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**ECONOMIC COMMISSION FOR EUROPE**

**INLAND TRANSPORT COMMITTEE**

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

Working Party on Lighting and Light-Signalling (GRE)

(Fifty-fifth session, 3-7 October 2005,  
agenda item 13.)

**PROPOSAL FOR DRAFT 03 SERIES OF AMENDMENTS TO REGULATION No. 48**

(Installation of lighting and light-signalling devices)

Transmitted by the Chairman of the Conspicuity Marking Informal Working Group

Note: The text reproduced below was prepared by the Chairman of the GRE Informal Working Group on Conspicuity Markings following its third meeting held in Bonn, on 28 May 2005. It amends the existing provisions to mandate the fitting of conspicuity markings on certain categories of vehicles and seeks to clarify the installation requirements. The modifications to the existing text of the Regulation are marked in **bold** characters.

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Note: This document is distributed to the Experts on Lighting and Light-Signalling only.

GE.05-22385

**A. PROPOSAL**

Paragraph 2.7.16.3., amend to read:

"2.7.16.3. other **retro-reflective plates and signals** which must be used to comply with national requirements for use as regards certain categories of vehicles or certain methods of operation;"

Insert a new paragraph 2.7.16.4., to read:

["**2.7.16.4. retro-reflecting materials used for other purposes in compliance with national requirements, e.g. advertising, etc., installed by the vehicle operator.**"]

Paragraph 2.7.17., should be deleted.

Insert new paragraphs 2.7.17. to 2.7.17.2., to read:

"**2.7.17. "Conspicuity marking"** means a device intended to increase the conspicuity of a vehicle, when viewed from the side or rear, by the reflection of light emanating from a light source not connected to the vehicle, the observer being situated near the source;

**2.7.17.1. "Contour marking"** means a conspicuity marking intended to indicate the horizontal and vertical dimensions (length, width and height) of a vehicle;

**2.7.17.1.1. "Full contour marking"** means a contour marking that indicates the outline of the vehicle by a continuous line;

**2.7.17.1.2. "Partial contour marking"** means a contour marking that indicates the horizontal dimension of the vehicle by a continuous line, and the vertical dimension by marking the upper corners.

**2.7.17.2. "Line marking"** means a conspicuity marking intended to indicate the horizontal dimensions (length and width) of a vehicle by a continuous line."

Paragraph 4.2., amend to read:

"4.2. An approval number shall be assigned to each type approved. Its first two digits (at present **03**, corresponding to the **03** series of amendments) shall indicate the series of amendments .... "

Paragraph 5.15., amend to read:

"5.15. The colours of the light emitted by the lamps are the following:

....

cornering lamp: white

conspicuity marking: white or yellow to the side;  
red, [white or yellow] to the rear.[5/]"

Paragraphs 6.21. to 6.21.3.2., amend to read:

**"6.21. CONSPICUITY MARKINGS**

**6.21.1. Presence**

**6.21.1.1. Prohibited: on vehicles of categories M<sub>1</sub> and O<sub>1</sub>.**

**6.21.1.2. Mandatory:**

**6.21.1.2.1. to the rear:**

**full contour marking on vehicles exceeding 2.1 m in width of the following categories:**

- N<sub>2</sub> > 7.5 tonnes and N<sub>3</sub> (with the exception of chassis-cabs, incomplete vehicles and tractors for semi-trailers)
- O<sub>3</sub> and O<sub>4</sub>

**6.21.1.2.2. to the side:**

**6.21.1.2.2.1. partial contour marking on vehicles exceeding 6 m in length (including the drawbar for trailers) of the following categories:**

- N<sub>2</sub> > 7.5 tonnes and N<sub>3</sub> (with the exception of chassis-cabs, incomplete vehicles and tractors for semi-trailers)
- O<sub>3</sub> and O<sub>4</sub>

**6.21.1.2.2.2. line markings on the cabs of tractor units for semi-trailers \*/**

**6.21.1.2.3. However, where the shape, structure, design or operational requirements make it impossible to install the mandatory contour marking, a line marking may be installed.**

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5/ Nothing in this Regulation shall preclude the Contracting Parties applying this Regulation from allowing the use of yellow or white conspicuity markings to the rear in their territories.

