

PAZIŅOJUMS  
COMMUNICATION





issued by: **Road traffic safety directorate**



concerning: <sup>(1)</sup> APPROVAL GRANTED  
~~APPROVAL EXTENDED~~  
~~APPROVAL REFUSED~~  
~~APPROVAL WITHDRAWN~~  
~~PRODUCTION DEFINITELY DISCONTINUED~~

of a type of safety glazing material pursuant to Regulation No. 43.

Approval number: **E32\*43R01/05\*0042\*00** Extension No.: **00**

- |     |   |  |
|-----|---|--|
| 1.  | Class of safety glazing material:   | <b>Rigid Plastic Multiple Glazed Units</b>   |
| 2.  | Description of the type of glazing:   | <b>Please refer to Appendices 7, 8</b>   |
| 3.  | Trade names or marks:   |  <b>SANJO</b> ;  <b>JOEL</b> |
| 4.  | Manufacturer's name and address:  | <b>Jiangsu Sanjo Intelligent Technology Co., Ltd.<br/>No.258 Five Star Road, Nandu Town,<br/>Liyang, Jiangsu 213300,<br/>P.R. China</b>  |
| 5.  | If applicable, name and address of manufacturer's representative:   | <b>Not applicable</b>  |
| 6.  | Submitted for approval on:  | <b>31.05.2018</b>  |
| 7.  | Technical Service responsible for conducting approval tests:  | <b>TÜV Rheinland-KTI Ltd.</b>  |
| 8.  | Date of report issued by that Service:  | <b>12.02.2018</b>  |
| 9.  | Number of report issued by that Service:  | <b>87-R43-293/18-00</b>  |
| 10. | Approval is <b>granted</b> / <del>refused</del> / <del>extended</del> / <del>withdrawn</del> <sup>(1)</sup> |  |
| 11. | Reason(s) for extension of approval:  | <b>Not applicable</b>  |
| 12. | Remarks:  | <b>Not applicable</b>  |

13. Place:

14. Date:

15. Signature:

16. The list of documents filed with the Type Approval Authority which has granted approval and available on request is annexed to this communication.



**6, S.Eizensteina St., Riga LV-1079,  
 Latvia**

**01.06.2018**

**Jānis Liepiņš**



Attachments:

Information package.  
 Test report.

43-X/B-3.3+(25±5)+3.3mm-00  
 87-R43-293/18-00 12.02.2018

<sup>(1)</sup> Strike out what does not apply.

Annex 1 - Appendix 7

**Multiple glazed units**

**Principal and secondary characteristics as defined in Annex 12 or Annex 16  
to Regulation No. 43**

Approval No.: **E32\*43R01/05\*0042\*00** Extension No.: **00**

**Principal characteristics:**

Composition of multiple glazed units:	<b>Symmetrical</b>
Nominal thickness of the gap:	<b>25±5 mm</b>
Method of assembly:	<b>Adhesion</b>
Type of each glazing component as defined in Annex 14:	<b>Rigid plastic panes (3.3mm)</b>



**Documents attached:**

One form for all panes of a symmetrical multiple glazed unit in accordance with the annex under which the panes have been tested ~~or approved~~.

~~One form for each different pane of an asymmetrical multiple glazed unit in accordance with the annexes under which these panes have been tested or approved.~~

Remarks: **Light transmittance > 70%**

## Annex 1 - Appendix 8

**Rigid plastic panes****Principal and secondary characteristics in accordance with Annex 14  
to Regulation No. 43**Approval No.: **E32\*43R01/05\*0042\*00** Extension No.: **00****Principal characteristics:**

Chemical designation of the material:	<b>PMMA (polymethylmethacrylate)</b>
The classification of the material by the manufacturer:	<b>MMA</b>
Process of manufacture:	<b>Cast</b>
Shape and dimensions:	<b>Greatest developed area</b> <b>Flat and curved: 1.0m × 2.0m</b> <b>Greatest height of segment: 25±5mm</b>
Nominal thickness	<b>3.3 mm</b>
Colouring of the rigid plastic material	<b>Colourless</b>
Nature and type of surface coating	<b>Not applicable</b>

