

12 December 2011

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## 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)

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## Addendum 111: Regulation No. 112

### Revision 2 – Amendment 2

Supplement 1 to the 01 series of amendments - Date of entry into force: 28 October 2011

**Uniform provisions concerning the approval of motor vehicle headlamps emitting an asymmetrical passing beam or a driving beam or both and equipped with filament lamps and/or light-emitting diode (LED) modules**



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\* 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.

Paragraph 6.1.3., amend to read:

"6.1.3. Apart from LED module(s), the headlamps shall be checked by means of an uncoloured standard (étalon) filament lamp designed for a rated voltage of 12 V.

6.1.3.1. During the checking of the headlamp, the voltage at the terminals of the filament lamp shall be regulated as to obtain the reference luminous flux at 13.2 V as indicated for each filament lamp at the relevant data sheet of Regulation No. 37.

However, if a filament lamp of category H9 or H9B is used for the principal passing beam, the applicant may choose the reference luminous flux at 12.2 V or 13.2 V as indicated in the relevant data sheet of Regulation No. 37 and a reference stating which voltage was chosen for type approval shall be made in item 9 in the communication form of Annex 1.

6.1.3.2. In order to protect the standard (étalon) filament lamp during the process of photometric measurement it is permissible to carry out the measurements at a luminous flux that differs from the reference luminous flux at 13.2 V. If the Technical Service chooses to carry out measurements in such a manner, the luminous intensity shall be corrected by multiplying the measured value by the individual factor  $F_{\text{lamp}}$  of the standard (étalon) filament lamp in order to verify the compliance with the photometric requirements where:

$$F_{\text{lamp}} = \Phi_{\text{reference}} / \Phi_{\text{test}}$$

$\Phi_{\text{reference}}$  is the reference luminous flux at 13,2 V as specified in the relevant data sheet of Regulation No. 37

$\Phi_{\text{test}}$  is the actual luminous flux used for the measurement

However, where the reference luminous flux of 12.2 V as specified in the data sheet for the category H9 or H9B is chosen, this procedure is not permitted.

6.1.3.3. The headlamp shall be considered acceptable if it meets the requirements of paragraph 6. with at least one standard (étalon) filament lamp, which may be submitted with the headlamp."

Annex 1,

Item 9, amend to read:

"9. Brief description:

Category as described by the relevant marking<sup>3</sup>: .....

Number and category(s) of filament lamp(s): .....

Reference luminous flux used for the principal passing beam (lm):.....

Principal passing beam operated at approximately (V): .....

Measures according to paragraph 5.8 .....

Number and specific identification code(s) of LED module(s) .....

Number and specific identification code(s) of electronic light source control gear(s) .....

Total objective luminous flux as described in paragraph 5.9. exceeds 2,000 lumen: yes/no/does not apply<sup>2</sup>

The adjustment of the cut-off has been determined at: 10 m/25 m/does not apply<sup>2</sup>

The determination of the minimum sharpness of the "cut-off" has been carried out at: 10 m/25 m/does not apply<sup>2</sup>

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