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**Economic Commission for Europe**

Inland Transport Committee

**World Forum for Harmonization of Vehicle Regulations****Working Party on Passive Safety****Sixty-seventh session**

Geneva, 11-15 May 2020

Item 14 of the provisional agenda

**Regulation No. 134 (Hydrogen and Fuel Cell Vehicles)****Proposal for the 01 series of amendments to  
Regulation No. 134 (Hydrogen and Fuel Cell Vehicles  
(HFCV))****Submitted by the expert from the Netherlands \***

The text reproduced below was prepared by the expert from the Netherlands, aiming to achieve an identification of hydrogen-fuelled buses and trucks which is consistent with already existing regulated identification for Liquefied Petroleum Gas (LPG), Compressed Natural Gas (CNG) and Liquid Natural Gas (LNG) fuelled busses. It is based on GRSP-66-05 and GRSP-66-40 distributed at the sixty-sixth session of the Working Party on Passive Safety (GRSP) (see ECE/TRANS/WP.29/GRSP/66, para. 42). The modifications to the current text of the UN Regulation are marked in bold for new or strikethrough for deleted characters.

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\* In accordance with the programme of work of the Inland Transport Committee for 2020 as outlined in proposed programme budget for 2020 (A/74/6 (part V sect. 20) para 20.37), the World Forum will develop, harmonize and update UN Regulations in order to enhance the performance of vehicles. The present document is submitted in conformity with that mandate.



## I. Proposal

*Contents, list of annexes, amend to read:*

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#### Regulation

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*Paragraph 7.1.1.2., shall be deleted.*

*Paragraphs 7.1.1.3. and 7.1.1.4., renumber as paragraphs 7.1.1.2. and 7.1.1.3.*

*Insert a new paragraph 7.1.7., to read:*

**"7.1.7. Identification of hydrogen fuelled vehicles.**

**7.1.7.1. On vehicles of the categories M<sub>2</sub>/N<sub>2</sub> and M<sub>3</sub>/N<sub>3</sub>, equipped with a compressed hydrogen system, labels shall be installed as specified in Annex 6.**

**7.1.7.2. The labels shall be installed on the front and rear of the vehicle and on the outside of the doors on the right-hand side (left-hand drive vehicles) and left-hand side (right-hand drive vehicles).**

**7.1.7.3. A label shall be placed adjacent to the H<sub>2</sub> fill receptacle; for instance inside a refilling hatch, showing the following information: fuel type (using label shape and zones, colour definitions and pictogram as designated in Annex 6, MFP, NWP, date of removal from service of containers."**

*Insert new paragraphs 13. to 13.4., to read:*

### **"13. Transitional Provisions**

**13.1. As from the official date of entry into force of the 01 series of amendments, no Contracting Party applying this UN Regulation shall refuse to grant or refuse to accept UN type approvals under this UN Regulation as amended by the 01 series of amendments.**

**13.2. As from [1 September 2022,] Contracting Parties applying this UN Regulation shall not be obliged to accept UN type approvals to the**

preceding series of amendments that were first issued on or after [1 September 2022.]

13.3. Until [1 September 2024,] Contracting Parties applying this UN Regulation shall accept UN type approvals to the preceding series of amendments that were first issued before [1 September 2021.]

13.4. As from [1 September 2024,] Contracting Parties applying this Regulation shall not be obliged to accept type approvals issued to the preceding series."

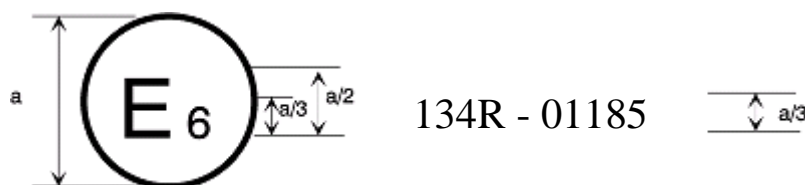
Annex 2, amend to read:

## "Annex 2

### Arrangements of the approval marks

Model A

(See paragraphs 4.4. to 4.4.2. of this Regulation)

