

22 June 2015

---

## **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\***

(Revision 2, including the amendments which entered into force on 16 October 1995)

---

#### **Addendum 103 – Regulation No. 104**

#### **Revision 1 - Amendment 2**

Supplement 8 to the 00 series of amendments – Date of entry into force: 15 June 2015

#### **Uniform provisions concerning the approval of retro-reflective markings for vehicles of category M, N and O**

This document is meant purely as documentation tool. The authentic and legal binding text is: [ECE/TRANS/WP.29/2014/62](#).



**UNITED NATIONS**

---

\* Former title 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.

*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<sup>2</sup>"

*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.

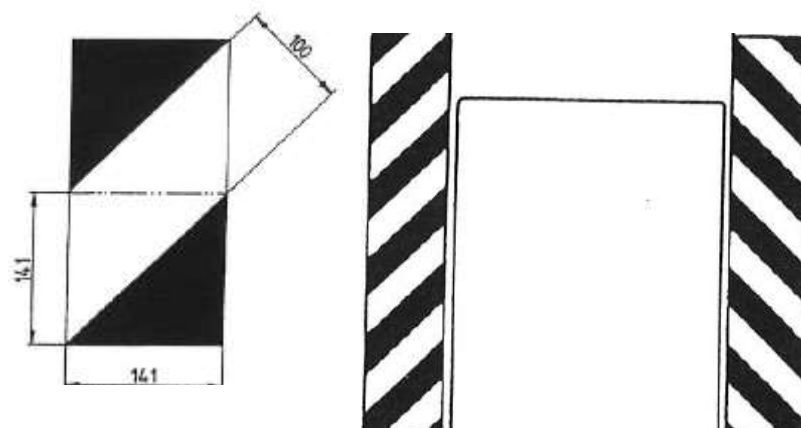
2.2. Dimensions

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 1.

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 1 to read:*

"Figure 1  
**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  $\geq 0.25$ ."

---