

Transmitted by the expert from OICA

PROPOSAL FOR DRAFT AMENDMENTS TO REGULATION No. 34

Note: The text reproduced below was prepared by the expert from OICA in order to introduce new parts III and IV into the Regulation, allowing the possibility for approvals to be granted for fuel tanks as separate technical units. The modifications to the existing text of the Regulation are marked in **bold** or ~~striketrough~~ characters.

**A. PROPOSAL**

CONTENTS:

Title of Part I, amend to read:

"PART I - APPROVAL OF **VEHICLES** ~~VEHICLE~~ WITH REGARDS TO **THEIR** ~~ITS~~ FUEL TANKS"

Title of Part II, amend to read:

"PART II - APPROVAL OF **VEHICLES** ~~VEHICLE~~ WITH REGARD TO THE PREVENTION OF FIRE RISKS IN THE EVENT OF COLLISION"

Table of contents, Regulation, item 8, amend to read:

"8. Requirements for **the** installation of ~~an approved~~ liquid fuel **tanks** ~~tank~~"

Paragraphs 10 to 14, renumber as 14 to 18.

Insert new PARTS III and IV, to read:

**"PART III - APPROVAL OF TANKS FOR LIQUID FUEL AS SEPARATE TECHNICAL UNITS**

**10. Definitions**

**11. Requirements for liquid fuel tanks**

**PART IV – APPROVAL OF A VEHICLE WITH REGARD TO THE INSTALLATION OF AN APPROVED TANK**

## 12. Definitions

## 13. Requirements for the installation of liquid fuel tanks"

Renumbered paragraph 14., amend to read:

"14. Modifications of the ~~vehicle~~ type **of vehicle or tank**"

Annex 1, amend to read:

"Annex 1 - Communication concerning ... frontal/lateral/rear collision **and to a type of tank for liquid fuel** pursuant to Regulation No. 34"

## REGULATION

Paragraph 1.2., amend to read:

"1.2. PART II: at the request ..... approved to Part I **or IV** of this .....collision."

Insert new paragraphs 1.3. and 1.4., to read:

"1.3. PART III: to the approval of tanks for liquid fuel as technical units.

1.4. PART IV: to the approval of vehicles with regard to the installation of approved tanks for liquid fuel"

Paragraphs 2.1 to 2.3.3., renumber as 2.1.1. to 2.1.3.3.

Insert a new paragraph 2.1., to read:

"2.1. Application for approval pursuant to Part I and/or Part II of this Regulation"

Renumbered paragraph 2.1.1., amend to read:

"2.1.1. The application for approval of a vehicle type to ~~a part~~ **Part I or Part II** of this Regulation .....representative"

Renumbered paragraph 2.1.2.1., amend to read:

"2.1.2.1. a detailed description .....~~shall~~ **must** be specified. "

Renumbered paragraph 2.1.3., amend to read:

"2.1.3. The following ~~shall~~ **must** be submitted .... tests:"

Insert new paragraphs 2.2. and 2.3., to read:

**"2.2. Application for approval pursuant to Part III of this Regulation**

**2.2.1. The application for approval of a type of tank for liquid fuel pursuant to Part III of this Regulation shall be submitted by the tank manufacturer or by his duly accredited representative.**

**2.2.2. It shall be accompanied by the under-mentioned documents in triplicate and by the following particulars:**

**2.2.2.1. a detailed description of the type of fuel tank with respect to the items specified in paragraph 10.2.; it should be specified whether the application applies to a type of tank with or without its accessories and whether it applies for a universal use or for a specific vehicle use. In the case of an approval of a type of tank without its accessories, clear identification of the accessories used for the tests shall be included;**

**2.2.2.2. drawing(s) showing the characteristics of the fuel tank and specifying the material of which it is made and, in the case of a tank for specific vehicle use, characteristics of the vehicle parts used during the tests;**

**2.2.3. The following shall be submitted to the technical service responsible for conducting the type-approval tests:**

**2.2.3.1. in the case of a tank made of plastic material: seven tanks, with their accessories. In the case of a tank to be approved without its accessories, seven sets of accessories of a type normally fitted to the vehicle shall be submitted;**

**2.2.3.2. in the case of a tank made of another material: two tanks, with their accessories. In the case of a tank to be approved without its accessories, two sets of accessories of a type normally fitted to the vehicle shall be submitted.**

