


THE NETHERLANDS
(N E D E R L A N D)



COMMUNICATION

Concerning⁽¹⁾:

- ~~- 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- ~~- approval withdrawn~~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: E4*43R01/08*1454*02*Approval mark***II** **43R-011454**

1. Class of safety glazing material : Ordinary laminated-glass windscreens
2. Description of the type of glazing: please refer to appendices 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11 and 12 ⁽¹⁾, and in the case of windscreens, the list conforming to appendix 13 : Please refer to Appendix 3 and Appendix 13
Type: Ordinary laminated-glass windscreens (8.52mm)
3. Trade name or marks : FUYAO, FY, FYG, , 
4. Manufacturer's name and address : Fuyao Glass Industry Group Co., Ltd.
Fuyao Industrial Zone, Fuqing City, Fujian Province, China(PRC)
5. If applicable, name and address of manufacturer's representative : not applicable
6. Submitted for approval on : September 19, 2019
7. Technical service responsible for conducting approval tests : TÜV NORD Mobilität GmbH & Co. KG
IFM-Institut für Fahrzeugtechnik und Mobilität
Schönscheidtstr. 28
D-45307 Essen

Approval number: E4*43R01/08*1454*02

8. Date of report issued by that service : October 15, 2019
9. Number of report issued by that service : CS043-C0-2019-02020
10. Approval is : ~~granted/ refused/ extended/ withdrawn~~⁽¹⁾
11. Reason(s) for extension for approval : addition of new windscreen panes
12. Remarks : ---
13. Place : Zoetermeer
14. Date : 07 November 2019
15. Signature :


Uwe Löbig



16. The list of documents filed with the administrative service which has granted approval and available on request are annexed to this communication

⁽¹⁾ Strike out what does not apply.

Appendix 3
Laminated-glass windscreens

(Principal and secondary characteristics as defined in annex 6, 8 or 9 to Regulation No. 43)

Principal characteristics

Number of layers of glass	: 2
Number of layers of interlayer	: 1
Nominal thickness of the windscreen	: 8.52 mm
Nominal thickness of interlayer(s)	: 1.52 mm
Special treatment of glass	: not applicable
Nature and type of interlayer(s)	: PVB
Nature and type of plastics coating(s)	: not applicable
Nominal thickness of plastics coating(s)	: not applicable

Secondary characteristics

Nature of the material	: plate / float / sheet-glass ⁽¹⁾
Colouring of glass	: colourless / tinted ⁽¹⁾
Colouring of plastics coating(s)	: not applicable
Colouring of interlayer	: total / partial ⁽¹⁾ tinted / colourless
Conductors incorporated	: yes / no ⁽¹⁾
Opaque obscuration incorporated	: yes / no ⁽¹⁾

Remarks:

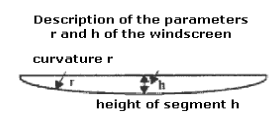
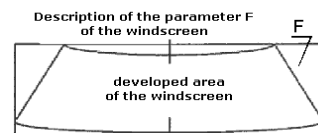
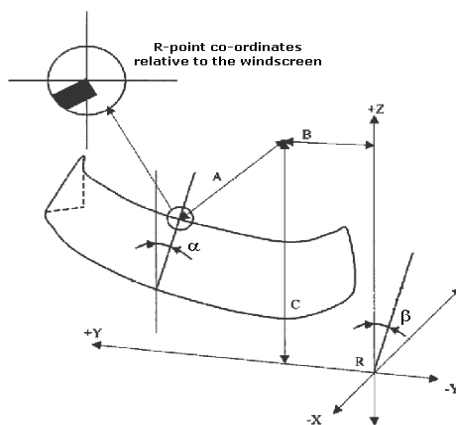
Documents attached: List of windscreens (appendix 13)

⁽¹⁾ Strike out what does not apply.

