

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)

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.

Article 2

Scope

This Regulation shall apply to:

1. 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;

Changes to legislation: There are outstanding changes not yet made to Regulation (EC) No 79/2009 of the European Parliament and of the Council. Any changes that have already been made to the legislation appear in the content and are referenced with annotations. (See end of Document for details) View outstanding changes

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 hydrogen-powered 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;

Changes to legislation: There are outstanding changes not yet made to Regulation (EC) No 79/2009 of the European Parliament and of the Council. Any changes that have already been made to the legislation appear in the content and are referenced with annotations. (See end of Document for details) View outstanding changes

- (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.

Changes to legislation: There are outstanding changes not yet made to Regulation (EC) No 79/2009 of the European Parliament and of the Council. Any changes that have already been made to the legislation appear in the content and are referenced with annotations. (See end of Document for details) View outstanding changes

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.
- 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.

^[F1] Article 12

Delegated powers

The Commission is empowered to adopt delegated acts in accordance with Article 12a in order to supplement this Regulation in the light of technical progress by establishing:

- (a) detailed rules for the test procedures set out in Annexes II to V;

Changes to legislation: There are outstanding changes not yet made to Regulation (EC) No 79/2009 of the European Parliament and of the Council. Any changes that have already been made to the legislation appear in the content and are referenced with annotations. (See end of Document for details) [View outstanding changes](#)

- (b) detailed rules concerning the requirements for the installation of hydrogen components and systems set out in Annex VI;
- (c) detailed rules concerning the requirements for the safe and reliable functioning of hydrogen components and systems set out in Article 5;
- (d) specifications for requirements relating to any of the following:
 - (i) the use of pure hydrogen or a mixture of hydrogen and natural gas/biomethane;
 - (ii) new forms of hydrogen storage or usage;
 - (iii) the impact protection of vehicles with regard to the integrity of hydrogen components and systems;
 - (iv) integrated system safety requirements, covering at least the detection of leakage and requirements relating to purge gas;
 - (v) electrical isolation and electric safety;
- (e) administrative provisions for the EC type-approval of vehicles, with regard to hydrogen propulsion, and hydrogen components and systems;
- (f) 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);
- (g) 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; and
- (h) other measures necessary for the application of this Regulation.]

Textual Amendments

- F1** Substituted by [Regulation \(EU\) 2019/1243 of the European Parliament and of the Council of 20 June 2019](#) adapting a number of legal acts providing for the use of the regulatory procedure with scrutiny to Articles 290 and 291 of the Treaty on the Functioning of the European Union (Text with EEA relevance).

[^{F2}Article 12a

Exercise of the delegation

1 The power to adopt delegated acts is conferred on the Commission subject to the conditions laid down in this Article.

2 The power to adopt delegated acts referred to in Article 12 shall be conferred on the Commission for a period of five years from 26 July 2019. The Commission shall draw up a report in respect of the delegation of power not later than nine months before the end of the five-year period. The delegation of power shall be tacitly extended for periods of an identical duration, unless the European Parliament or the Council opposes such extension not later than three months before the end of each period.

3 The delegation of power referred to in Article 12 may be revoked at any time by the European Parliament or by the Council. A decision to revoke shall put an end to the delegation of the power specified in that decision. It shall take effect the day following the publication of

Changes to legislation: There are outstanding changes not yet made to Regulation (EC) No 79/2009 of the European Parliament and of the Council. Any changes that have already been made to the legislation appear in the content and are referenced with annotations. (See end of Document for details) [View outstanding changes](#)

the decision in the *Official Journal of the European Union* or at a later date specified therein. It shall not affect the validity of any delegated acts already in force.

4 Before adopting a delegated act, the Commission shall consult experts designated by each Member State in accordance with the principles laid down in the Interinstitutional Agreement of 13 April 2016 on Better Law-Making⁽¹⁾.

5 As soon as it adopts a delegated act, the Commission shall notify it simultaneously to the European Parliament and to the Council.

6 A delegated act adopted pursuant to Article 12 shall enter into force only if no objection has been expressed either by the European Parliament or the Council within a period of three months of notification of that act to the European Parliament and the Council or if, before the expiry of that period, the European Parliament and the Council have both informed the Commission that they will not object. That period shall be extended by two months at the initiative of the European Parliament or of the Council.]