\*/ This provision does not apply until [5] years after the official date of entry into force of the 03 series of amendments to this Regulation.

**6.21.1.3. Optional:**

**6.21.1.3.1. on all other categories of vehicles, not otherwise specified in paragraphs 6.21.1.1. and 6.21.1.2. above.**

**6.21.1.3.2. partial of full contour marking may be applied instead of mandatory line markings, and full contour marking may be applied instead of mandatory partial contour marking.**

**6.21.2. Number**

**According to the presence.**

**6.21.3. Arrangement**

**The conspicuity markings shall be as close as practicable to horizontal and vertical, compatible with the shape, structure, design and operational requirements of the vehicle.**

**6.21.4. Position**

**6.21.4.1. Width**

**6.21.4.1.1. The conspicuity marking shall be as close as practicable to the edge of the vehicle.**

**6.21.4.1.2. The cumulative horizontal length of the conspicuity marking elements, as mounted on the vehicle, should equate to at least 80 per cent of the overall width of the vehicle, excluding any horizontal overlap of individual elements.**

**6.21.4.1.3. However, if the manufacture can prove to the satisfaction of the authority responsible for type approval that it is impossible to achieve the value referred to in paragraph 6.21.4.1.2. above, the cumulative length may be reduced to [60] per cent and shall be indicated in the communication document and test report \*/.**

**6.21.4.2. Length**

**6.21.4.2.1. The conspicuity marking shall be as close as practicable to the ends of the vehicle and reach to within [400]/[600] mm of each end of the vehicle (or cab in the case of tractor units for semi-trailers).**

**6.21.4.2.1.1. for motor vehicles, each end of the vehicle, or in the case of tractors for semi-trailers the each end of the cab;**

**6.21.4.2.1.2. for trailers, each end of the vehicle (excluding the drawbar).**

- 6.21.4.2.2.** The cumulative horizontal length of the conspicuity marking elements, as mounted on the vehicle, excluding any horizontal overlap of individual elements, should equate to at least 80 per cent of:
- 6.21.4.2.2.1.** for motor vehicles, the length of the vehicle, or in the case of tractors for semi-trailers the length of the cab;
- 6.21.4.2.2.2.** for trailers, the length of the vehicle (excluding the drawbar).
- 6.21.4.2.3.** However, if the manufacture can prove to the satisfaction of the authority responsible for type approval that it is impossible to achieve the value referred to in paragraph 6.21.4.2.2. above, the cumulative length may be reduced to [60] per cent and shall be indicated in the communication document and test report \*/.
- 6.21.4.3.** Height
- 6.21.4.3.1.** Line markings and contour markings lower element(s):
- As low as practicable within the range:
- Minimum: not less than 250 mm above the ground.
- Maximum: not more than 1,500 mm above the ground.
- However, a maximum mounting height of 2,100 mm may be accepted where technical conditions prevent compliance with the maximum value of 1,500 mm.
- 6.21.4.3.2.** Contour markings upper element(s):
- As high as practicable, but within 400 mm of the upper extremity of the vehicle.
- 6.21.5.** Visibility
- The conspicuity marking shall be considered visible, if at least [80] per cent of the illuminating surface of the marking is visible when viewed by an observer positioned at any point within the observation planes defined below:
- 6.21.5.1.** for rear conspicuity markings (see Annex 11, Figure 1) the observation plane is perpendicular to the longitudinal axis of the vehicle situated 25 m from the extreme end of the vehicle and bounded by:
- 6.21.5.1.1.** in height, by two horizontal planes 1 m and [3.0] m respectively above the ground,

