DIRECTIVE 2005/64/EC OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL
of 26 October 2005

on the type-approval of motor vehicles with regard to their reusability, recyclability and recoverability and amending Council Directive 70/156/EEC

THE EUROPEAN PARLIAMENT AND THE COUNCIL OF THE EUROPEAN 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 referred to in Article 251 of the Treaty (2),

Whereas:

(1) In accordance with Directive 2000/53/EC of the European Parliament and of the Council of 18 September 2000 on end-of-life vehicles (3), appropriate provisions should be laid down to ensure that type-approved vehicles belonging to category M1, and those belonging to category N1, may be put on the market only if they are reusable and/or recyclable to a minimum of 85 % by mass and are reusable and/or recoverable to a minimum of 95 % by mass.

(2) Reusability of component parts, recyclability and recoverability of materials constitute a substantial part of the Community strategy for waste management. Therefore vehicle manufacturers and their suppliers should be requested to include those aspects at the earliest stages of the development of new vehicles, in order to facilitate the treatment of vehicles at the time when they reach the end of their life.


(4) That whole vehicle type-approval system is currently compulsory for vehicles belonging to category M1 and will be extended, in the near future, to all categories of vehicle. It is therefore necessary to include in the whole vehicle type-approval system those measures concerning the re-usability, recyclability and recoverability of vehicles.

(5) Accordingly, it is necessary to lay down provisions to take into account the fact that N1 vehicles are not yet covered by the whole vehicle type-approval system.

(6) The manufacturer should make available to the approval authority all relevant technical information as regards constituent materials and their respective masses in order to permit verification of the manufacturer's calculations in accordance with the standard ISO 22628: 2002.

(7) The manufacturer's calculations can be properly validated at the time of the vehicle type-approval only if the manufacturer has put in place satisfactory arrangements and procedures to manage all information he receives from his suppliers. Before any type-approval can be granted, the competent body should carry out a preliminary assessment of those arrangements and procedures and should issue a certificate indicating that they are satisfactory.

(1) OJ C 74, 23.3.2005, p. 15.
The relevance of the different inputs in the calculations of the recyclability and recoverability rates has to be assessed in accordance with the processes for treatment of end-of-life vehicles. The manufacturer should therefore recommend a strategy for the treatment of end-of-life vehicles and should provide details thereof to the competent body. This strategy should be based on proven technologies, which are available or in development at the time of applying for the vehicle approval.

Special-purpose vehicles are designed to perform a specific function and require special bodywork arrangements which are not entirely under the control of the manufacturer. Consequently, the recyclability and recoverability rates cannot be calculated properly. Those vehicles should therefore be excluded from the requirements concerning calculation.

Incomplete vehicles constitute a significant proportion of N₁ vehicles. The manufacturer of the base vehicle is not in a position to calculate the recyclability and recoverability rates for completed vehicles because the data concerning the later stages of construction are not available at the design stage of the base vehicles. It is therefore appropriate to require only the base vehicle to comply with this Directive.

The market shares of vehicles produced in small series are very limited, so that there will be little benefit to the environment if they have to comply with this Directive. It is therefore appropriate to exclude them from certain provisions of this Directive.

In accordance with Directive 2000/53/EC, appropriate measures should be taken, in the interests of road safety and protection of the environment, to prevent the reuse of certain component parts which have been removed from end-of-life vehicles. Such measures should be restricted to the reuse of parts in the construction of new vehicles.

The provisions set out in this Directive will impose on manufacturers the supply of new data relating to type-approval and therefore these particulars should be reflected in Directive 70/156/EEC, which establishes the exhaustive list of data to be submitted for type-approval. It is therefore necessary to amend that Directive accordingly.

The measures necessary for the adaptation to scientific and technical progress of this Directive should be adopted in accordance with the regulatory procedure provided for in Article 13(3) of Directive 70/156/EEC.

