14 February 2018

Agreement

Concerning the Adoption of Harmonized Technical United Nations Regulations 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 United Nations Regulations*

(Revision 3, including the amendments which entered into force on 14 September 2017)

Addendum 42 – UN Regulation No. 43

Revision 4 - Amendment 1

Supplement 5 to the 01 series of amendments – Date of entry into force: 10 October 2017

Uniform provisions concerning the approval of safety glazing materials and their installation on vehicles

This document is meant purely as documentation tool. The authentic and legal binding text is: ECE/TRANS/WP.29/2017/12.

UNITED NATIONS

* Former titles 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 (original version);
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, done at Geneva on 5 October 1995 (Revision 2).

Annex 14

Paragraph 1., replace "following principal or secondary characteristics" by "following principal characteristics".

Paragraph 1.1.6., amend to read:

"1.1.6. The nominal thickness. … the acceptable thickness tolerance is given by equation (thickness tolerance limits (mm) = ± (0.4 mm + 0.1 e).

Where e is the sheet nominal thickness in millimetres.

Reference standard is ISO 7823-1:2003."

Insert a new paragraph 1.2.2., to read:

"1.2.2. The incorporation or otherwise of opaque obscuration."

Paragraph 4.2., amend to read (inserting a table including a new note [1]):

"4.2. Number of test pieces

Six flat test pieces (1,170 x 570 +0/-2 mm) or six complete parts shall be subjected to testing.

The table below shows the type of samples subject to testing, in accordance with the dimensions of the glazing to be assessed.

Type of window	*Characteristic of window*	*Dimensions of flat sample*	*Alternative*
Small window	Diameter D of the circle capable of being scribed: D < 150 mm and area of less than 200 cm^2	No test	
Other than small window	Diameter D of the circle capable of being scribed: D < 400 mm and area of at least 200 cm^2	1,170 mm x 570 mm (material type testing and standard support frame)	Other part of same material, production procedure, thickness, colour with dimensions bigger than those of the original part, into which a 400 mm diameter circle can be scribed, and with a developed surface area of less than 1,170 mm x 570 mm (part type approval for the original part [1])
	Diameter D of the circle capable of being scribed: 400 mm < D	1,170 mm x 570 mm (material type testing and standard support frame)	Real part (submitted for approval) (part type approval and dedicated support frame)

Note: [1] Original part dimensions are too small for performing the test."

Paragraphs 4.3.2. and 4.3.3., amend to read:

"4.3.2. For forward facing glazing situated forward of an occupant like partitions and separating windows which have impact probability (classification VIII/A) the drop height shall be 3 m. The HIC value shall also be measured.

4.3.3. For glazing like side windows, back windows and sunroofs which have reduced impact possibilities (classification VIII/B) the drop height shall be 1.5 m. The HIC value shall also be measured."

Paragraph 4.4.3., amend to read:

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

Paragraphs 4.4.3.1. and 4.4.3.2., shall be deleted.

Paragraph 5.1., amend to read:

"5.1. Indices of difficulty of the secondary characteristics:

(1) Without conductors, obscuration(s) or heating elements;

(2) With conductors, obscuration(s) or heating elements."

Paragraph 5.2., amend to read:

"5.2. Number of test pieces

Ten flat square pieces of 300 mm +10/-0 mm side or ten substantially flat finished parts shall be subjected to testing. In this later case, the contact between the part and the supporting fixture shall be around the whole perimeter and of about 15 mm width. Upper and lower supporting frames shall be clamped together in a way that ensures that the movement of the test piece during the test shall not exceed 2 mm."

Paragraph 5.3.2., replace "various thickness" by "various nominal thickness" and "piece thickness" by "piece nominal thickness".

Paragraphs 5.4.1. and 5.4.2., amend to read:

"5.4.1. The ball test shall be …

…

As a result of the impact, cracks and fissures in the test piece are however permissible.

5.4.2. A set of test pieces submitted for approval shall be considered satisfactory from the point of view of the 227 g ball test if eight or more separate tests give a satisfactory result at the drop height."

Paragraphs 5.4.2.1. and 5.4.2.2., shall be deleted.

Insert a new paragraph 5.4.3., to read:

"5.4.3. The ambient temperature ball drop test shall be only performed after the humidity test of paragraph 6.4.4. of this annex."

Paragraphs 6.1.3.1. and 6.1.3.2., replace "total light scatter" by "increase of haze" (twice).

Insert a new paragraph 6.1.3.3., to read:

"6.1.3.3. In the case of glazing of Class L, for the abrasion on the outer surface of the test sample, either the abrasion test according to Annex 3, paragraph 4. or as an equivalent alternative the package of sand drop test, car-wash test and wiper test shall apply as described in Annex 17, paragraphs 6.1.2., 6.1.3. and 6.1.4."

Paragraph 6.1.3.3. (former), renumber as paragraph 6.1.3.4.