- 6.21.5.1.2.** in width, by two vertical planes which form an angle of [15]/[45]° outwards from the vehicle's median longitudinal plane and which pass through the intersection of the vertical planes parallel to the vehicle's median longitudinal plane delimiting the vehicle's overall width, and the plane perpendicular to the longitudinal axis of the vehicle that delimits the end of the vehicle.
- 6.21.5.2.** for side conspicuity markings (see Annex 11, Figure 2) the observation plane is parallel to the longitudinal median plane of the vehicles situated 25 m from the extreme outer edge of the vehicle and bounded by:
- 6.21.5.2.1.** in height, by two horizontal planes 1 m and [3.0] m respectively above the ground,
- 6.21.5.2.2.** in width, by two vertical planes which form an angle of [15]/[45]° outwards from a plane perpendicular to the vehicle's longitudinal axis and which pass through the intersection of the vertical planes perpendicular to the vehicle's longitudinal axis delimiting the vehicle's overall length and the extreme outer edge of the vehicle.
- 6.21.6.** **Orientation**
- 6.21.6.1.** To the side:
- As close as practicable to being parallel to the median longitudinal plane of the vehicle, compatible with the shape, structure, design and operation requirements of the vehicle.
- 6.21.6.2.** To the rear:
- As close as practicable to being parallel to the transverse plane of the vehicle, compatible with the shape, structure, design and operation requirements of the vehicle.
- 6.21.7.** **Other requirements**
- 6.21.7.1.** Conspicuity markings shall be considered continuous if the distance between adjacent elements are as small as possible and do not exceed 50 per cent of the shortest adjacent element length.
- 6.21.7.2.** In the case of a partial contour marking, each upper corner shall be described by two lines at 90° to each other and each at least [250] mm in length.
- 6.21.7.3.** The distance between the conspicuity marking fitted to the rear of a vehicle and each mandatory stop lamp should be greater than 200 mm.

- 6.21.7.4.** Where rear marking plates conforming to the 01 series of amendments to Regulation No. 70 are installed these may be considered, at the discretion of the manufacturer, as part of the conspicuity marking to the rear, for the purposes of calculating the length of the conspicuity marking and its proximity to the side of the vehicle.
- 6.21.7.5.** The locations on the vehicle designated for conspicuity markings shall allow for the installation of markings of at least 60 mm in width."

Paragraphs 12. to 12.11., amend to read:

**"12. TRANSITIONAL PROVISIONS**

- 12.1.** As from the official date of entry into force of the 03 series of amendments, no Contracting Party applying this Regulation shall refuse to grant approval under this Regulation as amended by the 03 series of amendments.
- 12.2.** As from [36] months after the date of entry into force, Contracting Parties applying this Regulation shall grant approvals only if the vehicle type to be approved meets the requirements of this Regulation as amended by the 03 series of amendments.
- 12.3.** Contracting Parties applying this Regulation shall not refuse to grant extensions of approval to the preceding series of amendments to this Regulation.
- 12.4.** Contracting Parties applying this Regulation shall continue to grant approvals to those types of vehicles which comply with the requirements of this Regulation as amended by the preceding series of amendments during the [36] months' period which follows the date of entry into force of the 03 series of amendments.
- 12.5.** No Contracting Party applying this Regulation shall refuse national or regional type approval of a vehicle type approved to the 03 series of amendments to this Regulation.
- 12.6.** Until [36] months after the date of entry into force of the XX series of amendments to this Regulation, no Contracting Party applying this Regulation shall refuse national or regional type approval of a vehicle type approved to the preceding series of amendments to this Regulation.
- 12.7.** Starting [36] months after the entry into force of the 03 series of amendments to this Regulation, Contracting Parties applying this Regulation may refuse (national or regional type approval and may refuse) first national or regional registration (first entry into service) of a vehicle which does not meet the requirements of the 03 series of amendments to this Regulation.