Since the objective of this Directive, namely to minimise the impact of end-of-life vehicles on the environment by requiring that vehicles be designed from the conception phase with a view to facilitating reuse, recycling and recovery, cannot be sufficiently achieved by the Member States acting alone and can, therefore, by reason of the scale of the action, 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 Directive does not go beyond what is necessary in order to achieve this objective.

In accordance with paragraph 34 of the Interinstitutional Agreement on better law-making (1), Member States will be encouraged to draw up, for themselves and in the interest of the Community, their own tables which will, as far as possible, illustrate the correlation between this Directive and the transposition measures and to make them public.

HAVE ADOPTED THIS DIRECTIVE:

Article 1

Subject matter

This Directive lays down the administrative and technical provisions for the type-approval of vehicles covered by Article 2, with a view to ensuring that their component parts and materials can be reused, recycled and recovered in the minimum percentages set out in Annex I.

It lays down specific provisions to ensure that the re-use of component parts does not give rise to safety or environmental hazards.

Article 2

Scope

This Directive shall apply to vehicles belonging to categories M₁ and N₁, as defined in Part A of Annex II to Directive 70/156/EEC, and to new or reused component parts of such vehicles.

Article 3

Exemptions

Without prejudice to the application of the provisions of Article 7, this Directive shall not apply to:

(a) special purpose vehicles as defined in part A, point 5, of Annex II to Directive 70/156/EEC;

(b) multi-stage built vehicles belonging to category N₁, provided that the base vehicle complies with this Directive;

(c) vehicles produced in small series, referred to in Article 8 (2)(a) of Directive 70/156/EEC.

Article 4

Definitions

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

1. ‘vehicle’ means a motor vehicle;

2. ‘component part’ means any part or any assembly of parts which is included in a vehicle at the time of its production. It also covers components and separate technical units as defined in Article 2 of Directive 70/156/EEC;

3. ‘vehicle type’ means the type of a vehicle as defined in part B, points 1 and 3, of Annex II to Directive 70/156/EEC;

4. ‘end-of-life vehicle’ means a vehicle as defined in point 2 of Article 2 of Directive 2000/53/EC;

5. ‘reference vehicle’ means the version within a type of vehicle, which is identified by the approval authority, in consultation with the manufacturer and in accordance with the criteria laid down in Annex I, as being the most problematic in terms of reusability, recyclability and recoverability;

6. ‘multi-stage built vehicle’ means a vehicle resulting from a multi-stage construction process;

7. ‘base vehicle’ means a vehicle as defined in Article 2, fourth indent of Directive 70/156/EEC, which is used at the starting stage of a multi-stage construction;

8. ‘multi-stage construction’ means the process by which a vehicle is produced in several stages by adding component parts to a base vehicle or by modifying those component parts;

9. ‘reuse’ means reuse as defined in point 6 of Article 2 of Directive 2000/53/EC;

10. ‘recycling’ means recycling as defined in the first sentence of point 7 of Article 2 of Directive 2000/53/EC;

11. ‘energy recovery’ means energy recovery as defined in the second sentence of point 7 of Article 2 of Directive 2000/53/EC;

12. ‘recovery’ means recovery as defined in point 8 of Article 2 of Directive 2000/53/EC;

13. ‘reusability’ means the potential for reuse of component parts diverted from an end-of-life vehicle;

14. ‘recyclability’ means the potential for recycling of component parts or materials diverted from an end-of-life vehicle;

15. ‘recoverability’ means the potential for recovery of component parts or materials diverted from an end-of-life vehicle;

16. ‘recyclability rate of a vehicle (R_{rcy})’ means the percentage by mass of a new vehicle, potentially able to be reused and recycled;

17. ‘recoverability rate of a vehicle (R_{cov})’ means the percentage by mass of a new vehicle, potentially able to be reused and recovered;

18. ‘strategy’ means a large-scale plan consisting of coordinated actions and technical measures to be taken as regards dismantling, shredding or similar processes, recycling and recovery of materials to ensure that the targeted recyclability and recoverability rates are attainable at the time a vehicle is in its development phase;

19. ‘mass’ means the mass of the vehicle in running order as defined in point 2.6 of Annex I to Directive 70/156/EEC, but excluding the driver, whose mass is assessed at 75 kg;
20. 'competent body' means an entity, e.g. a technical service or another existing body, notified by a Member State to carry out preliminary assessment of the manufacturer and to issue a certificate of compliance, in accordance with the prescriptions of this Directive. The competent body may be the type-approval authority, provided its competence in this field is properly documented.

