



**Economic and Social
Council**

Distr.
GENERAL

ECE/TRANS/WP.29/2006/66
4 April 2006

ENGLISH
Original: ENGLISH and FRENCH

ECONOMIC COMMISSION FOR EUROPE

INLAND TRANSPORT COMMITTEE

World Forum for Harmonization of Vehicle Regulations (WP.29)

One-hundred-and-thirty-ninth-session
Geneva, 20-23 June 2006
Item 4.2.31. of the provisional agenda

PROPOSAL FOR SUPPLEMENT 3 TO REGULATION No. 104

(Retro-reflective markings)

Submitted by the Working Party on Lighting and Light-Signalling (GRE)

Note: The text reproduced below was adopted by GRE at its fifty-fifth session, and is submitted for consideration to WP.29 and to AC.1 (TRANS/WP.29/GRE/55, paras. 24 and 38 as amended by ECE/TRANS/WP.29/1050, para. 23). It is based on documents ECE/TRANS/WP.29/GRE/2006/2, not amended, and TRANS/WP.29/GRE/2005/27, as amended by ECE/TRANS/WP.29/GRE/2005/27/Rev.1.

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The title of the Regulation, amend to read:

"UNIFORM PROVISIONS CONCERNING THE APPROVAL OF RETRO-REFLECTIVE MARKINGS FOR VEHICLES OF CATEGORY M, N AND O"

Paragraph 1., amend to read (including the insertion of a reference to a new footnote 1/ and a new footnote 1/):

"1. SCOPE

This Regulation applies to retro-reflective markings for vehicles of category M₂, M₃, N, O₂, O₃ and O₄ 1/.

1/ As defined in Annex 7 to the Consolidated Resolution on the Construction of Vehicles (R.E.3), (document TRANS/WP.29/78/Rev.1/Amend.2 as last amended by Amend.4)."

Paragraph 5.4.1., the reference to footnote 1/ and footnote 1/, renumber as footnote 2/ and amend to read:

"2/ 1 for Germany, 34 for Bulgaria, 35 (vacant), 36 for Lithuania, 37 for Turkey, 38 (vacant), 39 for Azerbaijan, 40 for The former Yugoslav Republic of Macedonia, 41 (vacant), 42 for the European Community (approvals are granted by its Member States using their respective ECE symbol), 43 for Japan, 44 (vacant), 45 for Australia, 46 for Ukraine, 47 for South Africa, 48 for New Zealand, 49 for Cyprus, 50 for Malta, 51 for the Republic of Korea, [52 for Malaysia and 53 for Thailand]. Subsequent numbers shall be assigned "

Paragraph 7.2., the reference to footnote 2/ and footnote 2/, renumber as footnote 3/.

Annex 8

Paragraph 5., amend to read:

"5. Resistance to cleaning

5.1. Manual cleaning

5.1.2. A test sample smeared with a mixture of detergent lubricating oil and graphite shall be easily cleaned without damage to the retro-reflective surface when wiped with a mild aliphatic solvent such as n-heptane, followed by washing with a neutral detergent.

5.2. Power washing

- 5.2.1. When subjected to a continuous spraying action for 60 seconds, a test sample shall show no damage to the retro-reflective surface or delaminate from the substrate under the following set-up parameters:
- (a) Maximum water/wash solution pressure 80 bar
 - (b) Maximum water/wash solution temperature 60°C
 - (c) The tip of the cleaning wand to be positioned at a minimum of 600 mm away from the material
 - (d) Cleaning wand to be held at no greater angle than 45 degrees from perpendicular to the retro-reflective surface
 - (e) 40 degree nozzle creating wide fan pattern."

Insert a new paragraph 8., to read:

- "8. Bonding strength (in the case of adhesive materials)
- 8.1. The adhesion of retro-reflective materials shall be determined after 24 hours curing time by utilising a 90 degree peel on a tensile strength testing machine.
 - 8.2. The retro-reflective materials shall not be easily removable without damaging the material.
 - 8.3. The retro-reflective materials shall need a force of at least 10 N per 25 mm width at a constant speed of 300 mm per minute to be removed from their substrate."
