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Test report

Test report relating to a glass product according to European standard EN 14449, laminated safety glass, concerning the product marked as: laminated safety glass 13,52mm, manufactured by: SHENZHEN SUN GLOBAL GLASS CO., LTD.

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TESTING
RvA L 484

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1 Introduction

1.1 Purpose

The tests have been performed in order to establish whether or not the product meets the requirements of the European product standard EN 14449 [1] and standard EN-ISO 12543-2 for laminated safety glass [2] when tested according to test standard EN-ISO 12543-4 [3].

This report is based on the research and reporting of CTC [4] received on July 3rd , 2017.

1.2 Description of the test specimen

General

Name of the manufacturer	SHENZHEN SUN GLOBAL GLASS CO., LTD.
Address of the manufacturer	3F, Qihang Business Building, Shenfeng Road, Liuyue, Henggang, Longgang, Shenzhen, Guangdong, China
Production plant of the samples	SHENZHEN SUN GLOBAL GLASS CO., LTD.
Line ID where the samples are made	-
Production date	January 2017
Sampling date	January 2017
The product was marked as	laminated safety glass 13,52mm
Dimensions of the samples	300x300 mm

Specific

Kind of glass	Laminated safety glass
Type of the laminated safety glass	Float, 6 mm thermal toughened glass + 1.52 mm PVB + 6 mm thermal toughened glass
Nominal thicknesses	13,52mm
Intermediate layer: type, thickness	PVB, 1.52mm
Type of edge	Arrised edge
Edge protection	n.a.

1.3 Sampling procedure

TÜV Rheinland B.V., acting as Notified Test Laboratory, has had no influence on the selection of the sample. All test specimen within the sample were test.

1.4 Application

The request for testing was submitted by the manufacturer on February 16, 2017. Assignment Form number: SAP154221896.

1.5 Method of testing

All applicable tests have been performed according to the European standard EN-ISO 12543-4 [3].

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1.6 Put out to contract

The applicable tests were, under responsibility of Notified Body 1750, performed by China Building Material Test & Certification Group Co., Ltd. (CTC), No. 1, Guanzhuang Dongli, Chaoyang Distrtict, 100024 BEIJING, P.R. CHINA. The lab is accredited as ISO 17025 lab by CNAS (China National Accreditation Service for Conformity Assessment), registration number L 0690.

1.7 Privacy statement

Due to privacy reasons, the names of involved personnel that executed the tests, are not disclosed in the report. However, this information is available on internal work sheets, test forms etc. in the project file.

1.8 Notifications, accreditations, designations

TÜV Rheinland Nederland B.V. has been notified by the Dutch Minister for Housing and the Central Government Sector as Notified Laboratory (number 1750) and Notified (Factory Production Control) Certification Body (number 0336) for the European Construction Products Regulation 305/2011 (EU).

TÜV Rheinland Nederland B.V. has been accredited by the Dutch Accreditation Council (RvA) as ISO 17025 Test Laboratory (nr. L 484) and ISO 17065 Certification Body (nr. C078).

TÜV Rheinland Nederland B.V. has been designated as Technical Service (Laboratory) by the Approval Authorities for Germany (KBA – E1) and the Netherlands (RDW – E4) for automotive safety glass (ECE R43, 92/22/EC, 2009/144/EC).

TÜV Rheinland Nederland B.V. has been recognised by the German Institute for building technics (DIBt) under number NL005 as test, control and certification body.

Remark

The reported tests were performed under ISO 17025 accreditation.

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2 Test results

2.1 Requirements (for laminated safety glass not incorporating plastic glazing sheet)

EN-ISO 12543-2 [2] § 5.1 High temperature test
When tested in accordance with the method given in EN-ISO 12543-4 [3] clause 5.3.2 and evaluated according to EN-ISO 12543-4 [3] clause 5.4, no faults (bubbles, delamination, haze or cloudiness) shall be found in three test specimens.
If faults are found in only one test specimen, three new test specimens shall be tested in accordance with EN-ISO 12543-4 [3] clause 5.3.2. No faults shall be found in any of these test specimens.

