

Proposal to amend ECE/TRANS/WP.29/GRPE/2013/11 on Regulation No. 83 (emissions of M₁ and N₁ vehicles)

The purpose of this proposal is to modify the content of ECE/TRANS/WP.29/GRPE/2013/11 – proposal for the 07 series of amendments to Regulation No. 83 by the European Commission - in order to avoid misinterpretation for practical application and implementation of the regulation. The modifications to ECE/TRANS/WP.29/GRPE/2013/11 are marked in track changes.

I. Proposal

Annex 4a, paragraph 3.2.7., amend to read:

- "3.2.7. The daytime running lamps of the vehicle as defined in ~~Section 2-paragraph 2.7.25.~~ of Regulation No. 48 shall be switched on during the test cycle ~~if the vehicle is required to be equipped with daytime running lamps as indicated in paragraph 5.22. of Regulation No. 48.~~ The vehicle tested shall be equipped with the daytime running lamp system that has the highest electrical energy consumption among the daytime running lamp systems, which are fitted by the manufacturer to vehicles in the group represented by the type-approved vehicle. The manufacturer shall supply appropriate technical documentation to the type-approval authorities in this respect."

Annex 4a, paragraph 6.6.4., amend to read:

- "6.6.4. Correction for dilution air concentration

...

$$DF = \frac{12.5}{C_{CO_2} + (C_{HC} + C_{CO}) \cdot 10^{-4}}$$

$$DF = \frac{12.7}{C_{CO_2} + (C_{HC} + C_{CO}) \cdot 10^{-4}} \quad \text{for ethanol (E75)} \quad (5f)$$

..."

Annex 4a, paragraph 6.6.8., amend the format (revealing the hidden text) and the content, to read:

- "6.6.8. Determination of particle numbers

Number emission of particles shall be calculated by means of the following equation:

$$N = \frac{V \cdot k \cdot \overline{C}_s \cdot \overline{f}_r \cdot 10^3}{d}$$

Where:

- N = particle number emission expressed in particles per kilometre,
V = volume of the diluted exhaust gas expressed in litres per test and corrected to standard conditions (273.2 K and 101.33 kPa),
K = calibration factor to correct the particle number counter measurements to the level of the reference instrument where

this is not applied internally within the particle number counter. Where the calibration factor is applied internally within the particle number counter a value of 1 shall be used for k in the above equation,

\bar{C}_s = corrected concentration of particles from the diluted exhaust gas expressed as the average particles per cubic centimetre figure from the emissions test including the full duration of the drive cycle. If the volumetric mean concentration results (\bar{C}) from the particle number counter are not output at standard conditions (273.2 K and 101.33 kPa), then the concentrations should be corrected to those conditions (\bar{C}_s),

\bar{f}_r = mean particle concentration reduction factor of the volatile particle remover at the dilution setting used for the test,

d = distance corresponding to the operating cycle expressed in kilometres,

\bar{C} = shall be calculated from the following equation:

$$\bar{C} = \frac{\sum_{i=1}^{i=n} C_i}{n}$$

Where:

C_i = a discrete measurement of particle concentration in the diluted gas exhaust from the particle counter expressed in particles per cubic centimetre and corrected for coincidence,

n = total number of discrete particle concentration measurements made during the operating cycle,

n shall be calculated from the following equation:

$$n = T \cdot f \quad \underline{n = T \cdot f}$$

Where:

T = time duration of the operating cycle expressed in seconds,

f = data logging frequency of the particle counter expressed in Hz.

"

Annex 4a - Appendix 3, paragraphs 1.3.7. and 1.3.8., amend to read (separating the two paragraphs):

"1.3.7. Nitrogen oxide (NO_x) analysis:

The analyser shall be either of the chemi-luminescent (CLA) or of the non-dispersive ultra-violet resonance absorption (NDUVR) type, both with NO_x-NO converters.

1.3.8. The analysers shall have a measuring range compatible with the accuracy required to measure the concentrations of the exhaust gas sample pollutants."

II. Justification

1. The first sentence of Annex 4a, 3.2.7., concerning requirements for daytime running lamps, is only applied to the vehicles required to be equipped with daytime running lamps.
 2. The other amendments refer to clerical errors.
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