**Secondary characteristics:**

Conductors incorporated	<b>No</b>
Remarks:	<b>Not applicable</b>





## Jiangsu Sanjo Intelligent Technology Co., Ltd.

Information document No. 43-X/B-3.3+(25±5)+3.3mm-00

Application date: July 25, 2017

Page 1 of 4

### 0. General

- |    |   |   |  |
|----|---|---|--|
| 1. | Class of safety glazing material                                    | : | Rigid Plastic Multiple Glazed Units  |
| 2. | Description of the type of glazing                                  | : | Rigid Plastic Multiple Glazed Units<br>(X/B 3.3+(25±5)+3.3mm)  |
| 3. | Trade names or marks  | : |  SANJO ;  JOEL |
| 4. | Manufacturer's name and address                                     | : | Jiangsu Sanjo Intelligent Technology Co., Ltd.<br>No.258 Five Star Road, Nandu Town, Liyang,<br>Jiangsu 213300, China  |
|    | Address(es) of assembly plant(s)                                    | : | Same as above item 4.  |
| 5. | If applicable, name and address of<br>manufacturer's representative | : | Not applicable   |



E32\*43R01/05\*0042\*00

## Jiangsu Sanjo Intelligent Technology Co., Ltd.

Information document No. 43-X/B-3.3+(25±5)+3.3mm-00

Application date: July 25, 2017

Page 2 of 4

### Principal and secondary characteristics of Multiple-glazed Units (Annex 1, Appendix 7 of the ECE Regulation No. 43.01)

#### Principal characteristics:

Composition of Multiple-glazed units	: symmetrical/ <del>asymmetrical</del>
Nominal thickness of the gap	: (25±5)mm
Method of assembly	: adhesion
Type of each glazing component as defined in annexes 14:	: Rigid plastic panes (3.3mm)

Documents attached:

One form for all panes of a symmetrical multiple-glazed unit in accordance with the annex under which the panes have been tested ~~or approved~~.

~~One form for each different pane of an asymmetrical multiple-glazed unit in accordance with the annexes under which these panes have been tested or approved.~~

Remarks: Light transmittance > 70%



E32\*43R01/05\*0042\*00

## Jiangsu Sanjo Intelligent Technology Co., Ltd.

Information document No. 43-X/B-3.3+(25±5)+3.3mm-00

Application date: July 25, 2017

Page 3 of 4

### Principal and secondary characteristics of Rigid Plastics Panes (Annex 1, Appendix 8 of the ECE Regulation No. 43.01)

#### Principal characteristics:

Chemical designation of the material	:	PMMA (polymethylmethacrylate)
The classification of the material by the manufacturer	:	MMA
Process of manufacture	:	Cast
Shape and dimension	:	Greatest developed area Flat and curved : 1.0m × 2.0m Greatest height of segment : 25 ± 5mm
Nominal thickness	:	3.3mm
Colouring of the rigid plastic material	:	Colourless
Nature and type of surface coating	:	Not applicable

#### Secondary characteristics

Conductors incorporated (yes/no)	:	<del>Yes</del> / no
Remarks	:	Not applicable

Documents attached: Appendix 1 – Rigid Plastic Multiple Glazed Units (X/B 3.3+(25±5)+3.3mm)