**2.2.3.3. in the case of a tank made of plastic for a specific vehicle use, vehicle parts as indicated in paragraph 5.3.2. of Annex 5 shall be submitted.**

**2.3. Application for approval pursuant to Part IV of this Regulation**

**2.3.1. The application for approval of a type of vehicle pursuant to Part IV of this Regulation shall be submitted by the vehicle manufacturer or by his duly accredited representative.**

**2.3.2. It shall be accompanied by the under-mentioned documents in triplicate and by the following particulars:**

**2.3.2.1. a detailed description of the vehicle type with respect to the items specified in paragraph 12.2. The numbers and/or symbols identifying the engine type and the vehicle type shall be specified;**

- 2.3.2.2. a diagram of the entire fuel feed system, showing the site of each component on the vehicle;
- 2.3.2.3 a list of all types of tanks for liquid fuel approved pursuant to Part III of this regulation and intended to be fitted to the type of vehicle.
- 2.3.3. The following shall be submitted to the technical service responsible for conducting the type-approval tests:
  - 2.3.3.1 a vehicle representative of the type of vehicle to be approved;
  - 2.3.3.2 if necessary, two additional tanks with their accessories in the case of each type of fuel tank approved without its accessories."

Paragraphs 3.1 to 3.8., renumber as 3.1.1. to 3.1.8.

Insert a new paragraph 3.1., to read:

**"3.1. Approval pursuant to Part I and/or Part II of this Regulation"**

Renumbered paragraph 3.1.3., amend to read:

"3.1.3. Notice of approval ..... model in annex 1, **appendix 1** to this Regulation and of drawings, giving the particulars referred to in paragraphs **2.1.2.2., 2.1.2.3. and 2.1.2.4.** ~~2.2.2., 2.2.3. and 2.2.4.~~ above .....scale."

Renumbered paragraph 3.1.4.2., amend to read:

"3.1.4.2. the number of this Regulation, followed by "RI", if the vehicle is approved pursuant to **Part part I** of the Regulation, or by "RII" if the vehicle is approved pursuant to **Parts parts I or IV and to Part II** of the Regulation, a dash and the approval number to the right of the circle prescribed in paragraph **3.1.4.1. 3.4.1.**"

Renumbered paragraph 3.1.5., amend to read:

"3.1.5. If the vehicle ..... in paragraph **3.1.4.1. 3.4.1.** need not ..... in paragraph **3.1.4.1. 3.4.1.**"

Footnote 2, amend to read:

"2/ 1 for Germany, ..... 10 for Serbia and Montenegro, 11 for the United Kingdom, ....., 47 for South Africa, and 48 for New Zealand, **49 for Cyprus, 50 for Malta, 51 for the Republic of Korea, 52 for Malaysia, 53 for Thailand, 54 (vacant), 55 (vacant), 56 for Montenegro and 58 for Tunisia.** Subsequent numbers .... Agreement."

Insert new paragraphs 3.2. and 3.3., to read:

**"3.2. Approval pursuant to Part III of this Regulation"**

- 3.2.1. If the tank submitted for approval pursuant to this Regulation meets the requirements of Part III below, approval of that type of tank shall be granted.
- 3.2.2. Each type approved shall be assigned an approval number whose first two digits shall constitute the number of the most recent series of amendments incorporated in the Regulation on the date of issue of the approval.
- 3.2.3. Notice of approval or of refusal of approval of a type of tank pursuant to this Regulation shall be communicated to the Parties to the Agreement which apply this Regulation by means of a form conforming to the model in annex 1, appendix 2 to this Regulation and of drawings, giving the particulars referred to in paragraphs 2.2.2.1. and 2.2.2.2. above (supplied by the applicant for approval) in a format not exceeding A 4 (210 x 297 mm) or folded to that format and on an appropriate scale.
- 3.2.4. There shall be affixed, conspicuously and in a readily accessible place specified on the approval form, to every tank conforming to a type of tank approved under this Regulation, an international approval mark consisting of:
  - 3.2.4.1. a circle surrounding the letter "E" followed by the distinguishing number of the country which has granted approval; 2/
  - 3.2.4.2. the number of this Regulation, followed by "RIII", the mention "U" if the tank is approved for a universal use or "S" if the tank is approved for a specific vehicle use, the mention "+A" if the tank is approved with its accessories or "#A" if the tank is approved without its accessories, a dash and the approval number to the right of the circle prescribed in paragraph 3.2.4.1.
- 3.2.5. The approval mark shall be clearly legible and indelible when the tank is installed in the vehicle.
- 3.2.6. Annex 2 to this Regulation gives examples of arrangements of the approval mark.
- 3.3 Approval pursuant to Part IV of this Regulation
  - 3.3.1. If the vehicle submitted for approval pursuant to this Regulation meets the requirements of Part IV below, approval of that vehicle type shall be granted.
  - 3.3.2. Each type approved shall be assigned an approval number whose first two digits shall constitute the number of the most recent series of amendments incorporated in the Regulation on the date of issue of the approval. A Contracting Party may however assign the same approval number to several vehicle types as defined in paragraph 12.2. if the types are variants of the same basic model and provided that each type is separately tested and found to comply with the conditions of this Regulation.

