

Comment on document ECE/TRANS/180/Add.6

Proposal for Amendment 2 to the Global Technical Regulation No. 6 (Safety Glazing)

(Addition to existing text of UN GTR 6 is shown in bold text and deletion in strikethrough text)

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."

Table 1 - Summary of performance requirements under paragraph 5, amend to read:

	Windscreens			Panels					
	Laminated glass		Glass plastics	Uniformly toughened glass		Laminated glass		Double glazed unit ^{1/}	Glass plastics
Marking	II	II/P	III IV	I	I /P	IV XI	IV XI/P	V	VI 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.		5.2.1.		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/}			5.4.3.5 ^{3/}		5.5.3.2. ^{2/}	
2,260 g Ball	5.4.4.	5.4.4.	5.4.4.			5.4.4.2 ^{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.**

Table 1 - Summary of performance requirements

Insert a new paragraph 5.4.3.5., to read:

"5.4.3.5 Headform Test

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

5.4.3.5.1. Indices of difficulty of the secondary characteristics

No secondary characteristic is involved.

5.4.3.5.2. Number of test pieces

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

5.4.3.5.3. Test method

5.4.3.5.3.1. The method used shall be that described in paragraph 6.5.

5.4.3.5.3.2. The height of drop shall be 1.50 m $\begin{matrix} + 0 \\ - 5 \end{matrix}$ mm.

5.4.3.5.4. Interpretation of results

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

5.4.3.5.4.1.1. The test piece yields and breaks, displaying numerous circular cracks centred approximately on the point of impact,

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

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

5.4.3.5.4.2. A set of test pieces submitted for approval shall be considered satisfactory from the point of view of the headform test if all the tests give a satisfactory result."

Insert a new paragraph 5.4.4.2., to read:

"5.4.4.2. 2,260 g ball test

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

5.4.4.2.1. Twelve square test pieces of 300 mm +10/-0 mm side shall be subjected to testing.

5.4.4.2.2. Test method

5.4.4.2.2.1. The method used shall be that described in paragraph 6.4.

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

5.4.4.2.3. Interpretation of results

5.4.4.2.3.1. 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.

5.4.4.2.3.2. 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

The objective of this proposal is to develop, in the framework of the 1998 Agreement, an amendment to UN Global Technical Regulation (GTR) No. 6 on Safety Glazing to adapt the Regulation to technical progress by providing optional use of laminated-glass panes meeting mechanical strength requirements in front, exterior, forward-facing glazing of upper deck of double decked buses instead of laminated windscreen. This is in line with similar proposal discussed in 114th session of GRSG for UN Regulation No. 43.