- 12.8.** As from [60] months after the date of entry into force of the 03 series of amendments to this Regulation, approvals to this Regulation shall cease to be valid, except in the case of vehicle types which comply with the requirements of this Regulation as amended by the 03 series of amendments.
- 12.9.** Notwithstanding the transitional provisions above, Contracting Parties whose application of this Regulation comes into force after the date of entry into force of the most recent series of amendments are not obliged to accept approvals which were granted in accordance with any of the preceding series of amendments to this Regulation.
- 12.10.** Notwithstanding paragraph 12.7. or 12.8., approvals of the vehicle categories to the preceding series of amendments to the Regulation which are not affected by the 03 series of amendments shall remain valid and Contracting Parties applying the Regulation shall continue to accept them.
- 12.11.** Until the United Nations Secretary-General is notified otherwise, Japan declares that in relation to the installation of lighting the light signalling devices, Japan will only be bound by the obligations of the Agreement to which this Regulation is annexed with respect to vehicles of categories M1 and N1."

Paragraph 12.12., should be deleted.

Paragraphs 12.13. to 12.6. (former), renumber as paragraphs 12.12. to 12.15.

Annex 1,

Insert new items 9.23. to 9.23.3., to read:

**"9.23. Conspicuity markings:**

	<b>Rear</b>	<b>Side</b>
<b>9.23.1. Full contour markings:</b>	yes/no <u>2/</u>	yes/no <u>2/</u>
<b>9.23.2. Partial contour markings:</b>	yes/no <u>2/</u>	yes/no <u>2/</u>
<b>9.23.3. Line markings:</b>	yes/no <u>2/</u>	yes/no <u>2/</u> "

Items 9.23. and 9.24. (former), renumber as items 9.24. and 9.25.

Insert a new item 10.4., to read:

- "10.4.** Comments regarding the extent of coverage of the conspicuity marking if it is less than the minimum value of [80] per cent required by paragraphs 6.21.4.1.2. and 6.21.4.2.2."



Annex 2, amend to read:

"Annex 2

ARRANGEMENTS OF APPROVAL MARKS

Model A

(See paragraph 4.4. of this Regulation)

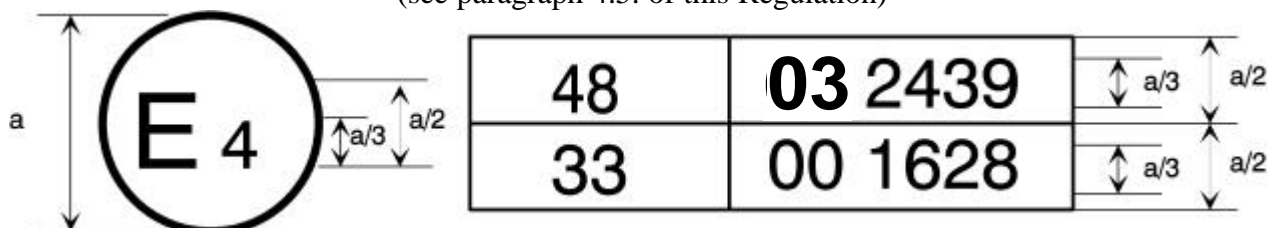


a = 8 mm min.

The above approval mark affixed to a vehicle shows that the vehicle type concerned has, with regard to the installation of lighting and light-signalling devices, been approved in the Netherlands (E4) pursuant to Regulation No. 48 as amended by the **03** series of amendments. The approval number indicates that the approval was granted in accordance with the requirements of Regulation No. 48 as amended by the **03** series of amendments.

Model B

(see paragraph 4.5. of this Regulation)



a = 8 mm min.

The above approval mark affixed to a vehicle shows that the vehicle type concerned has been approved in the Netherlands (E4) pursuant to Regulation No. 48 as amended by the **03** series of amendments and Regulation No. 33. <sup>1/</sup> The approval number indicates that, at the dates when the respective approvals were given, Regulation No. 48 was amended by the **03** series of amendments and Regulation No. 33 was still in its original form."