Appendix 13
Contents of list of windscreens

For each of the windscreens covered by this approval, at least the following particulars shall be provided:

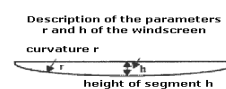
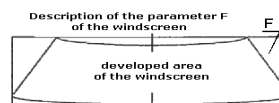
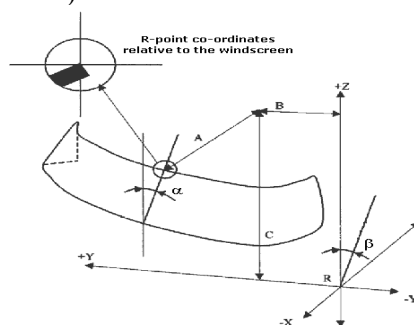
- Vehicle manufacturer : Xiamen Golden Dragon Bus Co., Ltd.
- Type of vehicle : XML6185CC, XML6185CD, XML6185CG, XML6185CF, XML6185CN, XML6185CL, XML6185CT, XML6126C, XML6126CD, XML6126CG, XML6126CL, XML6126CR, XML6126CT, XML6136C, XML6136CD, XML6136CG, XML6136CL, XML6136CR, XML6136CT, XML6146C, XML6146CD, XML6146CG, XML6146CL, XML6146CR, XML6146CT, XML6156C, XML6156CD, XML6156CG, XML6156CL, XML6156CR, XML6156CT, XML6186C, XML6186CD, XML6186CG, XML6186CL, XML6186CR, XML6186CT, XML6126CC, XML6126CF, XML6126CI, XML6126CN, XML6126CS, XML6136CC, XML6136CF, XML6136CI, XML6136CN, XML6136CS, XML6146CC, XML6146CF, XML6146CI, XML6146CN, XML6146CS, XML6156CC, XML6156CF, XML6156CI, XML6156CN, XML6156CS, XML6186CC, XML6186CF, XML6186CI, XML6186CN, XML6186CS, XML6185J13C
- Vehicle category : M3
- Developed area(F) : 3.26 m²
- Height of segment (h) : 300 mm
- Curvature(r) : 240 mm
- Installation angle(α) : 3.6°
- Seat back angle (β) : 13°
- R point co-ordinates (A, B, C) relative to the center of the upper edge of the windscreen : A: 1225 mm, B : 690 mm, C : 1225 mm
- Description of the commercially available specific device mentioned in annex 3, paragraph 4.9.2. (if applicable) : not applicable



Appendix 13
Contents of list of windscreens

For each of the windscreens covered by this approval, at least the following particulars shall be provided:

- Vehicle manufacturer : Xiamen Golden Dragon Bus Co., Ltd.
- Type of vehicle : XML6185Y07,XML6125CLE,XML6135,6115C,6125C,6135C,6145C,6155C,6185C,6115CR,6125CR,6135CR,6145CR,6155CR,6185CR,6115CS,6125CS,6135CS,6145CS,6155CS,6185CS,XML6155Y01,XML6155CC,XML6155CD,XML6115CG,XML6115CF,XML6115CN,XML6115CL,XML6115CT,XML6125CC,XML6125CD,XML6125CG,XML6125CF,XML6125CN,XML6125CL,XML6125CT,XML6135CC,XML6135CD,XML6135CG,XML6135CF,XML6135CN,XML6135CL,XML6135CT,XML6145CC,XML6145CD,XML6145CG,XML6145CF,XML6145CN,XML6145CL,XML6145CT,XML6155CC,XML6155CD,XML6155CG,XML6155CF,XML6155CN,XML6155CL,XML6155CT,XML6185CC,XML6185CD,XML6185CG,XML6185CF,XML6185CN,XML6185CL,XML6185CT,XML6126C,XML6126CD,XML6126CG,XML6126CL,XML6126CR,XML6126CT,XML6136C,XML6136CD,XML6136CG,XML6136CL,XML6136CR,XML6136CT,XML6146C,XML6146CD,XML6146CG,XML6146CL,XML6146CR,XML6146CT,XML6156C,XML6156CD,XML6156CG,XML6156CL,XML6156CR,XML6156CT,XML6186C,XML6186CD,XML6186CG,XML6186CL,XML6186CR,XML6186CT,XML6126CC,XML6126CF,XML6126CI,XML6126CN,XML6126CS,XML6136CC,XML6136CF,XML6136CI,XML6136CN,XML6136CS,XML6146CC,XML6146CF,XML6146CI,XML6146CN,XML6146CS,XML6156CC,XML6156CF,XML6156CI,XML6156CN,XML6156CS,XML6186CC,XML6186CF,XML6186CI,XML6186CN,XML6186CS,XML6185J13C
- Vehicle category : M3
- Developed area(F) : 3.12 m²
- Height of segment (h) : 303 mm
- Curvature(r) : 250 mm
- Installation angle(α) : 3.7°
- Seat back angle (β) : 13°
- R point co-ordinates (A, B, C) relative to the center of the upper edge of the windscreen : A: 1100 mm, B : 690 mm, C : 1085 mm
- Description of the commercially available specific device mentioned in annex 3, paragraph 4.9.2. (if applicable) : not applicable