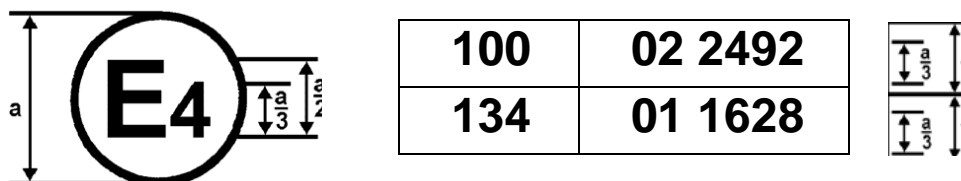


a = 8 mm min

The above approval mark affixed to a vehicle/ storage system/specific component shows that the vehicle/storage system/specific component type concerned has been approved in Belgium (E 6) for its the safety-related performance of hydrogen-fuelled vehicles pursuant to Regulation No. 134. The first two digits of the approval number indicate that the approval ~~was granted in accordance with the requirements of Regulation No. 134 in its original form~~ **already contained the 01 series of amendments at the time of approval.**

Model B

(See paragraph 4.5. of this Regulation)



a = 8 mm min.

The above approval mark affixed to a vehicle shows that the road vehicle concerned has been approved in the Netherlands (E 4) pursuant to Regulations Nos. 134 and 100.\* The approval number indicates that, at the dates when the respective approvals were granted, Regulation No. 100 was amended by the 02 series of amendments and Regulation No. 134 was ~~still in its original form.~~ **amended by the 01 series of amendments."**

\* The latter number is given only as an example.

Introduce a new Annex 6, to read:

## "Annex 6

### Provisions for a label for compressed hydrogen vehicles of categories M<sub>2</sub>/N<sub>2</sub> and M<sub>3</sub>/N<sub>3</sub>.

(Paragraph 7.1.7.1 and 7.1.7.3. of this Regulation)



The label consists of a sticker which shall be weather resistant.

The centre zone indicates the first energy source.

The upper zone indicates the second energy source.

The left zone indicates the gas behaviour due to density.

The right zone indicates the state of aggregation of stored gaseous fuel.

Layout and symbols shall be in accordance with ISO 17840-4:2018.

The colour and dimensions of the sticker shall fulfil the following requirements:

Colours:

Background:	Light-blue, RGB code 0, 176, 240
Border:	white or white reflecting
Letters:	white or white reflecting

Dimensions:

Sticker width:	110 – 150 mm
Sticker height:	80 – 110 mm"

## II. Justification

1. Provisions for identification of gaseous and liquified fuels have been laid down in UN Regulations for LPG-fuelled M<sub>2</sub> and M<sub>3</sub> vehicles (UN Regulation No. 67, para. 17.1.8., including Annex 16 for details), and CNG/LNG-fuelled M<sub>2</sub> and M<sub>3</sub> vehicles (UN Regulation No. 110, para. 18.1.8., including Annex 6 and 7 for the details).

2. The background for the additional labelling would help emergency services to determine how to approach these vehicles in case of a fire. [In fire conditions, it may be decided to cool the tanks or cylinders to prevent activation of TPRDs, or if the fire has progressed beyond this stage, to take measures to mitigate the effects of a flare or explosion. Compressed and liquefied gases behave differently in fire conditions.]
  3. Extending the scope to N<sub>2</sub>/N<sub>3</sub> vehicles is necessary due to the wide variety of these vehicles nowadays, whereas in the past, they were usually equipped with a diesel-powered driveline.
  4. For the installation of labels, this proposal seeks consistency with UN Regulation Nos. 67 and 110.
  5. CTIF<sup>1</sup> recommends the use of symbols which are in line with the international standard **ISO 17840-4, Part 4 Propulsion energy identification**.
  6. For the appearance of the label, this proposal seeks consistency with the above mentioned ISO standard.
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<sup>1</sup> CTIF: historical abbreviation in French for "*Comité Technique International de prevention et d'extinction de Feu*".