

27 April 2018

Agreement

Concerning the Adoption of Harmonized Technical United Nations Regulations for Wheeled Vehicles, Equipment and Parts which can be Fitted and/or be Used on Wheeled Vehicles and the Conditions for Reciprocal Recognition of Approvals Granted on the Basis of these United Nations Regulations*

(Revision 3, including the amendments which entered into force on 14 September 2017)

Addendum 112 – UN Regulation No. 113

Revision 3 — Amendment 6

02 series of amendments – Date of entry into force: 10 February 2018

Uniform provisions concerning the approval of motor vehicle headlamps emitting a symmetrical passing-beam or a driving-beam or both and equipped with filament, gas-discharge light sources or LED modules

This document is meant purely as documentation tool. The authentic and legal binding texts is: ECE/TRANS/WP.29/2017/87.



UNITED NATIONS

* Former titles of the Agreement:

Agreement concerning the Adoption of Uniform Conditions of Approval and Reciprocal Recognition of Approval for Motor Vehicle Equipment and Parts, done at Geneva on 20 March 1958 (original version); Agreement concerning the Adoption of Uniform Technical Prescriptions for Wheeled Vehicles, Equipment and Parts which can be Fitted and/or be Used on Wheeled Vehicles and the Conditions for Reciprocal Recognition of Approvals Granted on the Basis of these Prescriptions, done at Geneva on 5 October 1995 (Revision 2).

Paragraph 1.3.1., amend to read:

- "1.3.1. The trade name or mark:
- (a) Lamps bearing the same trade name or mark but produced by different manufacturers shall be considered as being of different types;
 - (b) Lamps produced by the same manufacturer differing only by the trade name or mark shall be considered as being of the same type."

Insert a new paragraph 2.4., to read;

- "2.4. In the case of a type of lamp differing only by the trade name or mark from a type that has already been approved it shall be sufficient to submit:
- 2.4.1. A declaration by the lamp manufacturer that the type submitted is identical (except in the trade name or mark) with and has been produced by the same manufacturer as, the type already approved, the latter being identified by its approval code;
 - 2.4.2. Two samples bearing the new trade name or mark or equivalent documentation."

Paragraph 5., amend to read:

"5. General specifications

The requirements contained in paragraphs 5. "General specifications" and 6. "Individual specifications" and in the Annexes referenced in the said paragraphs of UN Regulations Nos. 53, 74 or 86, and their series of amendments in force at the time of application for the lamp type approval shall apply to this Regulation.

The requirements pertinent to each lamp and to the category/ies of vehicle on which the lamp is intended to be installed shall be applied, where its verification at the moment of lamp type approval is feasible.

- 5.1. ..."

Paragraph 5.3.1., amend to read:

- "5.3.1. Headlamps shall only be equipped with filament light source(s) approved according to UN Regulation No. 37 and/or, with (an) LED module(s).
- In the case of the use of additional light source(s) and/or additional lighting unit(s) to provide bend lighting, the additional light source(s) shall correspond to and the additional lighting unit(s) shall only be equipped with approved filament light sources covered by UN Regulation No. 37, provided that no restriction on the use for bending light is made in UN Regulation No. 37 and its series of amendments in force at the time of application for type approval, and/or LED modules(s)."

Paragraph 5.4.1., amend to read:

- "5.4.1. The headlamp shall only be equipped with (a) gas-discharge light source(s) approved according to UN Regulation No. 99 and/or (an) LED module(s).
- In the case of the use of additional light source(s) and/or additional lighting unit(s) to provide bend lighting, the additional light source(s) shall correspond to and the additional lighting unit(s) shall only be equipped with approved filament light source(s) covered by UN Regulation No. 37, provided that no

restriction on the use for bending light is made in UN Regulation No. 37 and its series of amendments in force at the time of application for type, and/or LED modules(s)."

Paragraph 9.1., amend to read:

"9.1. Headlamps shall be so manufactured as to conform to the type approved under this Regulation.

The compliance with the requirements set forth in paragraphs 6. and 7. above shall be verified as follows:"

Paragraph 9.2. (former), renumber as paragraph 9.1.1.

Paragraph 9.3. (former), renumber as paragraph 9.1.2.

Paragraph 9.4. (former), renumber as paragraph 9.2.

Paragraph 9.5. (former), renumber as paragraph 9.3.

Paragraph 9.6. (former), renumber as paragraph 9.4.

Paragraph 13.5 (former), renumber as paragraph 13.7.

Insert new paragraphs 13.5. and 13.6., to read:

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

13.6. As from 1 September 2019 Contracting Parties applying this Regulation shall grant approvals only if the headlamp meets the requirements of this Regulation as amended by the 02 series of amendments."

Annex 4,

Paragraph 1.2.1.1.2., amend to read:

"1.2.1.1.2. For headlamp with the outside lens in plastic material:

The mixture of water and polluting agent to be applied to the headlamp shall be composed of:

- (a) 9 parts by weight of silica sand with a particle size of 0-100 µm,
- (b) 1 part by weight of vegetal carbon dust produced from beech wood with a particle size of 0-100 µm,
- (c) 0.2 part by weight of NaCMC³,
- (d) 5 parts by weight of sodium chloride (pure at 99 per cent),
- (e) 13 parts by weight of distilled water with a conductivity of ≤ 1 mS/m,
- (f) 2 ± 1 drops of surfactant.⁴

The mixture shall not be more than 14 days old."