EN-ISO 12543-2 [2] § 5.2 Humidity test
When tested in accordance with the method given in EN-ISO 12543-4 [3] clause 6.3.1 and evaluated according to EN-ISO 12543-4 [3] clause 6.4, no faults (bubbles, delamination, haze or cloudiness) shall be found in three test specimens.
If faults are found in only one test specimen, three new test specimens shall be tested in accordance with EN-ISO 12543-4 [3] clause 6.3.1 and evaluated in accordance with EN-ISO 12543-4 [4] clause 6.4. No faults shall be found in any of these test specimens.

EN-ISO 12543-2 [2] § 5.3 Radiation test
When tested in accordance with the method given in EN-ISO 12543- 4 [3] clause 7 and evaluated in accordance with EN-ISO 12543-4 [3] clause 7.5.1, the luminous transmittance of the three irradiated samples shall not be changed by more than

a) ± 3% of their value before exposure for initial light transmittances of greater than 65%, or
b) ± 2% of their absolute value for initial light transmittances of less than or equal to 65%.

When visually inspected, no faults (i.e. bubbles, delamination, haze or cloudiness) shall be found in three test specimens.
If faults are found in only one test specimen, three new test specimens shall be tested in accordance with EN-ISO 12543-4 [4] clause 7 and evaluated in accordance with EN-ISO 12543-4 [3] clause 7.5.1. No faults shall be found in any of these test specimens.

2.2 Test results

Test results after performing all applicable tests according to European standard EN-ISO 12543-4 [3].

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High temperature test of 13.52mm:

Sample Code	Type of test	Fire resistant laminated safety glass Y/N	Indoor/ outdoor use?	Dimensions mm	Nominal thickness
1	High temperature	N	NA	300×300	13.52
2	High temperature	N	NA	300×300	13.52
3	High temperature	N	NA	300×300	13.52
Sample Code	**Type of test**	**Cut or on size production**	**Edge type**	**Edge protection**	**Supported edge marked Y/N**
1	High temperature	On size production	Ground edge	NA	N
2	High temperature	On size production	Ground edge	NA	N
3	High temperature	On size production	Ground edge	NA	N
Sample Code	**Results**	**Bubbles Y/N**	**Sides of bubbles**	**Delamination Y/N**	**Cloudiness Y/N**
1	High temperature	N	NA	N	N
2	High temperature	N	NA	N	N
3	High temperature	N	NA	N	N

Humidity test of 13.52mm:

Sample Code	Type of test	Fire resistant laminated safety glass Y/N	Indoor/ outdoor use?	Dimensions mm	Nominal thickness
4	Humidity test	N	NA	300×300	13.52
5	Humidity test	N	NA	300×300	13.52
6	Humidity test	N	NA	300×300	13.52
Sample Code	**Type of test**	**Cut or on size production**	**Edge type**	**Edge protection**	**Supported edge marked Y/N**
4	Humidity test	On size production	Ground edge	N	N
5	Humidity test	On size production	Ground edge	N	N
6	Humidity test	On size production	Ground edge	N	N

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Sample Code	Results	Bubbles Y/N	Sides of bubbles	Delaminatio n Y/N	Cloudiness Y/N
4	Humidity test	N	NA	N	N
5	Humidity test	N	NA	N	N
6	Humidity test	N	NA	N	N

Radiation test (EN-ISO12543-4, 7.3.1 Method A) of 13.52mm:

Sampl e Code	Type of test	Fire resistant laminated safety glass Y/N	Indoor/ outdoor use?	Dimensions mm	Nominal thickness	Asymmetrical Y/N
7	Ultravitalux	N	NA	300×300	13.52	N
8	Ultravitalux	N	NA	300×300	13.52	N
9	Ultravitalux	N	NA	300×300	13.52	N