PARTIAL MODEL INFORMATION DOCUMENT NO.LW8.52-02

**Pursuant to Annex 1 appendix 3 and appendix 13 of Regulation No. 43 relating to approval of safety
glazing materials and their installation on vehicles**

(ECE-R43)

Type: LW001

This model information document consists of page 1~4



New: @

Modification: #

Correction: ∞

Type: Ordinary laminated-glass windscreens (8.52mm)

Technical description

- | | | |
|--|---|---|
| 1. Class of safety-glass pane | : | Ordinary laminated-glass windscreens |
| 2. Manufacturer's name for the type of glazing | : | Ordinary laminated-glass windscreens (8.52mm) |
| 3. Description of glass pane | : | Refer to appendix 3 |
| 4. Trade name | : | FUYAO, FY, FYG,  ,  |
| 5. Name and address of manufacturer | : | Fuyao Glass Industry Group Co., Ltd.
Fuyao Industrial Zone, Fuqing City, Fujian Province,
China(PRC) |

Appendix 3**Ordinary laminated-glass windscreens**

(Principal and secondary characteristics as defined in annex 6, 8 or 9 to Regulation No.43)

Principal characteristics

- | | | |
|--|---|----------------|
| number of layers of glass | : | two |
| number of layers of interlayer | : | one |
| nominal thickness of the windscreen | : | 8.52 mm |
| nominal thickness of interlayer(s) | : | 1.52 mm |
| special treatment of glass | : | not applicable |
| nature and type of interlayer(s) | : | PVB |
| nature and type of plastics coating(s) | : | not applicable |
| nominal thickness of plastics coating(s) | : | not applicable |

Secondary characteristics

- | | | |
|----------------------------------|---|---|
| nature of the material | : | float |
| colouring of glass | : | colourless/ tinted |
| colouring of plastics coating(s) | : | not applicable |
| colouring of interlayer | : | total / partial ⁽¹⁾ tinted / colourless |
| conductors incorporated | : | yes/no (both) |
| obscuration bands incorporated | : | yes/no (both) |

Remarks: Documents attached

The list of windscreens for present extension, others please refer to the previous approval.