# Jiangsu Sanjo Intelligent Technology Co., Ltd.

Information document No. 43-X/B-3.3+(25±5)+3.3mm-00

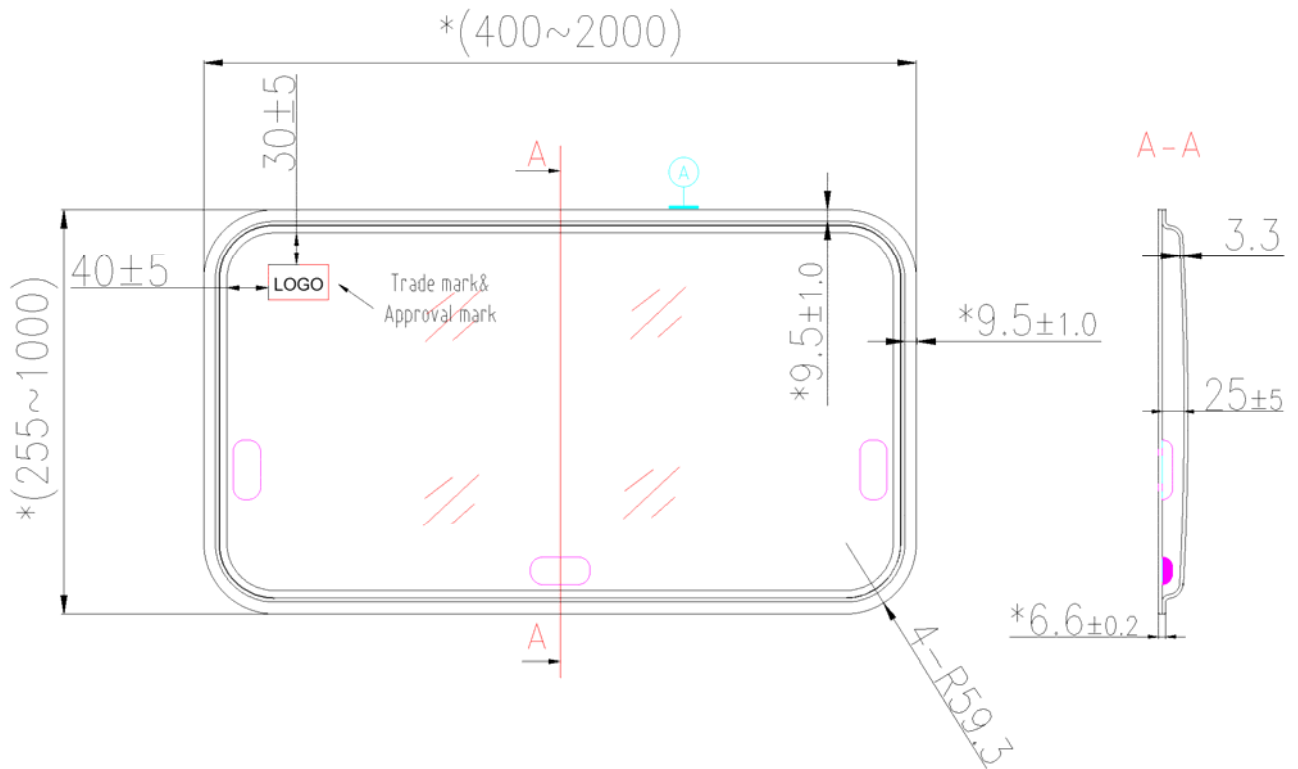
Application date: July 25, 2017

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## Appendix 1

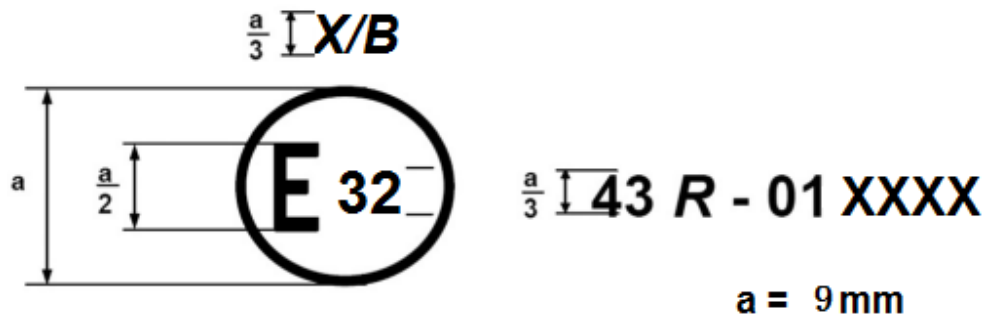
Drawing of the Rigid Plastic Multiple Glazed Units (X/B 3.3+(25±5)+3.3mm)

Drawing of the Rigid Plastic Multiple Glazed Units (X/B 3.3+(25±5)+3.3mm), diagrams as following:



Trade mark:  ; 

Approval Mark:



Trade mark & Approval mark



E32\*43R01/05\*0042\*00



Test Report No. 87-R43-293/18-00

Manufacturer : Jiangsu Sanjo Intelligent Technology Co., Ltd.