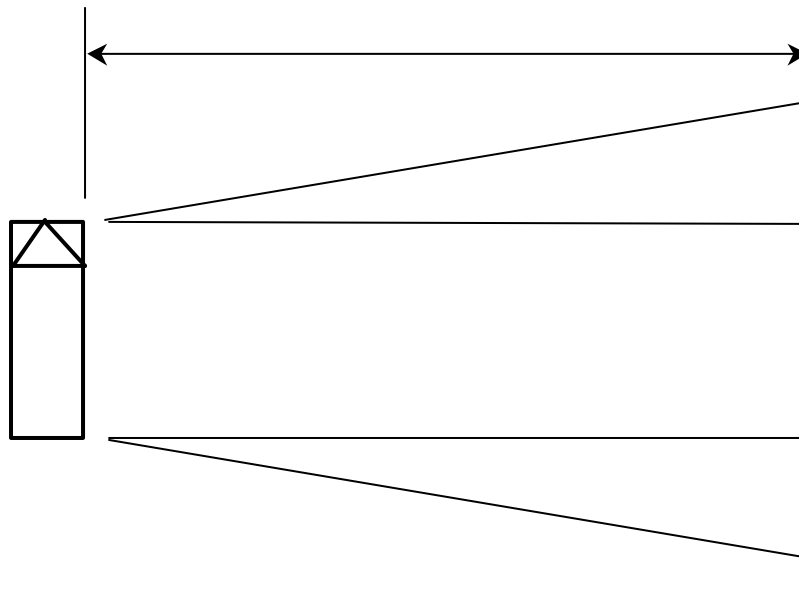
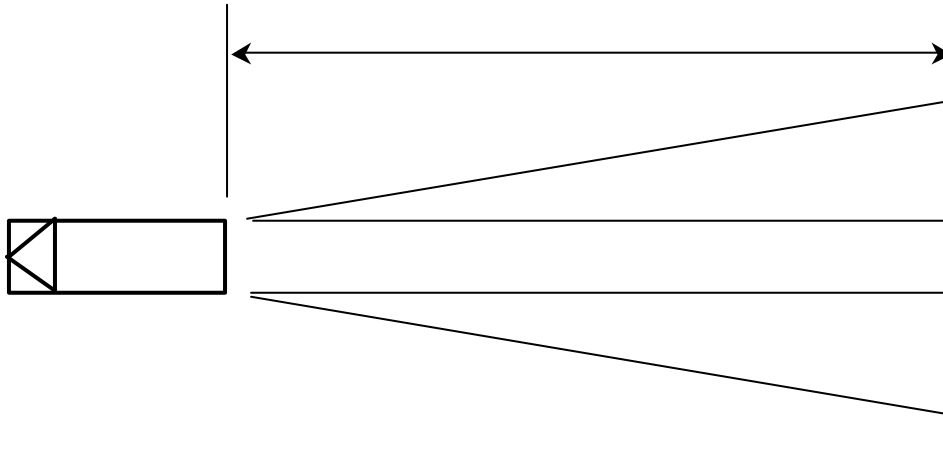
<sup>1/</sup> The second number is given merely as an example.

Insert a new Annex 11, to read:

**"Annex 11**

**VISIBILITY OF CONSPICUITY MARKINGS TO THE REAR AND  
SIDE OF A VEHICLE**

(see paragraph 6.21.5. of this Regulation)



## **B. JUSTIFICATION**

Following a proposal from Germany, at the fifty-second session of GRE, to mandate the fitting of conspicuity markings on certain categories of vehicles, it was agreed that an informal working group should be established to consider the issue and if appropriate to draft a proposal.