- 3.3.3. Notice of approval or of refusal of approval of a vehicle type pursuant to this Regulation shall be communicated to the Parties to the Agreement which apply this Regulation by means of a form conforming to the model in annex 1, appendix 1 to this Regulation and of drawings, giving the particulars referred to in paragraphs 2.3.2.1., 2.3.2.2. and 2.3.2.3. above (supplied by the applicant for approval) in a format not exceeding A 4 (210 x 297 mm) or folded to that format and on an appropriate scale.**
- 3.3.4. There shall be affixed, conspicuously and in a readily accessible place specified on the approval form, to every vehicle conforming to a vehicle type approved under this Regulation, an international approval mark consisting of:**
- 3.3.4.1. a circle surrounding the letter "E" followed by the distinguishing number of the country which has granted approval; 2/**
- 3.3.4.2. the number of this Regulation, followed "RIV", a dash and the approval number to the right of the circle prescribed in paragraph 3.3.4.1.**
- 3.3.5. If the vehicle conforms to a vehicle type approved, under one or more other Regulations annexed to the Agreement, in the country which has granted approval under this Regulation, the symbol prescribed in paragraph 3.3.4.1. need not be repeated; in such a case the additional numbers, approval numbers and symbols of all the Regulations under which approval has been granted in the country which has granted approval under this Regulation shall be placed in vertical columns to the right of the symbol prescribed in paragraph 3.3.4.1.**
- 3.3.6. The approval mark shall be clearly legible and indelible.**
- 3.3.7. The approval mark shall be placed close to or on the vehicle data plate affixed by the manufacturer.**
- 3.3.8. Annex 2 to this Regulation gives examples of arrangements of the approval mark."**

Title of Part I, amend to read:

"PART I - APPROVAL OF VEHICLES WITH REGARD TO ~~THEIR ITS~~ FUEL TANKS"

Paragraph 4.2.1., amend to read:

"4.2.1. **the manufacturer's type designation** ~~the structure, shape, dimensions and materials (metal/plastic) of the tank(s); "~~

Paragraph 5.1., amend to read:

"5.1. Tanks ~~must~~ **shall** be made so as to be corrosion-resistant. "

Paragraph 5.2., amend to read:

"5.2. Tanks ~~shall~~ ~~must~~ satisfy ..... of 0.3 bar.

Tanks ~~for vehicles~~ made of a plastic material .... Annex 5, paragraph 2. "

Paragraph 5.3., amend to read:

"5.3. Any excess pressure .... working pressure ~~shall~~ ~~must~~ be ..... etc.)."

Paragraph 5.4., amend to read:

"5.4. The vents ~~shall~~ ~~must~~ be designed ..... being filled ~~shall~~ ~~must~~ not be able .... ground."

Paragraph 5.5., amend to read:

"5.5. The tank(s) ~~shall~~ ~~must~~ not be ..... it. "

Paragraph 5.6., amend to read:

"5.6. A partition ~~shall~~ ~~must~~ be.....of use."

Paragraph 5.7., amend to read:

"5.7. Every tank ~~shall~~ ~~must~~ be .....of use."

Paragraph 5.8., amend to read:

"5.8. The filler hole ~~shall~~ ~~must~~ not be ..... compartment."

Paragraph 5.9., amend to read:

"5.9. The fuel ~~shall~~ ~~must~~ not escape .... this requirement ~~shall~~ ~~must~~ .... paragraph 6.2."

Paragraph 5.9.1., amend to read:

"5.9.1. The fuel filler cap ~~shall~~ ~~must~~ be fixed to the filler pipe."

Paragraph 5.9.1.1., amend to read:

"5.9.1.1. The requirements of paragraph 5.9.1. ~~shall~~ ~~will~~ be deemed to be ..... cap.