Vehicle Type / Type : Rigid Plastic Multiple Glazed Units (X/B 3.3+(25±5)+3.3mm)

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## TEST REPORT

according to UNECE-Regulation

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

**UNECE-R43**

as last amended by

**Series of Amendment: 01  
Supplement 5**

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Previously granted

ECE-type approval : ---

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### Structure of Report

0. General information
1. Tested vehicle(s) / object(s) and general test information
2. Test minutes
3. Remark concerning tested object(s)
4. Appendices
5. Statement of conformity

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The Test Report shall be reproduced and published in full by the client only. It shall however be reproduced partially with the written permission of the Testing Laboratory only.



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**E32\*43R01/05\*0042\*00**

Manufacturer : Jiangsu Sanjo Intelligent Technology Co., Ltd.

Vehicle Type / Type : Rigid Plastic Multiple Glazed Units (X/B 3.3+(25±5)+3.3mm)

## 0. General information

- 0.1. Trade mark or trade name of type : 
- 0.2. Manufacturer's name for the type : Rigid Plastic Multiple Glazed Units (X/B 3.3+(25±5)+3.3mm)
- 0.3. Name and address of the manufacturer : Jiangsu Sanjo Intelligent Technology Co., Ltd.  
No.258 Five Star Road, Nandu Town, Liyang,  
Jiangsu 213300, China
- 0.4. Name and address of the manufacturer's authorized representative : Not applicable
- 0.5. No. of Information Document : 43-X/B-3.3+(25±5)+3.3mm-00
- Date of issue : July 25, 2017
- Date of last amendment : Not applicable

## 1. Test object(s) and general test information

- 1.1 description
- vehicle / object : Rigid Plastic Multiple Glazed Units
- Commercial description : Not applicable
- type(s) / variant(s) / version(s) : Rigid Plastic Multiple Glazed Units (X/B 3.3+(25±5)+3.3mm)
- identification number : Not applicable
- condition of vehicle(s)/object(s) : new, ~~used, pretested~~
- 1.2. Worst case selection : The determination of worst case was done according to internal procedure of the Technical Service (QMA 1.301.005, section 6.2.2.2)
- 1.3. Remarks : Not applicable



Manufacturer : Jiangsu Sanjo Intelligent Technology Co., Ltd.

Vehicle Type / Type : Rigid Plastic Multiple Glazed Units (X/B 3.3+(25±5)+3.3mm)

## 2. Test minutes

- 2.1. Test facilities : The test and measurement equipment used was in compliance with the test requirements.
- 2.1.1. Specifications for the test site : Not applicable
- 2.1.2. Subcontracting : Not applicable
- 2.2. Test results : See Appendix 1
- Numbering according to Annex 16 of the UNECE-R43.01
- 2.2.1 Test results referring to measurements : Pass / ~~Fail~~
- 2.2.2 Test results of not measurable attributes : Pass / ~~Fail~~
- 2.2.3 Alternative test methods : Not applicable
- Remarks concerning extension : ~~The vehicle type has been tested according to the modification(s) mentioned in appendix 0.~~  
~~The new parts meet the requirements of the directive.~~  
~~An actual practical test of the vehicle was not necessary. The results of the previous test(s) are still valid.~~
- 2.3. Additional information : The results of the test refer exclusively to the object(s) mentioned under point 1.1 of this report.
- Test site : China Building Material Test & Certification Group Co., Ltd.  
 No.1, Guanzhuang Dongli, Chaoyang District, Beijing, China
- Test date : October 15, 2017 to February 6, 2018
- 2.4. Remarks : Not applicable



Manufacturer : Jiangsu Sanjo Intelligent Technology Co., Ltd.