Article 5

Type-approval provisions

1. Member States shall grant, as appropriate, EC type-approval or national type-approval, with regard to reusability, recyclability and recoverability, only to such vehicle types that satisfy the requirements of this Directive.

2. For the application of paragraph 1, the manufacturer shall make available to the approval authority the detailed technical information necessary for the purposes of the calculations and checks referred to in Annex I, relating to the nature of the materials used in the construction of the vehicle and its component parts. In cases where such information is shown to be covered by intellectual property rights or to constitute specific know-how of the manufacturer or of his suppliers, the manufacturer or his suppliers shall supply sufficient information to enable those calculations to be made properly.

3. With regard to reusability, recyclability and recoverability, the Member States shall ensure that the manufacturer uses the model of the information document set out in Annex II to this Directive, when submitting an application for EC vehicle type-approval, pursuant to Article 3(1) of Directive 70/156/EEC.

4. When granting an EC type-approval pursuant to Article 4(3) of Directive 70/156/EEC, the type-approval authority shall use the model of the EC type-approval certificate set out in Annex III to this Directive.

Article 6

Preliminary assessment of the manufacturer

1. Member States shall not grant any type approval without first ensuring that the manufacturer has put in place satisfactory arrangements and procedures, in accordance with point 3 of Annex IV, to manage properly the reusability, recyclability and recoverability aspects covered by this Directive. When this preliminary assessment has been carried out, a certificate named 'Certificate of Compliance with Annex IV' (hereinafter the certificate of compliance) shall be granted to the manufacturer.

2. In the framework of the preliminary assessment of the manufacturer, Member States shall ensure that the materials used for the construction of a vehicle type comply with the provisions of Article 4(2)(a) of Directive 2000/53/EC.

The Commission shall, in accordance with the procedure referred to in Article 9, establish the detailed rules necessary to verify compliance with this provision.

3. For the purpose of paragraph 1, the manufacturer shall recommend a strategy to ensure dismantling, reuse of component parts, recycling and recovery of materials. The strategy shall take into account the proven technologies available or in development at the time of the application for a vehicle type-approval.

4. Member States shall appoint a competent body, in accordance with point 2 of Annex IV, to carry out the preliminary assessment of the manufacturer and to issue the certificate of compliance.

5. The certificate of compliance shall include the appropriate documentation and describe the strategy recommended by the manufacturer. The competent body shall use the model set out in the Appendix to Annex IV.

6. The certificate of compliance shall remain valid for no less than two years from the date of deliverance of the certificate before new checks shall be conducted.

7. The manufacturer shall inform the competent body of any significant change that could affect the relevance of the certificate of compliance. After consultation with the manufacturer, the competent body shall decide whether new checks are necessary.

8. At the end of the period of validity of the certificate of compliance, the competent body shall, as appropriate, issue a new certificate of compliance or extend its validity for a further period of two years. The competent body shall issue a new certificate in cases where significant changes have been brought to the attention of the competent body.

Article 7

Reuse of component parts

The component parts listed in Annex V shall:

(a) be deemed to be non-reusable for the purposes of calculating the recyclability and recoverability rates;

(b) not be reused in the construction of vehicles covered by Directive 70/156/EEC.
Article 8
Amendments to Directive 70/156/EEC

Directive 70/156/EEC shall be amended in accordance with Annex VI to this Directive.

Article 9
Amendments

Amendments to this Directive which are necessary to adapt it to scientific and technical progress shall be adopted by the Commission in accordance with the regulatory procedure referred to in Article 13(3) of Directive 70/156/EEC.