This may be achieved using one of the following:"

Paragraph 5.9.2., amend to read:

"5.9.2. the seal ..... pipe ~~shall~~ ~~must~~ be ..... The cap ~~shall~~ ~~must~~ latch ..... closed."

Paragraph 5.10., amend to read:

"5.10. Tanks ~~shall~~ **must** be installed ..... consequences of a ~~an~~ collision ..... tank."

Paragraph 5.12., amend to read:

"5.12. The fuel tank(s) shall ..... a **plastic** ~~plastics~~ material ..... with."

Paragraph 6.1., amend to read:

"6.1. Hydraulic test

The tank ~~shall~~ **must** be subjected .....test which ~~shall~~ **must** be carried .... The tank ~~shall~~ **must** be completely .....the pressure ~~shall~~ **must** be gradually ..... 0,3 bar, which ~~shall~~ **must** be maintained .....tank shell ~~shall~~ **must** not crack ..... deformed."

Paragraph 6.2.1., amend to read:

"6.2.1. The tank and all its accessories ~~shall~~ **must** be mounted ..... excess pressure."

Paragraph 6.2.3., amend to read:

"6.2.3. The test ~~shall~~ **will** be carried ..... be accepted). "

Paragraph 6.2.4., amend to read:

"6.2.4. The tank ~~shall~~ **must** be turned ..... The tank ~~shall~~ **must** remain ..... The tank ~~shall~~ **must** then be turned ..... The tank ~~shall~~ **must** be held ..... The tank ~~shall~~ **must** be rotated ..... the tank ~~shall~~ **must** be drained ..... The tank ~~shall~~ **must** be rotated ..... position.

The tank ~~shall~~ **must** be rotated ..... inverted position ~~shall~~ **must** be maintained. ....  
Afterwards the tank ~~shall~~ **must** be ..... position.

The rotation ..... 3 minutes."

Paragraph 8., amend to read:

"8. REQUIREMENTS FOR **THE** INSTALLATION OF ~~AN APPROVED~~ LIQUID FUEL TANKS ~~TANK~~"

Paragraph 8.1.1., amend to read:

"8.1.1. the ~~vehicles tanks for liquid fuel~~ shall be approved according to **either** Part I **or** IV of this Regulation."



Paragraph 9.2., amend to read:

"9.2. if there is continuous ..... of leakage **shall** ~~must~~ not exceed ..... collected;"

Paragraph 9.4., amend to read:

"9.4. During and ..... the battery **shall** ~~must~~ be kept ..... device."

Paragraphs 10 to 14, renumber as 14 to 18.

Insert new Parts III and IV., to read:

## **"PART III - APPROVAL OF TANKS FOR LIQUID FUEL AS TECHNICAL UNITS**

### **10. DEFINITIONS**

**For the purposes of this Part of the Regulation:**

**10.1. "tank" means the tank(s) designed to contain the liquid fuel, as defined in paragraph 10.3., used primarily for the propulsion of the vehicle; the tank may be approved either with or without its accessories (filler pipe, if it is a separate element, filler hole, cap, gauge, connections to compensate interior excess pressure, etc.);**

**10.2. "capacity of the fuel tank" means the fuel tank capacity as specified by the tank manufacturer;**

**10.3. "liquid fuel" means a fuel which is liquid in normal conditions of temperature and pressure;**

**10.4. "approval of a tank" means the approval of a type of liquid fuel tank;**

**10.5. "type of tank" means tanks which do not differ in such essential respects as:**

**10.5.1. the structure, shape, dimensions and material (metal/plastic) of the tank(s);**

**10.5.2. the intended use of the tank: universal use or specific vehicle use;**

**10.5.3. the presence or absence of the accessories.**

### **11. REQUIREMENTS FOR LIQUID FUEL TANKS**

**11.1. The requirements stated in §§ 5.1., 5.2., 5.3., 5.9., 5.12., 6.1 and 6.2. above shall be complied with when the tanks are equipped with the accessories that are normally attached to them.**

- 11.2. In case the tanks are to be approved without their accessories the manufacturer's documentation shall clearly identify the accessories used for the test.**