Vehicle Type / Type : Rigid Plastic Multiple Glazed Units (X/B 3.3+(25±5)+3.3mm)

3. Remark concerning test object(s) : All version of the test object(s) as stated in the information document are covered with the tested version(s) and test object(s) respectively.

#### 4. List of Appendices

Appendix 0 : List of modifications  
Appendix 1 : Test results  
Information folder : 43-X/B-3.3+(25±5)+3.3mm-00

#### 5. Statement of conformity

The point 0.5 mentioned information folder and the type described in that comply with the requirements mentioned on page 1.

With regard to the required level of performance to be achieved, the tested items were representative for the type to be approved (see point 1.2).

The mentioned test results refer to the vehicle(s)/object(s) described under point 1.1 of this report.

Engineering Center Shanghai, February 12, 2018  
DG/ EY



Daniel Gu  
Expert Technical Service



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Test Report No. 87-R43-293/18-00

Manufacturer : Jiangsu Sanjo Intelligent Technology Co., Ltd.

Vehicle Type / Type : Rigid Plastic Multiple Glazed Units (X/B 3.3+(25±5)+3.3mm)

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List of modifications

Appendix 0

Correction of : ---

Modification of : ---

Addition of : ---

Deletion of : ---



Manufacturer : Jiangsu Sanjo Intelligent Technology Co., Ltd.

Vehicle Type / Type : Rigid Plastic Multiple Glazed Units (X/B 3.3+(25±5)+3.3mm)

## Test results

## Appendix 1

Paragraphs	Requirements and test description	Result of examination
<b>4.</b>	<b>Markings</b>	
4.1.	Every piece of safety glazing material, including the samples and test pieces submitted for approval, shall bear a trade name or mark of the manufacturer. Manufactured parts shall bear the ECE Regulation No. 43 number allocated to the prime manufacturer. The marking shall be clearly legible and indelible.	Comply (See information folder pages 4 of 4)
<b>6.</b>	<b>General specifications</b>	
6.1.	All glazing materials, including glazing material for the manufacture of windscreens, shall be such that, in the event of shattering, the danger of bodily injury is reduced as far as possible. The glazing material shall be sufficiently resistant to the incidents likely to occur in normal traffic, and to atmospheric and temperature conditions, chemical action, combustion and abrasion.	Comply
6.2.	Safety glazing materials shall in addition be sufficiently transparent, shall not cause any noticeable distortions of objects as seen through the windscreen, and shall not give rise to any confusion between the colours used in road-traffic signs and signals. In the event of the windscreen's shattering, the driver shall still be able to see the road clearly enough to be able to brake and stop his vehicle safely.	Comply

Manufacturer : Jiangsu Sanjo Intelligent Technology Co., Ltd.

Vehicle Type / Type : Rigid Plastic Multiple Glazed Units (X/B 3.3+(25±5)+3.3mm)

7.	Particular specifications		
A16/2.	General		
A16/2.1.	In the case of rigid plastic multiple-glazed units, the tests shall be conducted either on flat test pieces or finished parts depending upon test requirements.	Comply	
A16/2.2.	The test pieces shall be freed from protecting makings and cleaned before testing. They shall be stored for 24h at a temperature of 23°C ± 2°C and a relative humidity of 50% ± 5% prior to testing.	Comply	
A16/2.3.	The nominal thickness tolerance for extruded plastic products is ±10% of the nominal thickness. <del>For plastic products produced by other techniques (e.g. cast acrylic sheet), the acceptable thickness tolerance is given by the equation: Thickness tolerance limits (mm) = ± (0.4 + 0.1e) Where e is the sheet nominal thickness in millimetres. Reference Standard is ISO 7823-1:2003.</del>	Comply	
A16/2.4.	Test carried out on rigid plastic multiple-glazed units having a nominal width of gap e measured at the geometrical centre shall be considered to be applicable to all rigid plastic multiple-glazed units having the same characteristics and a nominal width of gap e ± 5mm. The applicant for approval may alternatively submit the sample having the largest and smallest nominal gaps.	Comply	
A16/3.	<b>FLEXIBILITY TEST</b>  Test manner is described in Annex 3, Paragraph 12 Sample: One test piece for each component sheet of 300mm × 25mm × 3.3mm For a test piece or sample to be considered rigid the vertical deflection of the test piece shall be less than or equal to 50mm after 60s.		Comply
	Sample	Actual vertical deflection	Required limit
	flat square pane (300mmx25mm)	5 mm / 60s	≤ 50mm / 60s



Manufacturer : Jiangsu Sanjo Intelligent Technology Co., Ltd.