Paragraph 2.2., amend to read:

"2.2. Test results

2.2.1. The result in milliradians (mrad) shall be considered as acceptable for a headlamp producing a passing beam, only when the absolute value $\Delta r_1 = |r_3 - r_{60}|$ recorded on the headlamp is not more than 1.0 mrad ($\Delta r_1 < 1.0$ mrad) upwards and not more than 2.0 mrad ($\Delta r_1 \leq 2.0$ mrad) downwards.

2.2.2. However, if this value is:

| Movement | |
|----------|--|
| Upward | more than 1.0 mrad but not more than 1.5 mrad ($1.0 \text{ mrad} < \Delta r_1 \leq 1.5 \text{ mrad}$) |
| Downward | more than 2.0 mrad but not more than 3.0 mrad ($2.0 \text{ mrad} < \Delta r_1 \leq 3.0 \text{ mrad}$) |

a further sample of a headlamp mounted on a test fixture representative of the correct installation on the vehicle shall be tested as described in paragraph 2.1. after being subjected three consecutive times to the cycle as described below, in order to stabilize the position of mechanical parts of the headlamp:

- (a) Operation of the passing beam for one hour (the voltage shall be adjusted as specified in paragraph 1.1.1.2.);
- (b) One hour period with the lamp switched off.

After these three cycles, the headlamp type shall be considered as acceptable if the absolute values Δr measured according to paragraph 2.1. above on this further sample meet the requirements in paragraph 2.2.1. above."

Annex 5,

Paragraph 1.4., amend to read:

"1.4. With respect to the verification of the change in vertical position of the "cut-off" line under the influence of heat, the following procedure shall be applied (Classes B, C, D and E headlamps only):

One of the sampled headlamps shall be tested according to the procedure described in paragraph 2.1. of Annex 4 after being subjected three consecutive times to the cycle described in paragraph 2.2.2. of Annex 4.

The headlamp shall be considered as acceptable if Δr does not exceed 1.5 mrad upwards and does not exceed 2.5 mrad downwards.

If this value exceeds 1.5 mrad but is not more than 2.0 mrad upwards or exceeds 2.5 mrad but is not more than 3.0 mrad downwards, a second sample shall be subjected to the test after which the mean of the absolute values recorded on both samples shall not exceed 1.5 mrad upwards and shall not exceed 2.5 mrad downwards."

Annex 7,

Paragraphs 2. to 5., amend to read:

"2. First sampling

In the first sampling four headlamps are selected at random. The first sample of two is marked A, the second sample of two is marked B.

- 2.1. The conformity of mass-produced headlamps shall not be contested if the deviation of any specimen of samples A and B (all four lamps) is not more than 20 per cent.
- In the case, that the deviation of both lamps of sample A is not more than 0 per cent, the measurement can be closed.
- 2.2. The conformity of mass-produced headlamps shall be contested if the deviation of at least one specimen of samples A or B is more than 20 per cent.
- The manufacturer shall be requested to bring his production in line with the requirements (alignment) and a repeated sampling according to paragraph 3. below shall be carried out within two months' time after the notification. The samples A and B shall be retained by the Technical Service until the entire Conformity of Production process is finished.
3. First repeated sampling
- A sample of four lamps is selected at random from stock manufactured after alignment.
- The first sample of two is marked C, the second sample of two is marked D.
- 3.1. The conformity of mass-produced headlamps shall not be contested if the deviation of any specimen of samples C and D (all four lamps) is not more than 20 per cent.
- In the case, that the deviation of both lamps of sample C is not more than 0 per cent, the measurement can be closed.
- 3.2. The conformity of mass-produced headlamps shall be contested if the deviation of at least:
- 3.2.1. One specimen of samples C or D is more than 20 per cent but the deviation of all specimen of these samples is not more than 30 per cent.
- The manufacturer shall again be requested to bring his production in line with the requirements (alignment).
- A second repeated sampling according to paragraph 4. below shall be carried out within two months' time after the notification. The samples C and D shall be retained by the Technical Service until the entire Conformity of Production process is finished.
- 3.2.2. One specimen of samples C and D is more than 30 per cent.
- In this case the approval shall be withdrawn and paragraph 5. below shall be applied.
4. Second repeated sampling
- A sample of four lamps is selected at random from stock manufactured after alignment.
- The first sample of two is marked E, the second sample of two is marked F.
- 4.1. The conformity of mass-produced headlamps shall not be contested if the deviation of any specimen of samples E and F (all four lamps) is not more than 20 per cent.
- In the case, that the deviation of both lamps of sample E is not more than 0 per cent, the measurement can be closed.

4.2. The conformity of mass-produced headlamps shall be contested if the deviation of at least one specimen of samples E or F is more than 20 per cent.

In this case the approval shall be withdrawn and paragraph 5. below shall be applied.

5. Approval withdrawn

Approval shall be withdrawn according to paragraph 10. of this Regulation."

Figure 1, shall be deleted.