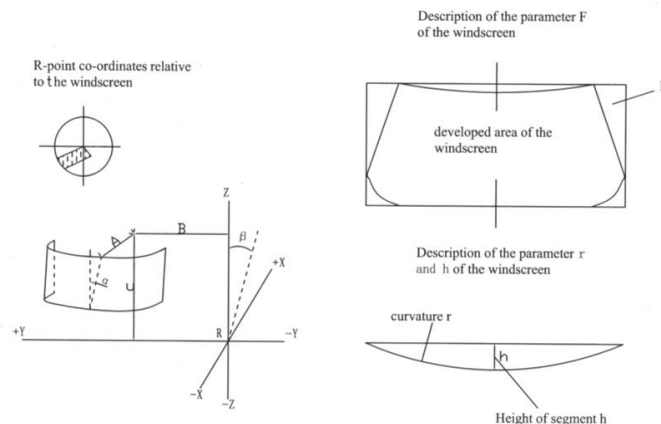
Type: Ordinary laminated-glass windscreens (8.52mm)

Appendix 13

@

CONTENTS OF THE LIST OF WINDSCREENSFor each of the windscreens covered by this approval, at least the following particulars shall be provided

Vehicle manufacturer	:	Xiamen Golden Dragon Bus Co., Ltd.
Type of vehicle	:	XML6185CC, XML6185CD, XML6185CG, XML6185CF, XML6185CN, XML6185CL, XML6185CT, XML6126C, XML6126CD, XML6126CG, XML6126CL, XML6126CR, XML6126CT, XML6136C, XML6136CD, XML6136CG, XML6136CL, XML6136CR, XML6136CT, XML6146C, XML6146CD, XML6146CG, XML6146CL, XML6146CR, XML6146CT, XML6156C, XML6156CD, XML6156CG, XML6156CL, XML6156CR, XML6156CT, XML6186C, XML6186CD, XML6186CG, XML6186CL, XML6186CR, XML6186CT, XML6126CC, XML6126CF, XML6126CI, XML6126CN, XML6126CS, XML6136CC, XML6136CF, XML6136CI, XML6136CN, XML6136CS, XML6146CC, XML6146CF, XML6146CI, XML6146CN, XML6146CS, XML6156CC, XML6156CF, XML6156CI, XML6156CN, XML6156CS, XML6186CC, XML6186CF, XML6186CI, XML6186CN, XML6186CS, XML6185J13C
Vehicle category	:	M3
Developed area(F)	:	3.26 m ²
Height of segment (h)	:	300 mm
Curvature(r)	:	240 mm
Installation angle(α)	:	3.6°
Seat back angle (β)	:	13°
R point co-ordinates (A, B, C) relative to the center of the upper edge of the windscreen	:	A: 1225 mm, B : 690 mm, C : 1225 mm
Description of the commercially available specific device mentioned in annex 3, paragraph 4.9.2. (if applicable)	:	not applicable



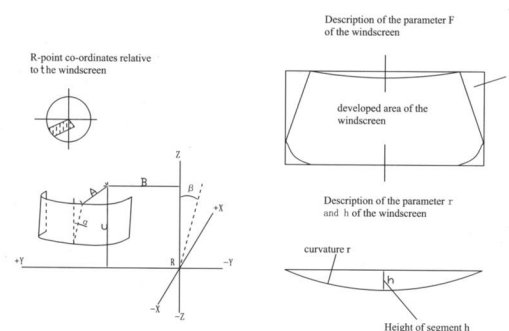
Type: Ordinary laminated-glass windscreens (8.52mm)

Appendix 13

@

CONTENTS OF THE LIST OF WINDSCREENSFor each of the windscreens covered by this approval, at least the following particulars shall be provided