Article 10
Implementation dates for type-approval

1. With effect from 15 December 2006, Member States shall not, in respect of a type of vehicle which complies with the requirements of this Directive:
   (a) refuse to grant EC or national type-approval,
   (b) prohibit the registration, sale or entry into service of new vehicles.

2. With effect from 15 December 2008, Member States shall, in respect of a type of vehicle which does not comply with the requirements of this Directive:
   (a) refuse to grant EC type-approval;
   (b) refuse to grant national type-approval.

3. With effect from 15 July 2010, Member States shall, if the requirements of this Directive are not met:
   (a) consider certificates of conformity which accompany new vehicles as no longer valid for the purposes of Article 7(1) of Directive 70/156/EEC;
   (b) refuse the registration, sale or entry into service of new vehicles, save where Article 8(2)(b) of Directive 70/156/EEC applies.

4. Article 7 shall apply with effect from 15 December 2006.

Article 11
Transposition

1. Member States shall adopt and publish, not later than 15 December 2006, the laws, regulations and administrative provisions necessary to comply with this Directive. They shall forthwith communicate to the Commission the text of those measures.

They shall apply those measures from 15 December 2006.

When Member States adopt these measures, they shall contain a reference to this Directive or be accompanied by such a reference on the occasion of their official publication. The methods of making such reference shall be laid down by Member States.

2. Member States shall communicate to the Commission the text of the main provisions of national law which they adopt in the field covered by this Directive.

Article 12
Entry into force

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

Article 13
Addressees

This Directive is addressed to the Member States.

Done at Strasbourg, 26 October 2005.

For the European Parliament
The President
J. BORRELL FONTELLES

For the Council
The President
D. ALEXANDER
**ANNEX**

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ANNEX I

REQUIREMENTS

1. Vehicles belonging to category M₁ and those belonging to category N₁ shall be so constructed as to be:

   — reusable and/or recyclable to a minimum of 85 % by mass, and
   — reusable and/or recoverable to a minimum of 95 % by mass,

   as determined by the procedures laid down in this Annex.

2. For the purposes of type-approval, the manufacturer shall submit a data presentation form duly completed, established in accordance with Annex A to the standard ISO 22628: 2002. It shall include the materials breakdown.

   It shall be accompanied by a listing of the dismantled component parts, declared by the manufacturer with respect to the dismantling stage, and the process he recommends for their treatment.

3. For the application of points 1 and 2, the manufacturer shall demonstrate to the satisfaction of the approval authority that the reference vehicles meet the requirements. The calculation method prescribed in Annex B to the standard ISO 22628: 2002 shall apply.

   However, the manufacturer must be in a position to demonstrate that any version within the vehicle type complies with the requirements of this Directive.

4. For the purposes of the selection of the reference vehicles, account shall be taken of the following criteria:

   — the type of bodywork,
   — the available trim levels (¹),
   — the available optional equipment (¹) which can be fitted under the manufacturer's responsibility.

5. Should the type-approval authority and the manufacturer fail jointly to identify the most problematic version within a type of vehicle, in terms of reusability, recyclability and recoverability, one reference vehicle shall be selected, within:

   (a) each ‘type of bodywork’, as defined in point 1 of part C of Annex II to Directive 70/156/EEC in the case of M₁ vehicles;

   (b) each ‘type of bodywork’, i.e. van, chassis-cab, pick-up, etc., in the case of N₁ vehicles.

(¹) i.e. leather upholstery, in-car radio equipment, air-conditioning, alloy wheels, etc.
6. For the purposes of calculations, tyres shall be considered as recyclable.

7. Masses shall be expressed in kg with one decimal place. The rates shall be calculated in percent with one decimal place, then rounded as follows:

   (a) if the figure following the decimal point is between 0 and 4, the total is rounded down;

   (b) if the figure following the decimal point is between 5 and 9, the total is rounded up.

