

2 November 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 106 – UN Regulation No. 107

Revision 7 – Amendment 3

08 series of amendments – Date of entry into force: 16 October 2018

Uniform provisions concerning the approval of category M₂ or M₃ vehicles with regard to their general construction

This document is meant purely as documentation tool. The authentic and legal binding texts is: ECE/TRANS/WP.29/2018/21.



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).

List of contents, amend to read:

"Annex 5 Requirements to establish the visual contrast"

Insert new paragraphs 2.44. to 2.48. (Definitions), to read:

- 2.44. "Visual contrast" (luminance contrast) means the brightness ratio between an object and its immediate background/surrounding which allows the object to be distinguished from its background/surroundings.
- 2.45. "Reflectance" ρ (rho) is the quantitative ratio between reflected light and the incident light on the surface of a flat material. It consists of various portions of "regular reflectance" and "diffuse reflectance".
- 2.46. "Regular reflectance" ρ_r is the reflection without diffusion in accordance with the laws of optical reflection as in a mirror.
- 2.47. "Diffuse reflectance" ρ_d is the ratio of the light that has undergone diffuse reflection to the incident light.
- 2.48. "Luminous flux" Φ (phi) describes the power of a light source."

Insert new paragraphs 10.19. to 10.23., to read:

- 10.19. As from the official date of entry into force of the 08 series of amendments, no Contracting Party applying this Regulation shall refuse to grant or refuse to accept type-approvals under this Regulation as amended by the 08 series of amendments.
- 10.20. As from 1 September 2020, Contracting Parties applying this Regulation shall not be obliged to accept type-approvals to the preceding series of amendments, first issued after 1 September 2020.
- 10.21. Until 1 September 2022, Contracting Parties applying this Regulation shall accept type-approvals to the preceding series of amendments, first issued before 1 September 2020.
- 10.22. As from 1 September 2022, Contracting Parties applying this Regulation shall not be obliged to accept type-approvals issued to the preceding series of amendments to this Regulation.
- 10.23. Contracting Parties applying this Regulation shall not refuse to grant type-approvals according to any preceding series of amendments to this Regulation or extensions thereof."

Annex 3

Paragraph 7.11.4., amend to read:

"7.11.4. Handrails and handholds in toilets."

Insert a new paragraph 7.11.4.1., to read:

"7.11.4.1. If a toilet is fitted, a suitable handrail or handhold shall be provided in the interior."

Annex 5, amend to read:

"Annex 5

Requirements to establish the visual contrast per paragraph 3.3.3. of Annex 8

- The visual contrast C shall be established according to the following formula:

$$C = \frac{|\rho_1 - \rho_2|}{\rho_1 + \rho_2}$$

With: ρ_1 = the reflectance of the material of the object to be seen

ρ_2 = the reflectance of the area respectively material surrounding the contrast object

- For determination of the reflectance values ρ_1 , ρ_2 and ρ_d an integrating sphere according to CIE 38:1977 shall be used.

The reflectance shall be either read directly from the indicating instrument or calculated according to the following formula:

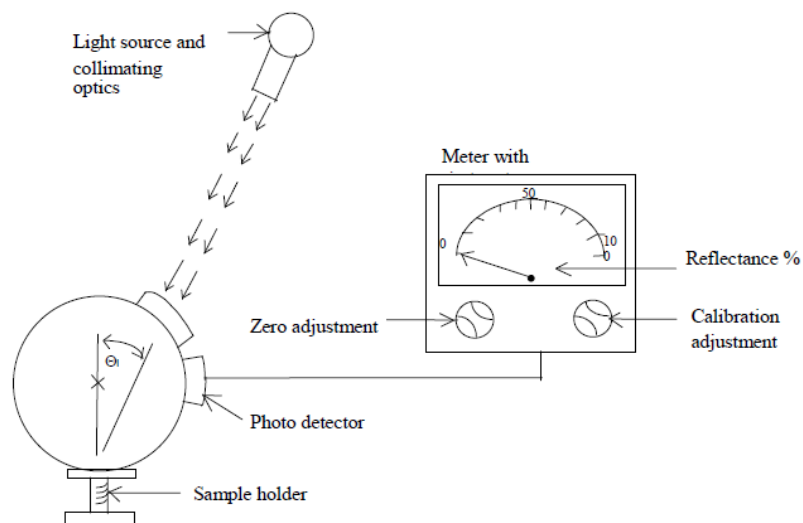
$$\rho = \frac{\phi_2}{\phi_1}$$

Where:

Φ_1 = luminous flux of the incident light on the material sample;

Φ_2 = luminous flux of the reflected light (reflectance).

- The illumination angle of the luminous flux of the incident light on the sample Θ_i shall be equal to $8^\circ \pm 0.5^\circ$.
 - The luminous flux of the incident light on the sample shall be determined by using a diffuse reflectance standard calibrated by an accredited laboratory. The extended measurement uncertainty shall be lower than 3 per cent.
- Example of an integrating sphere according to CIE 38:1977:



Annex 8

Paragraph 3.3.3., amend to read:

- "3.3.3. These communication devices shall:
- 3.3.3.1. Provide either a visual contrast of $C \geq 0.4$ and a diffuse reflectance ρ_d of at least 0.5 according to Annex 5 or be white or yellow,
 - 3.3.3.2. Provide a tactile surface, i.e. protrude from the surrounding areas,
 - 3.3.3.3. Provide an audible and visible signal to confirm successful activation."

Paragraph 3.5., amend to read:

- "3.5. Floor slope
- The slope of any gangway, access passage or floor area between any priority seat and at least one entrance and one exit or a combined entrance and exit shall not exceed 8 per cent. The slope of any gangway, access passage or floor area between any wheelchair space and at least one entrance and one exit or a combined entrance and exit shall not exceed 5 per cent. Such sloping areas shall be provided with a slip-resistant surface. However, in the gangway, access passages or floor area where differently directed slopes merge, these limits may be exceeded provided the total amount of these areas is not greater than 25 per cent of the total amount of the area swept by the wheelchair to reach the wheelchair area."

Paragraph 3.6.1., amend to read:

- "3.6.1. For each wheelchair user provided for in the passenger compartment there shall be a special area at least 750 mm wide and 1,300 mm long and 1,400 mm high. The longitudinal plane of the special area shall be parallel to the longitudinal plane of the vehicle and the floor surface of the special area shall be slip resistant and the maximum slope in forward and rearward direction shall not exceed 5 per cent. In the lateral direction the slope shall not exceed 3 per cent. However, at the rear end of the wheelchair area where differently directed slopes merge, these limits may be exceeded provided the total amount of these areas is not greater than 25 per cent of the wheelchair area. Furthermore, in the case of a rearward facing wheelchair complying with the requirements specified in paragraph 3.8.4., the slope in the longitudinal direction shall not exceed 8 per cent provided that this slope inclines upwards from the front end to the rear end of the special area.

In the case of a wheelchair space ... as shown in Annex 4, Figure 22."

Annex 12

Paragraph 3.10.12., amend to read:

- "3.10.12. Each of the insulations ...
- ... AC value.
- Circuits directly connected to overhead line shall be double insulated."
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