Textual Amendments

- F2** Inserted by [Regulation \(EU\) 2019/1243 of the European Parliament and of the Council of 20 June 2019 adapting a number of legal acts providing for the use of the regulatory procedure with scrutiny to Articles 290 and 291 of the Treaty on the Functioning of the European Union \(Text with EEA relevance\)](#).

^{F3}Article 13

[^{F3}Committee procedure]

Textual Amendments

- F3** Deleted by [Regulation \(EU\) 2019/1243 of the European Parliament and of the Council of 20 June 2019 adapting a number of legal acts providing for the use of the regulatory procedure with scrutiny to Articles 290 and 291 of the Treaty on the Functioning of the European Union \(Text with EEA relevance\)](#).

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

Changes to legislation: There are outstanding changes not yet made to Regulation (EC) No 79/2009 of the European Parliament and of the Council. Any changes that have already been made to the legislation appear in the content and are referenced with annotations. (See end of Document for details) [View outstanding changes](#)

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;
- 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.

Changes to legislation: There are outstanding changes not yet made to Regulation (EC) No 79/2009 of the European Parliament and of the Council. Any changes that have already been made to the legislation appear in the content and are referenced with annotations. (See end of Document for details) [View outstanding changes](#)

(1) [^{F2}[OJ L 123, 12.5.2016, p. 1.](#)]

Textual Amendments

- F2** Inserted by [Regulation \(EU\) 2019/1243 of the European Parliament and of the Council of 20 June 2019](#) adapting a number of legal acts providing for the use of the regulatory procedure with scrutiny to Articles 290 and 291 of the Treaty on the Functioning of the European Union (Text with EEA relevance).

Changes to legislation:

There are outstanding changes not yet made to Regulation (EC) No 79/2009 of the European Parliament and of the Council. Any changes that have already been made to the legislation appear in the content and are referenced with annotations.

[View outstanding changes](#)

Changes and effects yet to be applied to :

- Art. 4(1) words substituted by [S.I. 2022/1273 reg. 52\(3\)\(a\)\(i\)](#)
- Art. 4(1) words substituted by [S.I. 2022/1273 reg. 52\(3\)\(a\)\(ii\)](#)
- Art. 4(2) words substituted by [S.I. 2022/1273 reg. 52\(3\)\(b\)](#)
- Art. 4(3) words substituted by [S.I. 2022/1273 reg. 52\(3\)\(b\)](#)
- Art. 4(4) word substituted by [S.I. 2022/1273 reg. 52\(3\)\(c\)](#)
- Art. 11(1) words substituted by [S.I. 2022/1273 reg. 52\(4\)\(a\)\(i\)](#)
- Art. 11(1) words substituted by [S.I. 2022/1273 reg. 52\(4\)\(a\)\(ii\)](#)
- Art. 11(1) words substituted by [S.I. 2022/1273 reg. 52\(4\)\(a\)\(iii\)](#)
- Art. 11(2) words substituted by [S.I. 2022/1273 reg. 52\(4\)\(b\)\(i\)](#)
- Art. 11(2) words substituted by [S.I. 2022/1273 reg. 52\(4\)\(b\)\(ii\)](#)
- Art. 11(2) words substituted by [S.I. 2022/1273 reg. 52\(4\)\(b\)\(iii\)](#)
- Art. 11(3) words substituted by [S.I. 2022/1273 reg. 52\(4\)\(c\)\(i\)](#)
- Art. 11(3) words substituted by [S.I. 2022/1273 reg. 52\(4\)\(c\)\(ii\)](#)
- Art. 11(3) words substituted by [S.I. 2022/1273 reg. 52\(4\)\(c\)\(iii\)](#)
- Art. 12 words substituted by [S.I. 2022/1273 reg. 52\(5\)\(a\)](#)
- Art. 12a substituted by [S.I. 2022/1273 reg. 52\(6\)](#)
- Art. 15 omitted by [S.I. 2022/1273 reg. 52\(7\)](#)

Changes and effects yet to be applied to the whole legislation item and associated provisions

- Signature words omitted by [S.I. 2022/1273 reg. 52\(8\)](#)
- Art. 2(1) words substituted by [S.I. 2022/1273 reg. 52\(2\)](#)
- Art. 11(1)(a) words omitted by [S.I. 2022/1273 reg. 52\(4\)\(a\)\(iv\)](#)
- Art. 11(3)(a) words omitted by [S.I. 2022/1273 reg. 52\(4\)\(c\)\(iv\)](#)
- Art. 12(e) word omitted by [S.I. 2022/1273 reg. 52\(5\)\(b\)](#)