Vehicle manufacturer	:	Xiamen Golden Dragon Bus Co., Ltd.
Type of vehicle	:	XML6185Y07,XML6125CLE,XML6135,6115C,6125C,6135C,6145C,6155C,6185C,6115CR,6125CR,6135CR,6145CR,6155CR,6185CR,6115CS,6125CS,6135CS,6145CS,6155CS,6185CS,XML6155Y01,XML6155CC,XML6155CD,XML6115CG,XML6115CF,XML6115CN,XML6115CL,XML6115CT,XML6125CC,XML6125CD,XML6125CG,XML6125CF,XML6125CN,XML6125CL,XML6125CT,XML6135CC,XML6135CD,XML6135CG,XML6135CF,XML6135CN,XML6135CL,XML6135CT,XML6145CC,XML6145CD,XML6145CG,XML6145CF,XML6145CN,XML6145CL,XML6145CT,XML6155CC,XML6155CD,XML6155CG,XML6155CF,XML6155CN,XML6155CL,XML6155CT,XML6185CC,XML6185CD,XML6185CG,XML6185CF,XML6185CN,XML6185CL,XML6185CT,XML6126C,XML6126CD,XML6126CG,XML6126CL,XML6126CR,XML6126CT,XML6136C,XML6136CD,XML6136CG,XML6136CL,XML6136CR,XML6136CT,XML6146C,XML6146CD,XML6146CG,XML6146CL,XML6146CR,XML6146CT,XML6156C,XML6156CD,XML6156CG,XML6156CL,XML6156CR,XML6156CT,XML6186C,XML6186CD,XML6186CG,XML6186CL,XML6186CR,XML6186CT,XML6126CC,XML6126CF,XML6126CI,XML6126CN,XML6126CS,XML6136CC,XML6136CF,XML6136CI,XML6136CN,XML6136CS,XML6146CC,XML6146CF,XML6146CI,XML6146CN,XML6146CS,XML6156CC,XML6156CF,XML6156CI,XML6156CN,XML6156CS,XML6186CC,XML6186CF,XML6186CI,XML6186CN,XML6186CS,XML6185J13C
Vehicle category	:	M3
Developed area(F)	:	3.12 m ²
Height of segment (h)	:	303 mm
Curvature(r)	:	250 mm
Installation angle(α)	:	3.7°
Seat back angle (β)	:	13°
R point co-ordinates (A, B, C) relative to the center of the upper edge of the windscreen	:	A: 1100 mm, B : 690 mm, C : 1085 mm
Description of the commercially available specific device mentioned in annex 3, paragraph 4.9.2. (if applicable)	:	not applicable



Type : Ordinary laminated-glass windscreens (8.52mm)
Manufacturer : Fuyao Glass Industry Group Co., Ltd.

Test Report

Agreement concerning the adoption of uniform technical prescriptions for the 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

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

ECE-R43

including all amendments until

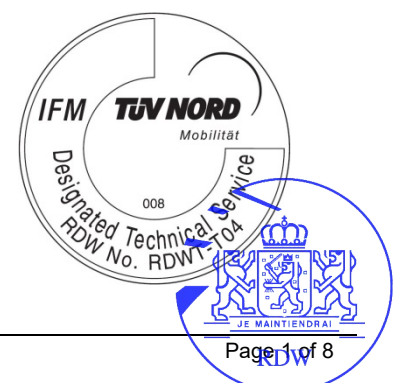
Revision 4- Amendment 4

Supplement 8 to the 01 series of amendments

Approval status
ECE number of approval: E4*43R01/08*1454*02



Structure of report

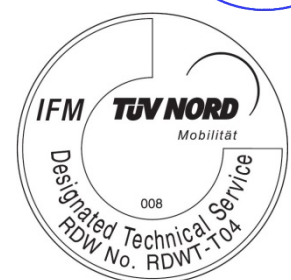
1. Test object(s) and general test information
2. Test minutes
3. Remarks concerning tested object(s)
4. Appendices
5. Statement of conformity



Type : Ordinary laminated-glass windscreens (8.52mm)
Manufacturer : Fuyao Glass Industry Group Co., Ltd.

