



Brussels, **XXX**
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ANNEX 14

ANNEX

to the

COMMISSION REGULATION

amending Commission Regulation (EU) 2017/1151 for the purpose of adopting to technical progress the emission type approval procedures for light passenger and commercial vehicles

ANNEX XIV

- (1) Annex XXI is replaced by the following:

ANNEX XXI

TYPE 1 EMISSIONS TEST PROCEDURES

1. INTRODUCTION

This Annex describes the procedure for determining the levels of emissions of gaseous compounds, particulate matter, particle number, CO₂ emissions, fuel consumption, electric energy consumption and electric range from light-duty vehicles.

2. General requirements

2.1. The general requirements for conducting the type 1 test shall be those set out in UN Regulation No 154.

2.2. The limit values referred to in Table 1A of paragraph 6.3.10 of UN Regulation No 154 replace the limit values set out in Annex I, Table 2, to Regulation (EC) No 715/2007.

3. Technical requirements

The technical requirements for conducting the type 1 test shall be those set out in paragraph 6.3. and Annexes Part B of UN Regulation No 154, with the exceptions described in the points below.

3.1. Table A4/2 in paragraph 4.2.2.1. of Annex B4 to UN Regulation No 154 shall be replaced with:

<i>Energy efficiency class</i>	<i>Range of RRC for C1 tyres</i>	<i>Range of RRC for C2 tyres</i>	<i>Range of RRC for C3 tyres</i>
A	RRC ≤ 6.5	RRC ≤ 5.5	RRC ≤ 4.0
B	6.6 ≤ RRC ≤ 7.7	5.6 ≤ RRC ≤ 6.7	4.1 ≤ RRC ≤ 5.0
C	7.8 ≤ RRC ≤ 9.0	6.8 ≤ RRC ≤ 8.0	5.1 ≤ RRC ≤ 6.0
D	9.1 ≤ RRC ≤ 10.5	8.1 ≤ RRC ≤ 9.0	6.1 ≤ RRC ≤ 7.0
E	RRC ≥ 10.6	RRC ≥ 9.1	RRC ≥ 7.1

<i>Energy efficiency class</i>	<i>Value of RRC to be used for interpolation for C1 tyres</i>	<i>Value of RRC to be used for interpolation for C2 tyres</i>	<i>Value of RRC to be used for interpolation for C3 tyres</i>
A	RRC = 5.9*	RRC = 4.9*	RRC = 3.5*
B	RRC = 7.1	RRC = 6.1	RRC = 4.5

C	RRC = 8.4	RRC = 7.4	RRC = 5.5
D	RRC = 9.8	RRC = 8.6	RRC = 6.5
E	RRC = 11.3	RRC = 9.9	RRC = 7.5

*In case the actual RRC value is lower than this value, the actual rolling resistance value of the tyre or any higher value up to the RRC value indicated here shall be used for interpolation.

3.2. Appendix 5 of Annex B8 to UN Regulation No 154 shall be replaced with:

Appendix 5

Utility factors (UF) for OVC-HEVs and OVC-FCHVs (as applicable)

1. Reserved
2. For the approval of OVC-HEVs or OVC-FCHVs of category M1 or N1 with emission characters EA, EB or EC as referred to in Table 1, Appendix 6 to Annex I, the fractional utility factor UF_j for the weighting of period j , shall be calculated in accordance with the following equation:

$$UF_j(d_j) = 1 - \exp \left\{ - \left(\sum_{i=1}^k C_i \times \left(\frac{d_j}{d_{nx}} \right)^i \right) \right\} - \sum_{l=1}^{j-1} UF_l$$

where:

- UF_j utility factor for period j ;
- d_j measured distance driven at the end of period j , km;
- C_i i^{th} coefficient (see Table A8.App5/1);
- d_{nx} d_{nea} , d_{neb} , d_{nec} , normalized distance (see Table A8.App5/1);
- k number of terms and coefficients in the exponent;
- j number of period considered;
- i number of considered term/coefficient;
- $\sum_{l=1}^{j-1} UF_l$ sum of calculated utility factors up to period $(j-1)$

The normalized distance “ d_{nx} ” shall be set in accordance with the Table A8.App5/1, where the values d_{neb} shall be applied from 1 January 2025, and d_{nec} from 1 January 2027.

The UF shall, where appropriate, be revised at the latest by 31 December 2024, and again at the latest by 31 December 2026, taking into account the real-world fuel consumption data recorded by fuel consumption monitoring devices on-board OVC-HEVs or OVC-FCHVs and made available pursuant to Implementing Regulation (EU) 2021/392.

Table A8.App5/1

Parameters for the determination of fractional UFs (as applicable)

Parameter	Value
d_{nea}^*	800 km
d_{neb}^*	2200 km
d_{nec}^*	4260 km
C1	26.25
C2	-38.94
C3	-631.05
C4	5964.83
C5	-25095
C6	60380.2
C7	-87517
C8	75513.8
C9	-35749
C10	7154.94

*The value to be applied shall be that corresponding to the emission characters EA, EB and EC as specified in Table 1, Appendix 6 to Annex I.

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