Vehicle Type / Type : Rigid Plastic Multiple Glazed Units (X/B 3.3+(25±5)+3.3mm)

A16/4	<b>HEADFORM TEST</b>					Comply Classification X/B	
	Test manner is described in Annex 3, Paragraph 3.2 Sample: six complete parts For glazing like side windows, back windows and sunroofs which have reduced impact possibilities (Classification X/B) the drop height shall be 1.5m. The HIC value shall also be measured. The test piece or sample is not penetrated nor shall it break into fully separate large pieces. The HIC value is less than 1,000.						
	Sample No.	Thickness (mm)	Drop height (cm)	Penetration	Break into several pieces	HIC Value	Required limit
	1	27.5	300	No	No	463.7	≤1,000
	2	31.1	300	No	No	467.7	
	3	29.5	300	No	No	338.3	
	4	30.4	300	No	No	437.6	
	5	27.4	300	No	No	469.3	
6	31.5	300	No	No	384.0		
A16/5.	<b>Mechanical strength test</b>						
A16/5.1.	<b>227 g ball test (Drop height: 3.0m)</b>					Comply	
	Test manner is described in Annex 3, paragraph 2.1.and Annex 16, paragraph 5.3. Sample: 10 flat square pieces of 300mm x 300mm × 3.3mm Secondary characteristic: Without obscuration(s). The test pieces do not break. The test piece does not break into separate pieces						
	Sample No.		Test result		Required		
	1		no break		no break		
	2		no break		no break		
	3		no break		no break		
	4		no break		no break		
	5		no break		no break		
	6		no break		no break		
	7		no break		no break		
	8		no break		no break		
	9		no break		no break		
	10		no break		no break		



Manufacturer : Jiangsu Sanjo Intelligent Technology Co., Ltd.

Vehicle Type / Type : Rigid Plastic Multiple Glazed Units (X/B 3.3+(25±5)+3.3mm)

A16/5.5.	227 g ball test at -18°C ± 2°C (Drop height: 3.0m)		Comply
	Sample No.	Test result	Required
	1	no break	no break
	2	no break	no break
	3	no break	no break
	4	no break	no break
	5	no break	no break
	6	no break	no break
	7	no break	no break
	8	no break	no break
	9	no break	no break
	10	no break	no break
A16/6.	Test Resistance to the environment		
A16/6.1.	<b>Test of Resistance to Abrasion</b>  Test manner is described in Annex 3, paragraph 4. and Annex 16, paragraph 6.1.1. Sample: 3 flat square pieces of 100mm x 100mm have both surfaces substantially plane and parallel.  In the case of glazing of Class L, the abrasion test shall be considered to have given a satisfactory result if the increase of haze after abrasion does not exceed 2% after 1,000 cycles on the outer surface of the test sample and 4% after 100 cycles on the inner surface of the test sample. In the case of glazing of Class M, the abrasion test shall be considered to have given a satisfactory result if the increase of haze after abrasion does not exceed 10% after 500 cycles on the outer surface of the test sample and 4% after 100 cycles on the inner surface of the test sample. 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. For sun roofs, no abrasion test is required.		N.A. Only used for Trailer including Caravans

Manufacturer : Jiangsu Sanjo Intelligent Technology Co., Ltd.