8. For the purposes of checking the calculations referred to in this Annex, the approval authority shall ensure that the data presentation form referred to in point 2 is coherent with the recommended strategy annexed to the certificate of compliance referred to in Article 6(1) of this Directive.

9. For the purposes of checks of the materials and masses of component parts, the manufacturer shall make available vehicles and component parts as deemed necessary by the type-approval authority.
ANNEX II

INFORMATION DOCUMENT FOR EC VEHICLE TYPE-APPROVAL

in accordance with Annex I to Council Directive 70/156/EEC (1) relating to EC type-approval of a vehicle with regard to its reusability, recyclability and recoverability

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

0. GENERAL

0.1. Make (trade name of manufacturer): .................................................................

0.2. Type: ........................................................................................................

0.2.0.1. Chassis: ....................................................................................................

0.2.1. Commercial name(s) (if available): ............................................................

0.3. Means of identification of type, if marked on the vehicle (b): ................................

0.3.1. Location of that marking: ............................................................................

0.4. Category of vehicle (c): ............................................................................

0.5. Name and address of manufacturer: ............................................................... 

0.8. Address(es) of assembly plant(s): ................................................................. 

1. GENERAL CONSTRUCTION CHARACTERISTICS OF THE VEHICLE

1.1. Photographs and/or drawings of a representative vehicle: ................................

1.2. Dimensional drawing of the whole vehicle: ...................................................

1.3. Number of axles and wheels: ........................................................................

1.3.1. Number and position of axles with double wheels: .....................................

(1) The item numbers and footnotes used in this information document correspond to those set out in Annex I to Directive 70/156/EEC. Items not relevant for the purpose of this Directive are omitted.
1.3.3. Powered axles (number, position, interconnection):

1.7. Driving cab (forward control or bonneted): ............................................................

3. POWER PLANT (q) (In the case of a vehicle that can run either on petrol, diesel, etc., or also in combination with another fuel, items shall be repeated (f))

3.1. Manufacturer:................................................................................................

3.2. Internal combustion engine

3.2.1. Specific engine information

3.2.1.1. Working principle: positive ignition/compression ignition, four-stroke/two stroke (f)

3.2.1.2. Number and arrangement of cylinders: ........................................................

3.2.1.3. Engine capacity (f): …cm³

3.2.2. Fuel: diesel oil/petrol/LPG/NG/ethanol: (f)

4. TRANSMISSION (v)

4.2. Type (mechanical, hydraulic, electric, etc.): ......................................................

4.5. Gearbox

4.5.1. Type (manual/automatic/CVT (continuously variable transmission)) (f)

4.9. Differential lock: yes/no/optional (f)

9. BODYWORK

9.1. Type of bodywork: ..........................................................................................

9.3.1. Door configuration and number of doors: ......................................................

9.10.3. Seats

9.10.3.1. Number: .............................................................................................

(1) The item numbers and footnotes used in this information document correspond to those set out in Annex I to Directive 70/156/EEC. Items not relevant for the purpose of this Directive are omitted.
15. REUSABILITY, RECYCLABILITY and RECOVERABILITY

15.1. Version to which the reference vehicle belongs: ........................................................

15.2. Mass of the reference vehicle with bodywork or mass of the chassis with cab, without bodywork and/or
coupling device if the manufacturer does not fit the bodywork and/or coupling device (including liquids,
tools, spare wheel, if fitted) without driver: ...............................................................

15.3. Masses of materials of the reference vehicle

15.3.1. Mass of material taken into account at the pre-treatment step ($\mu_1$): .............................................

15.3.2. Mass of material taken into account at the dismantling step ($\mu_2$): ................................................

15.3.3. Mass of material taken into account at the non-metallic residue treatment step, considered as recyclable ($\mu_3$):

15.3.4. Mass of material taken into account at the non-metallic residue treatment step, considered as energy recoverable ($\mu_4$): .................................................................