**PART IV - APPROVAL OF VEHICLES WITH REGARD TO THE INSTALLATION OF APPROVED FUEL TANK(S)**

**12. DEFINITIONS**

**For the purposes of this Part of the Regulation:**

- 12.1. "approval of a vehicle" means the approval of a vehicle type with regard to the installation of liquid fuel tank(s) approved pursuant to Part III of this Regulation;**
- 12.2. "vehicle type" means vehicles which do not differ in such essential respects as:**
- 12.2.1. the manufacturer's type designation;**
- 12.2.2. in vehicles of category M1 1/ the position of the tank(s) in the vehicle in so far as it has a negative effect on the requirements of paragraph 5.10.;**

**13. REQUIREMENTS FOR THE INSTALLATION OF LIQUID FUEL TANK(S)**

- 13.1. The requirements stated in §§ 5.4., 5.5., 5.6., 5.7., 5.8., 5.10, and 5.11. above shall be complied with.**
- 13.2. In case the tanks are approved without their accessories, those accessories used during the tests on the tanks and identified in the manufacturer's documentation according to paragraph 11.2. above shall, at the request of the manufacturer, be included in the approval pursuant to Part IV of this Regulation. Additional accessories shall be included provided that the Technical Service is satisfied that the vehicle complies with the requirement of Parts III and IV of this Regulation."**

Renumbered Paragraph 14., amend to read:

"14. **MODIFICATIONS OF THE ~~VEHICLE~~ TYPE OF VEHICLE OR TANK"**

Renumbered Paragraph 14.1., amend to read:

"14.1. Every modification of the ~~vehicle~~ type **of vehicle or tank** shall be ..... then either:"

Renumbered Paragraph 14.2., amend to read:

"14.2. Without prejudice to the provisions of paragraph **14.1.** ~~10.1.~~ above, a variant of the vehicle **tested according to Part II of this Regulation** whose unladen ..... type."

Renumbered Paragraph 14.3., amend to read:

"14.3 Notice of confirmation ..... specified in **paragraphs 3.1.3., 3.2.3. or 3.3.3.** ~~paragraph 3.3.~~ above ..... this Regulation."

Renumbered Paragraphs 15.1. to 15.3., amend to read:

"15.1. Every vehicle **or tank** bearing ..... the requirements of **the respective Parts** ~~Parts I and/or Part II~~ above.

15.2. In order to verify conformity as prescribed in paragraph **15.1.** ~~11.1.~~ above, ..... vehicles **or tanks** bearing ..... random checks.

15.3. As a general rule, the conformity of the vehicle **or tank** with ..... However, the vehicle **or tank** shall ..... paragraph 6. above."

Renumbered Paragraph 16.1., amend to read:

"16.1. The approval granted in respect of a ~~vehicle~~ type **of vehicle or tank** pursuant to ..... paragraph **15.1.** ~~11.1.~~ above is not ..... paragraph 9. above."

Insert new paragraphs 17.5. and 17.6., to read:

"**17.5. As from the official date of entry into force of the supplement 3 to the 02 series of amendments, no Contracting Party applying this Regulation shall refuse to grant ECE approval under this Regulation as amended by supplement 3 to the 02 of amendments.**

**17.6. Even after the entry into force of the supplement 3 to the 02 series of amendments to this Regulation, approvals of the vehicles to the preceding supplements to the 02 series of amendments shall remain valid and Contracting Parties applying this Regulation shall continue to grant extensions to such approvals and shall continue to accept them."**

Annex I, amend title to read:

"Annex 1  
**Appendix 1"**

Item 7, of Annex 1, Appendix 1, amend to read:

"7. Brief description of fuel tank and fuel **or approval number(s) of the approved fuel tank2/** ....."

Insert a new Annex I, Appendix 2, to read:

"Annex 1  
Appendix 2

COMMUNICATION

(Maximum format: A4 (210 x 297 mm))



issued by :

Name of administration:

.....  
.....  
.....

- concerning: 2/      **APPROVAL GRANTED**
- APPROVAL EXTENDED**
- APPROVAL REFUSED**
- APPROVAL WITHDRAWN**
- PRODUCTION DEFINITELY DISCONTINUED**

of a fuel tank pursuant to Regulation No. 34.

Approval No.....

Extension No.:

.....