Sample Code	Type of test	Cut or on size production	Edge type	Edge protection	Supported edge marked Y/N	Side facing radiation source	Delamina-tion Y/N
7	Ultravitalux	On size production	Ground edge	N	N	NA	N
8	Ultravitalux	On size production	Ground edge	N	N	NA	N
9	Ultravitalux	On size production	Ground edge	N	N	NA	N

Sample Code	Type of test	Initial LT	>65%? Y/N	LT after exposure	Delamina-tion Y/N	Report value
7	Ultravitalux	85.4%	Y	85.3%	N	0.1%
8	Ultravitalux	86.1%	Y	85.9%	N	0.2%
9	Ultravitalux	86.1%	Y	85.9%	N	0.2%

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3 Conclusion

The tested glass product, marked by the client or manufacturer as laminated safety glass 13,52mm, manufactured by: SHENZHEN SUN GLOBAL GLASS CO., LTD., meets the requirements for laminated safety glass as required by the European product standard EN 14449 and the European standard EN-ISO 12543-2 regarding High temperature, Humidity and Radiation when tested according to the European test standard EN-ISO 12543-4 [3] for laminated safety glass without plastic materials and without fire resistance.

The test results exclusively relate to the tested objects.

Remark 1

When and if changes are made in production method and/or equipment, assessment according to this standard shall be reconsidered and re-tests shall be performed when the changes can lead to different specifications of the glass. The decision and responsibility lies at the manufacturer.

Remark 2

If no reference of the product description was supplied by the manufacturer, than that document shall be added to this test report by the manufacturer. It was to the manufacturer's responsibility that the samples delivered for initial type test are representative to the production and deviations from perfection were included in the delivered test samples.

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4 References

1. European product standard EN 14449:2005 (E),
Glass in building – Laminated glass and laminated safety glass – Evaluation of conformity/Product standard,
European Committee for Standardization, May 2005.

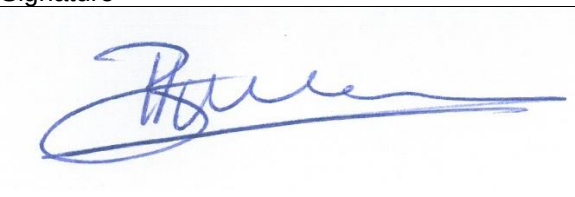
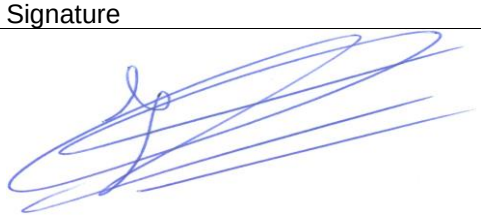
2. European standard EN-ISO 12543-2:2011 (E),
Glass in building – Laminated glass and laminated safety glass – Part 2: Laminated safety glass,
European Committee for Standardization, August 2011.

3. European standard EN-ISO 12543-4:2011 (E),
Glass in building – Laminated glass and laminated safety glass – Part 4: Test methods for durability,
European Committee for Standardization, August 2011.

4 Test report relating to a glass product according to European standard EN14449, Laminated glass and laminated safety glass, concerning the product marked as: Laminated safety glass, manufactured by:
SHENZHEN SUN GLOBAL GLASS CO., LTD.,
Test report WTCE00503 June 30, 2017
China Building Material Test & Certification Group Co., Ltd.(CTC)
China National Safety Glass & Quartz Glass Test Center (SQGTC)
Address: No.1, Guanzhuang Dongli, Chaoyang District, Beijing 100024, P. R. China

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5 Signatures

Author	Signature
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Peer review	Signature
Mr. H.van.Ginkel LFM	
Approved by	Signature
Mrs. C.C.M. van Houten Manager operations	

(This is the end of this report).

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