) shall apply for a maximum period of three years, beginning three years after the VIS has started operations. The Commission shall, before the end of the second year of application of points (ab) and (ac), transmit to the European Parliament and to the Council an evaluation of their implementation. On the basis of that evaluation, the European Parliament or the Council may invite the Commission to propose appropriate amendments to this Regulation.

(\*) OJ L 218, 13.8.2008, p. 60.'.

2. The following sentence shall be added at the end of point (c)(i):

'such verification may comprise consultation of the VIS in accordance with Article 18 of Regulation (EC) No 767/2008;'.

- 3. The following point (d) shall be added:
  - '(d) for the purpose of identification of any person who may not fulfil, or who may no longer fulfil, the conditions for entry, stay or residence on the territory of the Member States, the VIS may be consulted in accordance with Article 20 of Regulation (EC) No 767/2008.'.

### Article 2

### Entry into force

This Regulation shall enter into force on the 20th day following its publication in the *Official Journal of the European Union*.

It shall apply from the 20th day following the date referred to in Article 48(1) of Regulation (EC) No 767/2008.

This Regulation shall be binding in its entirety and directly applicable in the Member States in accordance with the Treaty establishing the European Community.

Done at Strasbourg, 14 January 2009.

For the European Parliament The President H.-G. PÖTTERING For the Council The President A. VONDRA

# NOTE TO THE READER

The institutions have decided to no longer quote in their texts the last amendment to cited acts.

Unless otherwise indicated, references to acts in the texts published here are to the version of those acts currently in force.