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**Economic Commission for Europe**

Inland Transport Committee

**World Forum for Harmonization of Vehicle Regulations**

**Working Party on General Safety Provisions**

**117th session**

Geneva, 8-11 October 2019

Item 6(a) of the provisional agenda

**Amendments to safety glazing regulations:**

**UN Global Technical Regulation No. 6 (Safety glazing)**

 Proposal for Amendment 2 to UN Global Technical Regulation No. 6 (Safety glazing)

Submitted by the expert from India[[1]](#footnote-2)\*

The text reproduced below was prepared by the expert from India to UN Global Technical Regulation (GTR) No. 6 to enable the approval of the laminated-glass panes with improved mechanical properties. It is based on informal document GRSG-115-38, presented at the 115th session of the Working Party on General Safety Provisions (GRSG) (see report ECE/TRANS/WP.29/GRSG/94, para. 18). The modifications to the current text of UN GTR No. 6 are marked in bold characters.

**I. Proposal**

*Paragraph 4.1.2.2.2.*, amend to read:

"4.1.2.2.2. "XI" for laminated glass. **In addition, the appropriate application will be signified by:**

 **/D For laminated-glass panes with enhanced mechanical properties**

*Paragraph 5., Table 1 (*Summary *of performance requirements),* amend to read**:**

|  |  |  |
| --- | --- | --- |
|  | *Windscreens* | *Panes* |
| *Laminated glass* | *Glass plastics* | *Uniformly toughened glass* | *Laminated glass* | *Double glazed unit 1/* | *Glass plastics* |
| Marking | II | II/P | **IV** |  | /P | **XI** | **XI** /P | V | **XII** |
| Light transmittance | 5.1.1. | 5.1.1. | 5.1.1. | 5.1.1. | 5.1.1. | 5.1.1. | 5.1.1. | 5.1.1. | 5.1.1. |
| Resistance to abrasion | 5.1.2. | 5.1.2. | 5.1.2. |  | 5.1.2. | 5.1.2. | 5.1.2. |  | 5.1.2. |
| Resistance to temperature changes |  | 5.2.1. | 5.2.1. |  | 5.2.1. |  | 52.1. |  | 5.2.1. |
| Resistance to fire |  | 5.2.2. | 5.2.2. |  | 5.2.2. |  | 5.2.2. |  | 5.2.2. |
| Resistance to chemicals |  | 5.2.3 | 5.2.3. |  | 5.2.3. |  | 5.2.3 |  | 5.2.3 |
| Resistance to radiation | 5.3.1. | 5.3.1. | 5.3.1. |  | 5.3.1. | 5.3.1. | 5.3.1. |  | 5.3.1. |
| Resistance to high temperature | 5.3.2. | 5.3.2. | 5.3.2. |  | 5.3.2. | 5.3.2. | 5.3.2. |  | 5.3.2. |
| Resistance to humidity | 5.3.3. | 5.3.3. | 5.3.3. |  | 5.3.3. | 5.3.3 | 5.3.3. |  | 5.3.3. |
| Optical distortion | 5.4.1. | 5.4.1. | 5.4.1. |  |  |  |  |  |  |
| Image separation | 5.4.2. | 5.4.2. | 5.4.2. |  |  |  |  |  |  |
| Fragmentation |  |  |  | 5.5.1.1. | 5.5.1.1. |  |  |  |  |
| Head-form | 5.4.3.2/ | 5.4.3.2/ | 5.4.3.2/ |  |  | **5.5.2.2****3/** | **5.5.2.2. 3/** | 5.5.3.2.2/ |  |
| 2,260 g Ball | 5.4.4. | 5.4.4. | 5.4.4. |  |  | **5.5.2.3****3/** | **5.5.2.3. 3/** |  |  |
| 227 g Ball | 5.4.5. | 5.4.5. | 5.4.5. | 5.5.1.2. | 5.5.1.2. | 5.5.2.1. |  5.5.2.1. |  | 5.5.2.1 |

1/ Each component pane shall satisfy the appropriate tests for the type of glazing.

2/ See paragraph 4.2.2.

**3/ These tests shall only be carried out on laminated-glass panes bearing the additional symbol /D.**

*Insert new paragraphs 5.5.2.2.**to 5.5.2.3.3.2.* to read:

"**5.5.2.2. Headform Test**

 **The provisions concerning the headform test shall apply to laminated-glass panes bearing the additional symbol /D.**

**5.5.2.2.1. Number of test pieces**

 **Eight flat test pieces measuring (1,100 mm x 500 mm) +10mm/-2mm shall be subjected to testing.**

**5.5.2.2.2. Test method**

**5.5.2.2.2.1. The method used shall be that described in paragraph 6.5.**

**5.5.2.2.2.2. The height of drop shall be 1.50 m  mm.**

**5.5.2.2.3. Interpretation of results**

**5.5.2.2.3.1. This test shall be deemed to have given a satisfactory result if the following conditions are met:**

**5.5.2.2.3.1.1. The test piece yields and breaks, displaying numerous circular cracks centered approximately on the point of impact,**

**5.5.2.2.3.1.2 Tears in the interlayer are allowed, but the manikin's head shall not pass through,**

**5.5.2.2.3.1.3 No large fragments of glass shall become detached from the interlayer.**

**5.5.2.2.3.2. A set of test pieces submitted for approval shall be considered satisfactory from the point of view of the head form test if**. **at least seven of the eight test pieces meet the requirements**."

*Insert new paragraphs 5.5.2.3****.*** *to 5.5.2.3.3.2.,* to read:

"**5.5.2.3. 2,260 g Ball Test**

 **The provisions concerning the 2,260g ball test shall apply to laminated-glass panes bearing the additional symbol /D.**

**5.5.2.3.1. Twelve square test pieces of 300 mm side shall be subjected to testing.**

**5.5.2.3.2. Test method**

**5.5.2.3.2.1. The method used shall be that described in paragraph 6.4.**

**5.5.2.3.2.2. The height of drop (from the underface of the ball to the upper face of the test piece) shall be 4 m +25/-0mm.**

**5.5.2.3.3. Interpretation of results**

**5.5.2.3.3.1. The test shall be deemed to have given a satisfactory result if the ball does not pass through the glazing within five seconds after the moment of impact.**

**5.5.2.3.3.2. A set of test pieces submitted for approval shall be considered satisfactory from the point of view of the 2,260 g ball test if at least eleven of the twelve tests have given a satisfactory result**."

 II. Justification

 This proposal aims to develop, in the framework of the 1998 Agreement, an amendment to UN GTR No. 6 on Safety Glazing to adapt the provisions to technical progress to enable the approval of the laminated-glass panes with improved mechanical properties. This is in line with similar proposal discussed at the 114th session of GRSG for UN Regulation No. 43 which is approved as Supplement 8 to 01 series of amendments to UN Regulation No. 43 in 176th session of the World Forum for Harmonization of Vehicle Regulations (WP.29), 13-16 November 2018.

1. \* In accordance with the programme of work of the Inland Transport Committee for 2018–2019 (ECE/TRANS/274, para. 123 and ECE/TRANS/2018/21/Add.1, Cluster 3.1), the World Forum will develop, harmonize and update UN regulations to enhance the performance of vehicles. The present document is submitted in conformity with that mandate. [↑](#footnote-ref-2)