1. Trade name or mark of the fuel tank: .....
2. Manufacturer's name for the type of fuel tank: .....
3. Manufacturer's name and address: .....
4. If applicable, name and address of manufacturer's representative: .....
- .....
5. Brief description of fuel tank and fuel .....
- 5.1. Characteristics of fuel tank: .....
- 5.2. For fuel tanks made of a plastic material, state material and trade name or mark: .....
- .....
6. Submitted for approval on: .....
7. Technical service responsible for conducting approval tests: .....
8. Date of report issued by that service: .....
9. Number of report issued by that service: .....
10. Reason(s) for extension (if applicable): .....
11. Approval granted/extended/refused/withdrawn 2/
12. Position of approval mark on the fuel tank: .....
13. Place: .....
14. Date: .....
15. Signature: .....
16. The index to the information package lodged with the approval authority, which may be obtained on request, is attached.

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**1/ Distinguishing number of the country which has granted/extended/refused/withdrawn/ the approval (see approval provisions in the Regulation).**

**2/ Strike out what does not apply. "**

Annex 2:

Model A, amend to read:

"Model A  
(see paragraph **3.1.4.** ~~3.4.~~ of this Regulation) "

*(Model and the text that follows it are unchanged)*

Model B, amend to read:

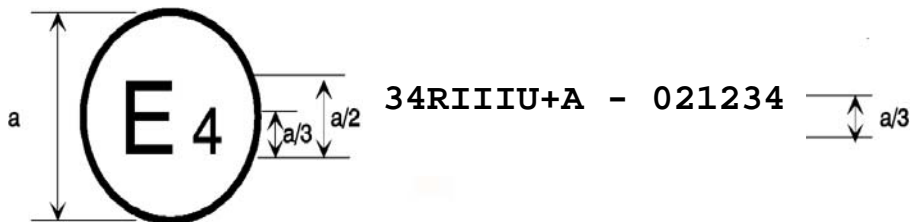
"Model B  
(see paragraph **3.1.5.** ~~3.5.~~ of this Regulation)

*(Model unchanged)*

The above ..... Regulations Nos. 34 Parts I **or** IV and II and 33 \*/. The .... original form. "

Insert new models C, D and E, to read:

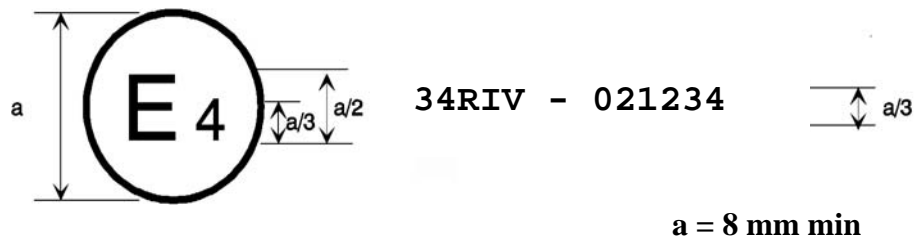
"**Model C**  
(see paragraph **3.2.4.** of this Regulation)



**a = 8 mm min**

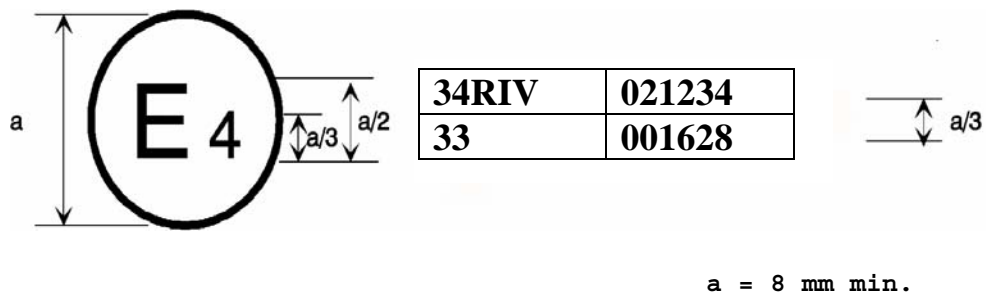
**The above approval mark affixed to a fuel tank shows that the type concerned was approved in the Netherlands (E4) pursuant to Part III of Regulation No. 34, for a universal use including its accessories, under approval No. 021234. The first two digits (02) of the approval number indicate that the approval was granted in accordance with the requirements of Regulation No. 34 as amended by the 02 series of amendments.**

**Model D**  
(see paragraph 3.3.4. of this Regulation)



The above approval mark affixed to a vehicle shows that the type concerned was approved in the Netherlands (E4) pursuant to Part IV of Regulation No. 34 under approval No. 021234. The first two digits (02) of the approval number indicate that the approval was granted in accordance with the requirements of Regulation No. 34 as amended by the 02 series of amendments.

