

9 November 2015

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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 3 - Amendment 3**

Supplement 6 to the 01 series of amendments – Date of entry into force: 8 October 2015

#### **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**

This document is meant purely as documentation tool. The authentic and legal binding text is: ECE/TRANS/WP.29/2015/29.



**UNITED NATIONS**

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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.

*Annex 4,*

*Paragraphs 1.2.1.1. to 1.2.1.1.2., amend to read:*

"1.2.1.1. Test mixture

1.2.1.1.1. For headlamp with the outside lens in glass:

The mixture of water and a polluting agent to be applied to the headlamp shall be composed of:

9 parts by weight of silica sand with a particle size of 0-100 µm,

1 part by weight of vegetal carbon dust produced from beech wood with a particle size of 0-100 µm,

0.2 parts by weight of NaCMC<sup>3</sup>, and

5 parts by weight of sodium chloride (pure at 99 per cent),

an appropriate quantity of distilled water, with a conductivity of ≤ 1 µS/m.

The mixture shall not be more than 14 days old.

1.2.1.1.2. For headlamp with outside lens in plastic material:

The mixture of water and polluting agent to be applied to the headlamp shall be composed of:

9 parts by weight of silica sand with a particle size of 0-100 µm,

1 part by weight of vegetal carbon dust produced from beech wood with a particle size of 0-100 µm,

0.2 part by weight of NaCMC<sup>3</sup>,

5 parts by weight of sodium chloride (pure at 99 per cent),

13 parts by weight of distilled water with a conductivity of ≤ 1 µS/m, and

2 ± 1 parts by weight of surface-actant<sup>4</sup>.

The mixture shall not be more than 14 days old."

*Annex 10,*

*Paragraph 5.2., amend to read:*

"5.2. One module of each type shall be submitted by the applicant with the light source control gear, if applicable, and sufficient instructions.

Suitable thermal management (e.g. heat sink) may be provided, to simulate similar thermal conditions as in the corresponding headlamp application.

Before the test the LED module shall be aged at least for seventy-two hours under the same conditions as in the corresponding headlamp application.

In the case of use of an integrating sphere, the sphere shall have a minimum diameter of one meter, and at least ten times the maximum dimension of the LED module, whichever is the largest. The flux measurements can also be performed by integration using a goniophotometer. The prescriptions in CIE - Publication 84 - 1989, regarding the room temperature, positioning, etc., shall be taken into consideration.

The LED module shall be burned in for approximately one hour in the closed sphere or goniophotometer.

The flux shall be measured after stability has occurred, as explained in paragraph 4.3.1.2. of this Annex 10 to this Regulation."

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