15.3.5. Materials breakdown ($\mu_5$): ................................................................................

15.3.6. Total mass of materials, which are reusable and/or recyclable: ........................................

15.3.7. Total mass of materials, which are reusable and/or recoverable: ........................................

15.4. Rates

15.4.1. Recyclability rate $R_{\text{cyc}}$ %: ........................................................................

15.4.2. Recoverability rate $R_{\text{cov}}$ %: ........................................................................
ANNEX III

MODEL OF EC TYPE-APPROVAL CERTIFICATE

Maximum format: A4 (210 x 297 mm)

EC TYPE-APPROVAL CERTIFICATE

Communication concerning:

— EC type-approval (¹) of a type of vehicle
— extension of EC type-approval (¹)
— refusal of EC type-approval (²)

with regard to Directive 2005/64/EC

EC type-approval number:

Reason for extension:

SECTION I

0.1. Make (trade name of manufacturer): ..........................................................................

0.2. Type: ...........................................................................................................

0.2.1. Commercial name(s) (²): 

0.3. Means of identification of type, if marked on the vehicle: ...........................................

0.3.1. Location of that marking: .............................................................................

²) Delete where not applicable.
³) If not available at the time of granting the EC type-approval, this item shall be completed at the latest when the vehicle is introduced on the market.
0.4. Category of vehicle (1): ............................................................................................................

0.5. Name and address of manufacturer: ..................................................................................

0.8. Name(s) and address(es) of assembly plant(s): .................................................................

[...]

SECTION II

1. Additional information: ...........................................................................................................

   Recyclability rate(s) of the reference vehicle(s): .................................................................

   Recoverability rate(s) of the reference vehicle(s): ..............................................................

2. Technical service responsible for carrying out the tests: ..................................................

3. Date of test report: .................................................................................................................

4. Reference of test report: ......................................................................................................

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

6. Attachments: the index and information package

7. The vehicle meets/does not meet (2) the technical requirements of this Directive: ...........

   (Place) (Signature) (Date)

Attachments: Information package.

---

(1) As defined in part A of Annex II to Directive 70/156/EEC.

(2) Delete where not applicable.
ANNEX IV

PRELIMINARY ASSESSMENT OF THE MANUFACTURER

1. Purpose of this Annex

This Annex describes the preliminary assessment that must be carried out by the competent body to ensure that the manufacturer has put in place the necessary arrangements and procedures.

2. Competent body

The competent body shall comply with standard EN 45012: 1989 or ISO/IEC Guide 62: 1996 on the general criteria for certification bodies operating quality system certification as regards the management systems implemented by the manufacturer.

3. Checks to be performed by the competent body

3.1. The competent body shall ensure that the manufacturer has taken the necessary measures to:

(a) collect appropriate data through the full chain of supply, in particular the nature and the mass of all materials used in the construction of the vehicles, in order to perform the calculations required under this Directive;

(b) keep at his disposal all the other appropriate vehicle data required by the calculation process such as the volume of the fluids, etc.:

(c) check adequately the information received from suppliers;

(d) manage the breakdown of the materials;

(e) be able to perform the calculation of the recyclability and recoverability rates in accordance with the standard ISO 22628: 2002;


(g) verify that no component part listed in Annex V is reused in the construction of new vehicles.

3.2. The manufacturer shall provide the competent body with all relevant information, in documentary form. In particular, recycling and recovery of materials shall be properly documented.

CERTIFICATE OF COMPLIANCE
WITH ANNEX IV TO DIRECTIVE 2005/64/EC

No […… Reference number]

[……. the competent body]

Certifies that

(Manufacturer): ...........................................................................................................................

(Address of the manufacturer): .................................................................................................

complies with the provisions of Annex IV to Directive 2005/64/EC.

Checks have been performed on:

by (name and address of the competent body):

Number of report:

The certificate is valid until […..date]

Done at […..Place]

On […….Date]

[…………Signature]

Attachments: Description of the strategy recommended by the manufacturer in the area of reuse, recycling and recovery.
ANNEX V

COMPONENT PARTS DEEMED TO BE NON-REUSABLE

1. Introduction

This Annex addresses the component parts of vehicles belonging to category M₁ and those belonging to category N₁ which must not be reused in the construction of new vehicles.