1. Test object(s) and general test information

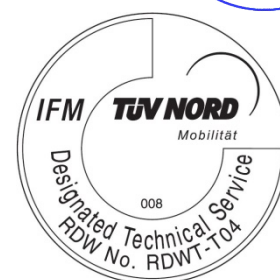
- 1.1. Test object(s)
- 1.1.1. Manufacturer's name for the type of glazing : Ordinary laminated-glass windscreens (8.52mm)
- 1.1.2. Class of safety glazing material : Ordinary laminated-glass windscreen
- 1.1.3. Description of the type of glazing : Please refer to info document
- 1.1.4. Trade name or mark : FUYAO, FY, FYG, , 
- 1.2. General test information
- 1.2.1. Manufacturer's name and address : Fuyao Glass Industry Group Co., Ltd.
Fuyao Industrial Zone, Fuqing City, Fujian Province, China(PRC)
- 1.2.2. Order issued by (if different from manufacturer) : Not applicable
- 1.2.3. Test object received on : ---
- 1.2.4. Test date : September 19, 2019
- 1.2.5. Test site : Fuyao Glass Industry Group Co., Ltd.
Fuyao Industrial Zone, Fuqing City, Fujian Province, China(PRC)
- 1.2.6. Remark : ---



Type : Ordinary laminated-glass windscreens (8.52mm)
Manufacturer : Fuyao Glass Industry Group Co., Ltd.

2. Test minutes

- 2.1. Test facilities : The test equipment used was in compliance with the requirements of the regulation.
- 2.2. Test results : ~~The type has been tested according to the amendments mentioned in appendix 0 and the previous test results are still valid.~~
~~The actual test of the type was not necessarily required due to the modifications mentioned in Appendix 0 and the previous test results are still valid~~
- 2.2. 1 General specifications : The above mentioned ordinary laminated-glass windscreen in compliance with the requirements mentioned in paragraph 6.1.and 6.2. of the regulation.
- 2.2. 2 Particular specifications : The above mentioned ordinary laminated-glass windscreen has been tested according to the requirements mentioned in paragraph 7.3.of the regulation.
- 2.2.3 Test condition : Temperature: 20 °C ± 5 °C
Pressure: 860 to 1,060 mbar
Relative humidity: 60 ± 20 per cent.
- 2.2.3.1 Temperature : 23.0°C
- 2.2.3.2 Pressure : 1013 mbar
- 2.2.3.3 Relative humidity : 50.0 %
- 2.2.4 Test data : Refer to Appendix 2
- 2.3 Test result : Pass / Fail
- 2.3.1 Headform test (A6/3) : Pass / Fail
- 2.3.2 Mechanical strength test (A6/4.2./4.3.) : Not applicable
- 2.3.3 Resistance to abrasion Outer face (A6/5.1) : Not applicable
- 2.3.4 Resistance to high temperature (A6/5.2) : Not applicable

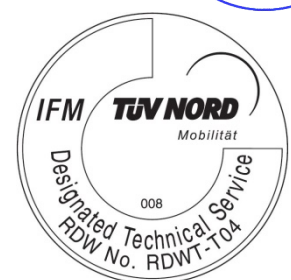


Test Report
No. : CS043-C0-2019-02020
Regulation No. 43



Type : Ordinary laminated-glass windscreens (8.52mm)
Manufacturer : Fuyao Glass Industry Group Co., Ltd.

- 2.3.5 Resistance to radiation (A6/5.3) : Not applicable
- 2.3.6 Resistance to humidity (A6/5.4) : Not applicable
- 2.3.7 Light transmission test (A3/9.1) : Pass /-Fail
- 2.3.8 Optical distortion test (A3/9.2) : Pass /-Fail
- 2.3.9 Secondary-image-separation test (A3/9.3) : Pass /-Fail
- 2.4 Remark : Only the optical qualities test test and headform test are necessary. It is not applied to flat windscreens which the rake angle is less than 40° to the vertical



Test Report
No. : CS043-C0-2019-02020
Regulation No. 43



Type : Ordinary laminated-glass windscreens (8.52mm)
Manufacturer : Fuyao Glass Industry Group Co., Ltd.

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

4. Appendices

- 1 List of modifications
 - 2 Test data
- Information folder : LW8.52-02

5. Statement of conformity

The type described in this test report and the appendices attached are in compliance with the Test Specification mentioned above.

The samples / test vehicles used, were representative in terms of the type to be approved.

The Test Report comprises pages 1 to 8.