Vehicle Type / Type : Rigid Plastic Multiple Glazed Units (X/B 3.3+(25±5)+3.3mm)

A16/6.2.	<b>Test of Resistance to Simulated Weathering</b>			Comply	
	Test manner is described in Annex 3, Paragraph 6.4. and Annex 16, paragraph 6.2.1. Sample: 3 flat test piece of 130mm × 40mm cut from the outer skin of the window The light transmittance measured in accordance with Annex 3, Paragraph 9.1. does not fall below 95% of the pre-weathering value. Additionally, for windows which are required for driver visibility the value shall not fall below 70%. No bubbles or other visible decompositions, discolorations, milkiness or crazing shall occur during weathering.				
	Sample No.	light transmittance		Result	Required limit
		before	after		
	1	91.9%	89.8%	97.7%	≥ 95%
	2	92.3%	89.1%	96.5%	
	3	92.0%	90.7%	98.6%	
A16/6.3.	<b>Cross-cut Test</b>			N.A. (without coating)	
Test manner is described in Annex 3, Paragraph 13 Sample: 1 of the test pieces from Paragraph 6.2.  The cross-cut value Gt1 is met.					

Manufacturer : Jiangsu Sanjo Intelligent Technology Co., Ltd.

Vehicle Type / Type : Rigid Plastic Multiple Glazed Units (X/B 3.3+(25±5)+3.3mm)

A16/6.4.	<b>Resistance-to-humidity Test</b>			Comply
	Test manner is described in Annex 3, Paragraph 7 Sample: 10 flat square test pieces of 300mm side  No visible decompositions like bubbles or milkiness occur on any sample, And if the light transmittance measured according to Annex 3, Paragraph 9.1. does not fall to less than 95% of the pre-test value and additionally to no less than 70% for any window required for driver visibility. After testing the test pieces shall be stored for at least 48h at a temperature of 23°C ± 2°C and a relative humidity of 50% ± 5%, and then subjected to the 227g ball drop test described under Item 5 of this Annex.			
	Sample No.	Sample status after test	Light transmittance after test/ Light transmittance before test	227 g ball test (Drop height: 3.0m) Test result
	1	No change	99.7%	no break
	2	No change	99.6%	no break
	3	No change	100.1%	no break
	4	No change	98.8%	no break
	5	No change	99.6%	no break
	6	No change	99.2%	no break
	7	No change	99.8%	no break
	8	No change	99.8%	no break
	9	No change	99.6%	no break
	10	No change	99.6%	no break

Manufacturer : Jiangsu Sanjo Intelligent Technology Co., Ltd.

Vehicle Type / Type : Rigid Plastic Multiple Glazed Units (X/B 3.3+(25±5)+3.3mm)

<b>A16/7.</b>	<b>Optical qualities</b>	
<b>A3/9.1</b>	<b>Light transmission test</b>	Comply Classification X/B
	Test manner is described in Annex 3, Paragraph 9.1. Sample: 4 test pieces of 500mm × 300mm × 6.6mm	
	The regular transmittance measured is not less than 70% for windscreen.	
	Sample No.	Actual transmittance
	1	85.1%
	2	85.3%
	3	84.4%
	4	85.5%
		Required limit
		>70%
<b>A16/8.</b>	<b>Fire resistance test</b>	Comply
	Test manner is described in Annex 3, Paragraph 10. Sample: 5 plane test pieces of 356mm × 100mm × 3.3mm	
	The burning rate is less than 110mm/min	
	Sample No.	Burning rate (mm/min)
	1	0
	2	0
	3	0
	4	0
	5	0
		Required limit (mm/min)
		< 110
<b>A16/9.</b>	<b>RESISTANCE TO CHEMICALS</b>	
<b>A3/11.2.1.</b>	<b>Immersion test</b>	Comply
	Test manner is described in Annex 3, Paragraph 11.2.1. Sample: 4 samples 180mm × 25mm × 3.3mm shall be tested for each test and each chemical	
	The sample does not exhibit any softening, tackiness, crazing or apparent loss of transparency.  All samples give satisfactory results	
<b>A3/11.2.4.</b>	<b>Test Procedure Under Load</b>	Comply
	Test manner is described in Annex 3, Paragraph 11.2.4. Sample: 4 samples 180mm × 25mm shall be tested for each test and each chemical	
	The sample does not exhibit any softening, tackiness, crazing or apparent loss of transparency.  All samples give satisfactory results	