2. List of component parts

— All airbags (¹), including cushions, pyrotechnic actuators, electronic control units and sensors

— Automatic or non-automatic seat belt assemblies, including webbing, buckles, retractors, pyrotechnic actuators

— Seats (only in cases where safety belt anchorages and/or airbags are incorporated in the seat)

— Steering lock assemblies acting on the steering column

— Immobilisers, including transponders and electronic control units

— Emission after-treatment systems (e.g. catalytic converters, particulate filters)

— Exhaust silencers.

(¹) When the airbag is inserted inside the steering wheel, the steering wheel itself.
ANNEX VI

AMENDMENTS TO DIRECTIVE 70/156/EEC

Directive 70/156/EEC is amended as follows:

1. the following points shall be added in Annex I:

   15. REUSABILITY, RECYCLABILITY and RECOVERABILITY

   15.1. Version to which the reference vehicle belongs:

   15.2. Mass of the reference vehicle with bodywork or mass of the chassis with cab, without bodywork and/or coupling device if the manufacturer does not fit the bodywork and/or coupling device (including liquids, tools, spare wheel, if fitted) without driver:

   15.3. Mass of materials of the reference vehicle

   15.3.1. Mass of material taken into account at the pre-treatment step (\(m_{1}^{pp}\)):

   15.3.2. Mass of material taken into account at the dismantling step (\(m_{2}^{ps}\)):

   15.3.3. Mass of material taken into account at the non-metallic residue treatment step, considered as recyclable (\(m_{3}^{pp}\)):

   15.3.4. Mass of material taken into account at the non-metallic residue treatment step, considered as energy recoverable (\(m_{4}^{pp}\)):

   15.3.5. Materials breakdown (\(m_{5}^{pp}\)):

   15.3.6. Total mass of materials, which are reusable and/or recyclable:

   15.3.7. Total mass of materials, which are reusable and/or recoverable:

   15.4. Rates

   15.4.1. Recyclability rate \(R_{cyk} \, (\%)\):

   15.4.2. Recoverability rate \(R_{cov} \, (\%)\):

\( (pp) \) These terms are defined in the standard ISO 22628: 2002.
2. the following item shall be added in Part I of Annex IV:

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3. Annex XI is amended as follows:

(a) the following item shall be added in Appendix 1:

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<th>Item</th>
<th>Subject</th>
<th>Directive No</th>
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<th>M1 &gt; 2 500 (kg)</th>
<th>M2</th>
<th>M3</th>
</tr>
</thead>
<tbody>
<tr>
<td>'59</td>
<td>Recyclability</td>
<td>2005/64/EC</td>
<td>N/A</td>
<td>N/A</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

(b) the following item shall be added in Appendix 2:

<table>
<thead>
<tr>
<th>Item</th>
<th>Subject</th>
<th>Directive number</th>
<th>M1</th>
<th>M2</th>
<th>M3</th>
<th>N1</th>
<th>N2</th>
<th>N3</th>
<th>O1</th>
<th>O2</th>
<th>O3</th>
<th>O4</th>
</tr>
</thead>
<tbody>
<tr>
<td>'59</td>
<td>Recyclability</td>
<td>2005/64/EC</td>
<td>N/A</td>
<td></td>
<td></td>
<td>N/A</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

(c) the following item shall be added in Appendix 3:

<table>
<thead>
<tr>
<th>Item</th>
<th>Subject</th>
<th>Directive number</th>
<th>M1</th>
<th>M2</th>
<th>M3</th>
<th>N1</th>
<th>N2</th>
<th>N3</th>
<th>O1</th>
<th>O2</th>
<th>O3</th>
<th>O4</th>
</tr>
</thead>
<tbody>
<tr>
<td>'59</td>
<td>Recyclability</td>
<td>2005/64/EC</td>
<td></td>
<td></td>
<td>N/A</td>
<td></td>
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</tbody>
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