**Model E**  
(See paragraph 3.3.5. of this Regulation)



The above approval mark affixed to a vehicle shows that the type concerned was approved in the Netherlands (E4) pursuant to Regulations Nos. 34 Part IV and 33 \*/. The approval numbers indicated that, at the date when the respective approvals were given, Regulation No. 34 included the 02 series of amendments and Regulation No. 33 was still in its original form.

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\*/ The second number is given merely as an example. "

Annex 3

Paragraph 2.1., amend to read:

"2.1. Testing ground

The test area ..... the barrier, **shall must** be horizontal, flat and smooth. "

Paragraph 2.2., amend to read:

"2.2. Barrier

The barrier ..... The barrier **shall must** be of such .... The front face **shall must** be vertical..... be used. "

Paragraph 2.3., amend to read:

"2.3. Propulsion of vehicle

At the .... the vehicle **shall must** no longer ..... It **shall must** reach the .... 30 cm. "

Paragraph 2.4.2., amend to read:

"2.4.2. If the .... fuel installation **shall must** be filled .... be empty. "

Paragraph 2.4.3., amend to read:

"2.4.3. If the vehicle ..... fuel tank **shall must** be at least ...to capacity. "

Paragraph 2.5., amend to read:

"2.5. Velocity on collision

The velocity on collision **shall must** be between .... considered satisfactory. "

Paragraph 3.2., amend to read:

"3.2. If a method ..... its equivalence **shall must** be demonstrated. "

Annex 4

Paragraph 2.4.1., amend to read:

"2.4.1. If the impactor is .... latter **shall must** be rigid ..... propelling device. "



Paragraph 2.7.2., amend to read:

"2.7.2. The fuel tank **shall must** be filled ..... may be empty. "

Paragraph 3.2., amend to read:

"3.2. If a method ..... its equivalence **shall must** be demonstrated. "

## Annex 5

Paragraph 1.1., amend to read:

"1.1. The tank **shall must** be filled ..... material, and **shall must** then .....perforation test. "

Paragraph 1.2., amend to read:

"1.2. During this test the tank temperature **shall must** be  $233\text{K} \pm 2\text{K}$  ( $-40\text{ }^\circ\text{C} \pm 2\text{ }^\circ\text{C}$ ). "

Paragraph 1.3., amend to read:

"1.3. A pendulum collision testing fixture **shall must** be used for the test. The collision body **shall must** be of ..... the pendulum **shall must** coincide with ..... the pendulum **shall must** be 1 m. The total mass of the pendulum **shall must** be 15 kg. .... of collision **shall must** be not less ..... as possible. "

Paragraph 1.4., amend to read:

"1.4. The tests **shall must** be made ..... the laboratories **shall must** be indicated in the test report. "

Paragraph 1.5., amend to read:

"1.5. During the test, the tank **shall must** be held .... No leak **shall must** result from the test. "

Paragraph 2., amend to read:

## "2. MECHANICAL STRENGTH

The tank **shall must** be tested ..... accessories **shall must** be mounted ..... ( $53\text{ }^\circ\text{C}$ ) **shall must** be used as the testing fluid and **shall must** fill the tank to its capacity. The tank **shall must** be subjected ..... accessories **shall must** not crack ..... deformed. "

Paragraph 3.1., amend to read:

"3.1. The fuel used for the permeability test **shall must** be ..... diesel fuel. "

Paragraph 3.2., amend to read:

"3.2. Prior to the test, the tank **shall must** be filled ..... storage time). "

Paragraph 3.3., amend to read:

"3.3. The tank **shall must** then .....which it **shall must** be hermetically .....The pressure **shall must** be adjusted ..... of testing time. "

Paragraph 3.4., amend to read:

"3.4. If the loss due to .....test described there **shall must** be carried ..... per 24 hours. "

Paragraph 4., amend to read:

"4. RESISTANCE TO FUEL

After the test ..... the tank **shall must** still meet ..... paragraphs 1. and 2. "

Paragraph 5., amend to read:

"5. RESISTANCE TO FIRE

The tank **shall must** be subjected to the following tests. "

Paragraph 5.1., amend to read:

"5.1. For two ..... the vehicle, **shall must** be exposed to flame. There **shall must** be no leakage ..... tank. "

Paragraph 5.2., amend to read:

"5.2. Three tests **shall must** be made on different tanks filled with fuel as follows: "

Paragraph 5.2.1., amend to read:

"5.2.1. If the tank is ..... three tests **shall must** be carried ..... gasoline; "

Paragraph 5.2.2., amend to read:

"5.2.2. If the tank ..... three tests **shall must** be carried ..... diesel fuel; "

Paragraph 5.2.3., amend to read:

"5.2.3. For each ..... accessories **shall must** be installed ..... actual **mounting installation** conditions ..... the fixture **shall must** correspond ..... for **its installation the vehicle. In the case of tanks designed for a specific vehicle use, vehicle** Vehicle parts which ..... and plugs **shall must** be taken into consideration. All openings **shall must** be closed ..... venting systems **shall must** remain operative. .... the tank **shall must** be filled ..... capacity. "

Paragraph 5.3., amend to read:

"5.3. The flame .....is exposed **shall must** be obtained ..... test procedure. "

Paragraph 5.4., amend to read:

"5.4. The pan dimensions **shall must** be chosen ..... The pan **shall must** therefore ..... the pan **shall must** not project ..... test. "

Paragraph 5.5., amend to read:

"5.5. The pan filled with fuel **shall must** be placed ..... or both, **shall must** be freely movable. "

Paragraph 5.6., amend to read:

"5.6. During phase C of the test, the pan **shall must** be covered ..... level.

The screen **shall must** be made ..... There **shall must** be no .....they **shall must** be supported ..... frame **shall must** be 2 cm .....ventilation. "

Paragraph 5.7., amend to read:

"5.7. When the tests ..... protection **shall must** be provided ..... level **shall must** not exceed ..... the screen **shall must** be heated ..... successive test. "

Paragraph 5.8., amend to read:

"5.8. The test **shall must** comprise four phases (see appendix 1). "

Paragraph 5.8.1., amend to read:

"5.8.1. Phase A: Pre-heating (figure 1)

The fuel in the pan **shall must** be ignited ..... pan **shall must** be placed ..... tank. "

Paragraph 5.8.2., amend to read:

"5.8.2. Phase B: Direct exposure to flame (figure 2)

For 60 seconds the tank **shall must** be exposed ..... fuel. "

Paragraph 5.8.3., amend to read:

"5.8.3. Phase C: Indirect exposure to flame (figure 3)

As soon as phase B has been completed, the screen **shall must** be placed ..... The tank **shall must** be exposed ..... 60 seconds. "

Paragraph 5.8.4., amend to read:

"5.8.4. Phase D: End of test (figure 4)

The burning pan covered with the screen **shall must** be moved ..... the fire **shall must** be extinguished forthwith. "

Paragraph 6.1., amend to read:

"6.1. The fixture used for the test **shall must** match ..... works. "

Paragraph 6.2., amend to read:

"6.2. The tank filled ..... (20 °C) **shall must** be ..... (95 °C ± 2 °C). "

Paragraph 7., amend to read:

"7. MARKINGS ON THE FUEL TANK

The trade name or mark **shall must** be affixed to the tank; it **shall must** be .....vehicle. "

## **B. JUSTIFICATION**

The proposed amendment introduces new parts III and IV into the Regulation allowing the possibility for approvals to be granted for fuel tanks as separate technical units (STU).

Approvals would be granted for:

- a fuel tank and its accessories. In the case the tank manufacturer accepts responsibility for the conformity of the accessories (COP, etc). The vehicle manufacturer then obtains an approval for the requirements relative to the installation of the tank and its accessories into the vehicle;

- a fuel tank without its accessories. In this case the relevant tests will be carried out using accessories normally fitted to the tank. The manufacturer's documentation will identify the accessories used during the tests, but the approval would not include them. The vehicle manufacturer then obtains an approval for the installation of the tank including the accessories identified in the tank manufacturer's documentation and accepts responsibility for the conformity of those accessories.

The installation of plastic fuel tanks in some vehicles can affect the fire resistance characteristics of the tanks: eg. vehicle parts which protect the tank and its accessories against exposure to flame. In those cases the fuel tank approval will be granted for a "specific vehicle use". Fuel tanks that comply with the requirements of the Regulation without any installation constraints will be granted approvals for "universal use". The terms "specific vehicle" use and "universal use" are taken from Regulation n° 44.

The definition of a vehicle type has been modified to align it with current day practices. Different types of tanks can be included in a vehicle approval as long as each tank complies with the requirements of the Regulation.

Unless otherwise stated below, revisions are of an editorial nature intended to correct the text.

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