The Conspicuity Marking Informal Working Group (CMWG) held a preliminary meeting in Bonn, (25 November 2004), and has subsequently held 3 meetings in Brussels (3 March 2005), Munich (27 May 2005) and Bonn (29 June 2005).

This document represents the state of the discussion from those meetings. There are a number of items in [square brackets] that had not been concluded at the third CMWG meeting, or that it was the opinion of the meeting that the opinions of GRE should be sought.

The proposal is submitted as a draft 03 series of amendments to Regulation No. 48 because it introduces new mandatory provisions which require transitional provisions to be applied.

2.7.16.3. – amended to ensure that plates and marking required for use purposes are not part of Regulation No. 48.

2.7.16.4. – this has not been fully discussed in CMWG, but the principle is to exclude retro-reflective advertising from Regulation No. 48.

2.7.17. – this has been expanded to differentiate between the different types of conspicuity markings.

5.15. – the opinion of GRE is sought on the question of colour to the rear. If white and yellow were to be permitted, as well as red, then the footnote should be deleted, as it not acceptable for a Contracting Party to be able to permit a more restrictive set of provision.

6.21.1. – It was agreed that the mandatory application of conspicuity markings should generally apply to similar categories of vehicles as those that require end outline marker lamps and/or side marker lamps. For all other categories of vehicles the markings should be optional, except M<sub>1</sub> and O<sub>1</sub> vehicles for which the fitting would be prohibited.

Although full contour markings were considered to be the most beneficial, it was acknowledged that the installation costs could be significantly reduced if only a partial contour was applied to the side.

In recognition of the difficulty in applying contour markings on the rear and side of some vehicles, a derogation was permitted to fit just a line marking.

6.21.2.2.2.2. - The installation of conspicuity markings on the side of tractor units for semi-trailers was considered to present particular problems, especially with regard to achieving the installation requirements. In addition, the units are usually used with a semi-trailer which would have meant certain markings being redundant. Therefore, only the cab is required to be marked with a line marking, and this obligation is deferred for a further 2 years beyond the entry into force of the 03 series of amendments.

6.21.1.3.2. – This confirms that manufacturers may install more than the mandatory markings.

6.21.4. – The current text in Regulation No. 48 was considered to be too imprecise, and clarification was necessary, especially with regard to the interpretation of the 80 per cent criteria for the length of the marking. However, it was acknowledged that for some manufacturers achieving this value would be difficult; therefore, a derogation to 60 per cent is permitted for 5 years after the date of entry into force if it can be demonstrated that achieving 80 per cent is not possible.

6.21.5. – Provisions needed to be defined for determining the "visibility" of the markings. It was acknowledged that the normal geometric visibility provisions could not be applied, therefore the same principle has been applied for the visibility of white/red light to the rear/front. It is intended that compliance with the requirement can be demonstrated graphically, or by calculation. This is not a measure of the photometric performance of the markings and, therefore, should not be required to be conducted under darkened conditions with the surfaces being illuminated. A new Annex 11 has been drafted to aid the comprehension of the observation plane.

6.21.7.2. – For partial contours, the markings for the upper corners need to be defined.

6.21.7.4. - As some Contracting Parties require the fitment of Regulation No. 70.01 rear marker plates, and space on the rear of a vehicle is limited, Regulation No. 70.01 plates should be considered as part of the conspicuity marking.

6.21.7.5. - As it is anticipated that Regulation No. 104 markings will be fitted, a minimum width needed to be specified for the designated installation locations that related to the maximum width of the Regulation No. 104 markings.

12. - The transitional provisions are based on the revised guidelines for the draft in the transitional provisions that were agreed at the one-hundred-and-thirty-sixth session of WP.29.

Ideally, the footnotes to paragraphs 6.21.1.2.2.2., 6.21.4.1.3., and 6.21.4.2.3. should be incorporated into the transitional provisions, but the guidelines do not recognize such provisions. Advice from the secretariat is sought on this matter.

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