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Item [X] of the provisional agenda

Retrofit Emission Control Devices (REC)

Proposal for an amendment to Regulation No.[..]

Submitted by the chairman of the informal working group on Retrofit Emission Control devices (REC)

The text reproduced below was prepared by the chairman of the informal working group on Retrofit Emission Control devices (REC) as a result of the discussion of the informal group on retrofit emission control devices (REC) regarding a proposal for a new Regulation on REC.

Text added to the current (rev.00) text of the Regulation is marked in **bold underlined** for new or ~~strike through~~ for deleted characters.

Draft rev.01 Version 4 dated 20.02.2013

[Values], [dates], [provisions] and [parameter] not fixed yet are indicated in [square brackets], and [highlighted in yellow].

I. Proposal

1. Purpose

Amend paragraph 2 to read:

The regulation provides a framework for approval of RECs for different applications **with corresponding environmental performance levels and for the identification in Type Approval of those levels.**

6. Approval

Amend paragraph 6.2 to read:

6.2. An approval number shall be assigned to each REC approved. Its first two digits (at present 0001 according to **this series of amendments**) shall indicate the series of amendments incorporating the most recent major technical amendments made to the Regulation at the time of issue of the approval. The same type approval number shall not be assigned to another REC.

8. Performance requirements

Amend Table 8.3 to read:

Reduction levels

	Minimum reduction efficiency (%)	
	PM mass	NOx
Reduction level 00	50	60
<u>Reduction level 01</u>	<u>90</u>	<u>60</u>

Paragraph 8.5 is replaced by

8.5. PM Number emissions requirements

8.5.1. Type I, Type II and Type IV REC approved to PM Reduction Level 01 shall provide a reduction efficiency for PM number of at least 97% from the engine baseline emissions of the test engine as defined in paragraph 12 when measured using the test procedure(s) set out in this Regulation.

8.5.2. Direct sampling from raw exhaust gas prior to dilution is permitted. The dilution ratios of the particle number diluters (PND1 and PND2 of the particle transfer system, as defined in Regulation 49) shall then be adapted to the measurement range of the particle number counter (PNC).

8.5.3. The PM number reduction efficiency is determined as the difference of 1 minus the penetration, which is the ratio between the PM number emissions downstream of the REC system and the PM number emission of the engine system before fitment of the REC. The PM number reduction efficiency is indicated as a percentage. The PM number reduction efficiency shall be determined for the appropriate test cycle as defined in paragraph 8.3.

$$\text{reduction efficiency (percent)} = (1 - (E_{\text{REC}} \div E_{\text{Base}})) \times 100.$$

8.5.4. If two PM number measurement systems are used in parallel for measurement of the PM number reduction efficiency, they shall give

measurements within [5%] of each other when measuring simultaneously from the same sample point.

A new section 26 is added

26. Transitional provisions

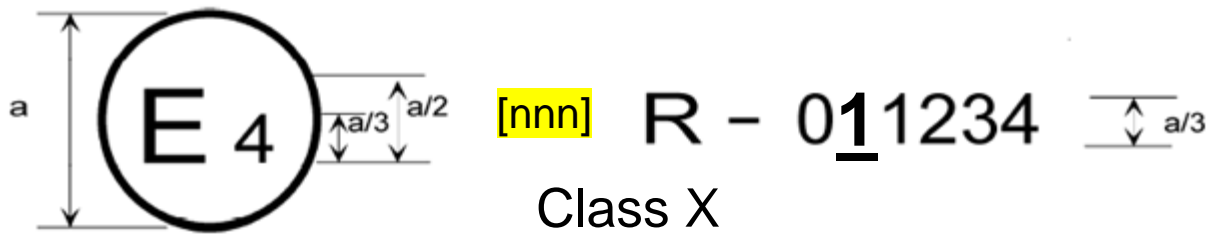
- 26.1. As from the official date of entry into force of the 01 series of amendments, no Contracting Party applying this Regulation shall refuse to grant ECE approval under this Regulation as amended by the 01 series of amendments.**
- 26.2. As from the official date of entry into force of the 01 series of amendments, Contracting Parties applying this Regulation shall not refuse the placing on the market of RECs which meet the requirements of this Regulation as amended by the 01 series of amendments.**
- 26.3. As from [6 months] after the official date of entry into force of the 01 series of amendments, contracting parties applying this Regulation may refuse the placing on the market of RECs which do not meet the requirements of the 01 series of amendments to this Regulation.**

Annex 3 is replaced by

Annex 3. Arrangement of the REC type approval mark

Model A

(See paragraph 5.4. of this Regulation)



$a = 8 \text{ mm min}$

The above example approval mark affixed to a REC shows that the type concerned has been approved in the Netherlands (E 4), pursuant to Regulation No. [nnn] under approval No. 0011234. The first two digits of the approval number indicate that the approval was granted in accordance with the requirements of Regulation No. [nnn] ~~in its original form~~ **in the form as amended by this revision.** The approval mark shall also show the Class of REC (I, II, III or IV)