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

TEST LABORATORY

TÜV NORD Mobilität GmbH & Co. KG
IFM - Institut für Fahrzeugtechnik und Mobilität,
Schönscheidtstr. 28, D-45307 Essen

Designated Technical Service
RDW No. RDWT-T04

Guangzhou, October 15, 2019

Stephen He

B.S.M.E. Stephen.He



Test Report
No. : CS043-C0-2019-02020
Regulation No. 43



Type : Ordinary laminated-glass windscreens (8.52mm)
Manufacturer : Fuyao Glass Industry Group Co., Ltd.

List of modifications

Appendix 1

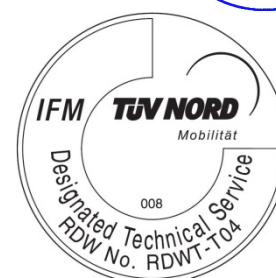
More details for application of : **Date** : October 15, 2019

Correction of : ---

Modification of : ---

Addition of : new windscreen panes

Deletion of : ---



Test Report
No. : CS043-C0-2019-02020
 Regulation No. 43



Type : Ordinary laminated-glass windscreens (8.52mm)
 Manufacturer : Fuyao Glass Industry Group Co., Ltd.

Test Data

Appendix 2

Headform test: (annex 6 / 3):

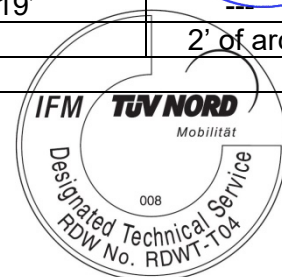
Test on a complete windscreen			
Type of vehicle:	XML6185Y07 series		
Height of fall (m)	1.5 m +0/-5mm		
Stored in above-mentioned condition for at least 4 hrs: Yes / No			
sample	Cracks nearest to impact point not more than 80mm	1 or more partial interlayer separation less than 4mm in breadth, on either crack side, 60mm diameter centered impact point	on impact point the interlayer must not be laid bare over an area of more than 20cm ² & a tear in interlayer up to a length of 35mm is allowed
1	Yes / No	Yes / No	Yes / No
2	Yes / No	Yes / No	Yes / No
3	Yes / No	Yes / No	Yes / No
4	Yes / No	Yes / No	Yes / No
Result:	Pass / Fail		

Light transmission test (A3/9.1)

Test on a complete windscreen			
Type of vehicle:	XML6185CC series	XML6185Y07 series	Comparison (limit ≥70%)
Actual transmittance	86.3%, 86.4%, 86.3%	86.6%, 86.4%, 86.2%	
Result	Pass / Fail		

Optical distortion test (A3/9.2)

Sample	M1/ N1 Category		M, N Category others than M1,N1		Agricultural vehicles etc.
	Area A	Area B	Area I		Area I or I'
Type of vehicle	---	---	XML6185CC series	XML6185Y07 series	
1	---	---	0.94'	1.05'	
2	---	---	1.13'	1.28'	
3	---	---	1.09'	0.84'	
4	---	---	1.15'	1.19'	
Limit value	2' of arc	6' of arc	2' of arc		2' of arc
Result	Pass / Fail				



Test Report
No. : CS043-C0-2019-02020
 Regulation No. 43



Type : Ordinary laminated-glass windscreens (8.52mm)
 Manufacturer : Fuyao Glass Industry Group Co., Ltd.

Secondary image separation: (Annex 3 / 9.3)

Sample	M1/ N1 Category		M, N Category others than M1,N1		Agricultural vehicles etc.
	Area A	Area B	Area I		Area I or I'
Type of vehicle	---	---	XML6185CC series	XML6185Y07 series	---
1	---	---	6'	8'	---
2	---	---	4'	8'	---
3	---	---	6'	8'	---
4	---	---	6'	8'	---
Limit value	15' of arc	25' of arc	15' of arc		15' of arc
Result	Pass / Fail				