Paragraph 6.2.4., amend to read:

"6.2.4. A set of test pieces submitted for approval shall be considered satisfactory from the point of view of the resistance to simulated weathering if all test pieces give satisfactory results."

Paragraphs 6.2.4.1. and 6.2.4.2., shall be deleted.

Paragraph 6.3.3.2., amend to read:

"6.3.3.2. The test piece shall be considered satisfactory from the point of view of approval if the test gives satisfactory results."

Paragraphs 6.3.3.2.1. and 6.3.3.2.2., shall be deleted.

Paragraph 6.4.2., amend to read:

"6.4.2. Ten flat square test pieces of 300 mm side or ten original parts shall be subjected to testing."

Paragraph 7.1., amend to read:

"7.1. Interpretation of results

A set of four samples shall be considered as satisfactory if all samples give satisfactory results."

Paragraphs 7.1.1. and 7.1.2., shall be deleted.

Paragraph 8.2.1., amend to read:

"8.2.1. For the purpose of approval a set of samples will be considered satisfactory if all samples give satisfactory results."

Paragraphs 8.2.1.1. and 8.2.1.2., shall be deleted.

Paragraphs 9.1. to 9.2.2., amend to read:

"9.1. Immersion test

9.1.1. Indices of difficulty and test method

The requirements of Annex 3, paragraph 11.2.1., shall apply.

9.1.2. Interpretation of results

A set of four samples for each chemical shall be tested; for each chemical, in case of glazing of Class L, one of these samples shall be cross-cut according to paragraph 13. of Annex 3.

Three samples out of four, among which the cross-cut sample mentioned above when applicable, shall give satisfactory results for each chemical.

9.2. Test under load

9.2.1. Indices of difficulty and test method

The requirements of Annex 3, paragraph 11.2.4. shall apply.

9.2.2. Interpretation of results

A set of four samples, not being the ones mentioned in paragraph 9.1. above, for each chemical shall be tested.

Three samples out of four shall give satisfactory results for each chemical."

Annex 15

Paragraph 1.1.5., correct to read:

"1.1.5. The nominal thickness (e), a manufacturing tolerance being allowed: ± (0.1 mm + 0.1 e); e > 0.1 mm."

Paragraph 4.2.1., amend to read:

"4.2.1. Number of test pieces

Ten flat square pieces of 300 +10/-0 mm side shall be subjected to testing."

Paragraph 4.2.3.2., amend to read:

"4.2.3.2. A set of test pieces submitted for approval shall be considered satisfactory from the point of view of the 227 g ball test if eight or more separate tests give a satisfactory result at the drop height."

Paragraphs 4.2.3.2.1. and 4.2.3.2.2., shall be deleted.

Paragraph 5.1.4., amend to read:

"5.1.4. A set of test pieces or samples submitted for approval shall be considered satisfactory from the point of view of the resistance to simulated weathering if all test pieces or samples give satisfactory results."

Paragraphs 5.1.4.1. and 5.1.4.2., shall be deleted.

Paragraph 6.1., amend to read:

"6.1. Interpretation of results

A set of four samples shall be considered as satisfactory if all samples give satisfactory results."

Paragraphs 6.1.1. and 6.1.2., shall be deleted.

Paragraph 7.2.1., amend to read:

"7.2.1. For the purpose of approval a set of samples will be considered satisfactory if all samples give satisfactory results."

Paragraphs 7.2.1.1. and 7.2.1.2., shall be deleted.

Paragraph 8.2., amend to read:

"8.2. Interpretation of results

A set of samples shall be considered acceptable if all samples give satisfactory results."

Paragraphs 8.2.1. and 8.2.2., shall be deleted.

Annex 16

Paragraph 1., replace "following principal or secondary characteristics" by "following principal characteristics".

Paragraph 1.1.4., replace "The thickness" by "The nominal thickness".

Paragraph 1.2.1., amend to read:

"1.2.1. The incorporation or otherwise of opaque obscuration."

Paragraph 2.3., amend to read:

"2.3. The nominal …. by the equation:

Thickness tolerance limits (mm) = ± (0.4 mm+ 0.1 e)

where e is the sheet nominal thickness in millimetres.

Reference standard is ISO 7823-1:2003.

NB: Where … of the unit."

Paragraph 4.2., amend to read (inserting a table including also a new note [1]):

"4.2. Number of test pieces

Six flat test pieces (1,170 mm x 570 mm +0/-2 mm) or six complete parts shall be subjected to testing.

The table below shows the type of samples subject to testing, in accordance with the dimensions of the glazing to be assessed.

Type of window	*Characteristic of window*	*Dimensions of flat sample*	*Alternative*
Small window	Diameter D of the circle capable of being scribed: D < 150 mm and area of less than 200 cm^2	No test	
Other than small window	Diameter D of the circle capable of being scribed: D < 400 mm and area of at least 200 cm^2	1,170 mm x 570 mm (material type testing and standard support frame)	Other part of same material, production procedure, thickness, colour with dimensions bigger than those of the original part, into which a 400 mm diameter circle can be scribed, and with a developed surface area of less than 1,170 mm x 570 mm (part type approval for the original part [1])
	Diameter D of the circle capable of being scribed: 400 mm < D	1,170 mm x 570 mm (material type testing and standard support frame)	Real part (submitted for approval) (part type approval and dedicated support frame)

Note: [1] Original part dimensions are too small for performing the test."

