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### Economic Commission for Europe

#### Inland Transport Committee

#### World Forum for Harmonization of Vehicle Regulations

##### 164<sup>th</sup> session

Geneva, 11-14 November 2014

Item 4.6.9 of the provisional agenda

**1958 Agreement – Consideration of draft amendments  
to existing Regulations submitted by GRE**

### **Proposal for Supplement 8 to Regulation No. 104 (Retro-reflecting markings)**

#### **Submitted by the Working Party on Lighting and Light-Signalling\***

The text reproduced below was adopted by the Working Party on Lighting and Light-Signalling (GRE) at its seventy-first session (ECE/TRANS/WP.29/GRE/71, para. 61). It is based on ECE/TRANS/WP.29/GRE/2013/65/Rev.1, not amended. It is submitted to the World Forum for Harmonization of Vehicle Regulations (WP.29) and to the Administrative Committee AC.1 for consideration.

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\* In accordance with the programme of work of the Inland Transport Committee for 2012–2016 (ECE/TRANS/224, para. 94 and ECE/TRANS/2012/12, programme activity 02.4), the World Forum will develop, harmonize and update Regulations in order to enhance the performance of vehicles. The present document is submitted in conformity with that mandate.

Insert a new paragraph 5.4.3.5., to read:

"5.4.3.5. "F" for materials for extremities marking with red and white retro-reflective alternative stripes."

Annex 2, item 2, amend to read:

"Class of the marking material: C/D/E/F 2"

Annex 3, first (unnumbered) paragraph, add at the end:

"... Symbol "F" shall indicate material intended for extremities marking."

Annex 5,

Insert a new paragraph 2., to read:

"2. Side, rear and/or front marking with strips (Class F)

2.1. General

The markings shall be made of strips of retro-reflective material.

2.2. Dimensions

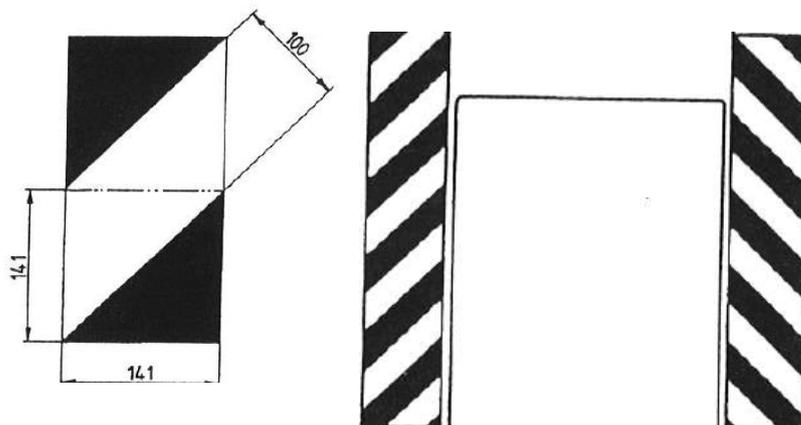
2.2.1. Class F retro-reflective materials shall consist of red and white diagonal stripes each 100 mm wide sloping outwards and downwards at 45°. The basic standard area is a square of 141 mm in length subdivided diagonally into a white half and red half, which represents one standard area as shown in Figure 3.

2.2.2. The minimum length of an element of a retro-reflective marking material shall incorporate a minimum of 9 standard areas as described in paragraph 2.2.1. above on large vehicles with available mounting space, but may be reduced to a minimum of 4 standard areas on vehicles with limited mounting space."

Insert a new figure 3, to read:

"Figure 3.

**Retro-reflective material marking of class F**



"

Annex 6,

Paragraph 1., add at the end:

"... Retro-reflective marking materials (class F) shall be white and red."

*Insert a new paragraph 3., to read:*

- "3. For class F materials, when measured with a spectrophotometer in accordance with the provisions of CIE document No. 15 (1971) and illuminated with the CIE Standard illuminant D65 at an angle of 45° to the normal and viewed along the normal (45/0 geometry), the colour of the material in new condition shall be within the limits according to paragraph 2.31. of Regulation No. 48."

*Insert a new paragraph 3.1., to read:*

- "3.1. Luminance factor for red colour shall be  $\geq 0.03$ . For white colour, it shall be  $\geq 0.25$ ."
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