Paragraphs 4.3.1. to 4.3.3., amend to read:

"4.3.1. The test method used shall be that described in Annex 3, paragraph 3.2.

4.3.2. For forward facing glazing situated forward of an occupant like partitions and separating windows which have impact probability (classification X/A) the drop height shall be 3 m.

The HIC value shall also be measured.

4.3.3. For glazing like side windows, back windows and sunroofs which have reduced impact possibilities (classification X/B) the drop height shall be 1.5 m.

The HIC value shall also be measured."

Paragraphs 5.1. to 5.2., amend to read:

"5.1. Indices of difficulty of the secondary characteristics:

(1) Without obscuration(s)

(2) With obscuration(s)

5.2. Number of test pieces

Ten flat square pieces of 300 mm +10/-0 mm side of the outer component sheet or ten substantially flat finished parts shall be subjected to testing. In this later case, the contact between the part and the supporting fixture shall be around the whole perimeter and of about 15 mm width. Upper and lower supporting

frames shall be clamped together in a way that ensures that the movement of the test piece during the test shall not exceed 2 mm."

Paragraph 5.3.2., replace "various thickness" by "various nominal thickness" and "values of thickness" by "values of nominal thickness".

Paragraphs 5.4.1. to 5.4.2., amend to read:

"5.4.1. The ball test shall be …

…

(b) The test piece does not break into separate pieces.

As a result of the impact, cracks and fissures in the test piece shall however be permitted.

5.4.2. A set of test pieces submitted for approval shall be considered satisfactory from the point of view of the 227 g ball test if eight or more separate tests give a satisfactory result at the drop height."

Paragraphs 5.4.2.1. and 5.4.2.2., shall be deleted.

Paragraph 6.1.2., amend to read:

"6.1.2. Three flat square test pieces of 100 mm side for each type of surface shall be subjected to testing."

Paragraphs 6.1.3.1. and 6.1.3.2., replace "total light scatter" by "increase of haze" (twice).

Insert a new paragraph 6.1.3.3., to read:

"6.1.3.3. In the case of glazing of Class L, for the abrasion on the outer surface of the test sample, either the abrasion test according to Annex 3, paragraph 4. or as an equivalent alternative the package of sand drop test, car-wash test and wiper test shall apply as described in Annex 17, paragraphs 6.1.2., 6.1.3. and 6.1.4."

Paragraph 6.1.3.3. (former), renumber as paragraph 6.1.3.4.

Paragraph 6.1.4., amend to read:

"6.1.4. A set of samples for approval shall be considered satisfactory if all samples meet the requirements."

Paragraph 6.2.4., amend to read:

"6.2.4. A set of test pieces submitted for approval shall be considered satisfactory from the point of view of the resistance to simulated weathering if all test pieces give satisfactory results."

Paragraphs 6.2.4.1. and 6.2.4.2., shall be deleted.

Paragraph 6.3.3.2., amend to read:

"6.3.3.2. The test piece shall be considered satisfactory from the point of view of approval if the test gives satisfactory results."

Paragraphs 6.3.3.2.1. and 6.3.3.2.2., shall be deleted.

Paragraph 6.4.2., amend to read:

"6.4.2. Ten square pieces or test windows of 300 x 300 mm side or ten original parts shall be subjected to testing."

Paragraph 7.1., amend to read:

"7.1. Interpretation of results

A set of four samples shall be considered as satisfactory if all samples give satisfactory results."

Paragraphs 7.1.1. and 7.1.2., shall be deleted.

Paragraph 8.2.1., amend to read:

"8.2.1. For the purpose of approval a set of samples will be considered satisfactory if all samples give satisfactory results."

Paragraphs 8.2.1.1. and 8.2.1.2., shall be deleted.

Paragraphs 9.1. to 9.2.2., amend to read:

"9.1. Immersion test

9.1.1. Indices of difficulty and test method

The requirements of Annex 3, paragraph 11.2.1., shall apply.

9.1.2. Interpretation of results

A set of four samples for each chemical shall be tested; for each chemical, in case of glazing of Class L, one of these samples shall be cross-cut according to paragraph 13. of Annex 3.

Three samples out of four, among which the cross-cut sample mentioned above when applicable, shall give satisfactory results for each chemical.

9.2. Test under load

9.2.1. Indices of difficulty and test method

The requirements of Annex 3, paragraph 11.2.4., shall apply.

9.2.2. Interpretation of results

A set of four samples, not being the ones mentioned in paragraph 9.1. above, for each chemical shall be tested.

Three samples out of four shall give satisfactory results for each chemical."