

TEST REPORT

EN 12150-1

GLASS IN BUILDING-THERMALLY TOUGHENED SODA LIME SILICATE SAFETY GLASS PART 1: DEFINITION AND DESCRIPTION

Report Reference No.....: 241101127GZU-001

Tested by (name and signature).....: Jinhui Zheng

Engineer



Approved by (name and signature) ..: Kelming Wang

Reviewer



Date of original issue: Dec. 21, 2024

Date of revised issue: -----

Contents: Total test report 7 pages including:
Report text: 3 pages
Appendix A for test data: 1 page
Appendix B for product photos: 1 page
Appendix C for revision page: 1 page

Testing Laboratory name: Intertek Testing Services Shenzhen Ltd. Guangzhou Branch

Address.....: Room 4103 & 4203, No. 63, Punan Road, Huangpu District, Guangzhou, Guangdong Province, China

Testing location.....: Same as above

Applicant's name: SHANDONG HAANGLAS CO., LTD

Address.....: NO.2 DONGYUE STREET, TAISHAN DISTRICT, TAIAN, SHANDONG, CHINA

Test specification:

Standard: EN12150-1:2015 +A1:2019 (E)

Non-standard test method.....: N/A

Test Report Form No.: TTRF_EN12150-1_c

TTRF Originator.....: Intertek Testing Services Shenzhen Ltd. Guangzhou Branch

Master TTRF.....: Dated 2020-6-4

Test item description: 10.15 mm tempered vacuum glass (5mm +0.15mm vacuum +5mm)

Trade Mark: —

Model and/or type reference.....: 10.15VIG BASIC

Manufacturer: SHANDONG HAANGLAS CO., LTD

Rating(s): —

CONCLUSION:

The submitted samples were tested and found to **COMPLY WITH** clause 6, 8 and 9.5 of EN12150-1:2015 +A1:2019 (E).

Test item particulars:
Classification of installation and use : —
Supply Connection..... : —
Possible test case verdicts:
- Test case does not apply to the test object : N/A
- Test object does meet the requirement : P (Pass)
- Test object does not meet the requirement : F (Fail)
Testing:
Date of receipt of test item..... : Nov. 11 and Dec. 09, 2024
Date (s) of performance of tests..... : Nov. 11, 2024 to Dec. 13, 2024
General remarks:
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General product information:
Tempered vacuum insulated glass assembled by two tempered glass, flat, transparent.
Nominal thickness: 10.15 mm
Sample used for testing: 1938×874mm, 1100×360mm, 300×300mm

EN 12150-1			
Clause	Requirement - Test	Result - Remark	Verdict
6.1	Nominal thickness and thickness tolerances The nominal thickness and thickness tolerance are those given in the relevant product standard, some of which are reproduced in table 1 in this standard.	See test result on page 6.	P ¹
6.2.1	Width and length (sizes) General When thermally toughened soda lime silicate safety glass dimensions are quoted for rectangular panes. It shall be made clear which dimension is the width, B, and which is the length, H, when related to its installed position.	The shape of sample is rectangular. H: 1937mm B: 876mm	P ¹
6.2.2	Maximum and minimum sizes For maximum and minimum sizes, the manufacturer should be consulted.	N/A	N/A
6.2.3	Tolerances and squareness The nominal dimensions for width and length being given, the tolerances of finished pane sizes shall comply the tolerances given in Table 2 of this standard.	Maximum length deviation: +0.35mm Maximum width deviation: +0.20 mm	P ¹
6.2.4	Edge deformation produced by the vertical process For vertical toughening glass, the centres of the tong marks are situated up to a maximum of 20 mm in from the edge. A deformation of the edge less than 2 mm can be produced in the region of the tong mark and there may also be an area of optical distortion. These deformations are included in the tolerances in Table 2 of this standard.	No tong marks were found on the surface of sample.	P ¹

EN 12150-1					
Clause	Requirement - Test			Result - Remark	Verdict
6.3	Flatness The maximum allowable values for the overall bow when measured according to 6.3.2, and local bow, when measured according to 6.3.3, for glass without holes and/or notches and/or cut-out are given in table 4 of this standard.			See test result on page 6.	P ¹
	Glass Type	Max allowable value for distortion			
		Overall bow (mm/m)	Local distortion (mm/300mm)		
	All ^a	5.0	1.0		
	^a For enamelled glass which is not covered over the whole surface the manufacturer should be consulted.				
8	Fragmentation test The fragmentation test determines whether the glass breaks in the manner prescribed for a thermally toughened soda lime silicate safety glass. The minimum particle count values: Nominal thickness 2mm: minimum 15 Nominal thickness 3mm: minimum 15; Nominal thickness 4-12mm: minimum 40. Nominal thickness 15-25mm: minimum 30 In order to classify the glass as thermally toughened soda lime silicate safety glass, the length of the longest particle shall not exceed 100 mm.			5 specimens with nominal size 1100mmX360mm were tested. See test result on page 4 for the value of the particle count and longest particle.	P ¹
9	Other physical characteristic				
9.5	Classification of performance under accidental human impact. Pendulum body impact resistance shall be determined and classified in accordance with EN12600.			See test result on page 6.	P ¹

Note 1: The product is vacuum glass assembled by two tempered glass and the result was judged according to tempered glass.

*****End of Page*****

Appendix A**Test data****Test result of Clause 6.1 of EN12150-1**

5T +0.15V +5T Tempered Vacuum Insulated Glass				
Sample No.	4 sides thickness (mm)			
1	9.89	9.96	9.91	9.87
2	9.87	9.87	9.87	9.92
3	9.89	9.92	9.91	9.89

Test result of Clause 8 of EN12150-1

5T +0.15V +5T Tempered Vacuum Insulated Glass		
Sample No.	Overall bow (mm/m)	Local distortion (mm/300mm)
1	0.97	0.15
2	0.48	0.10
3	0.45	0.10

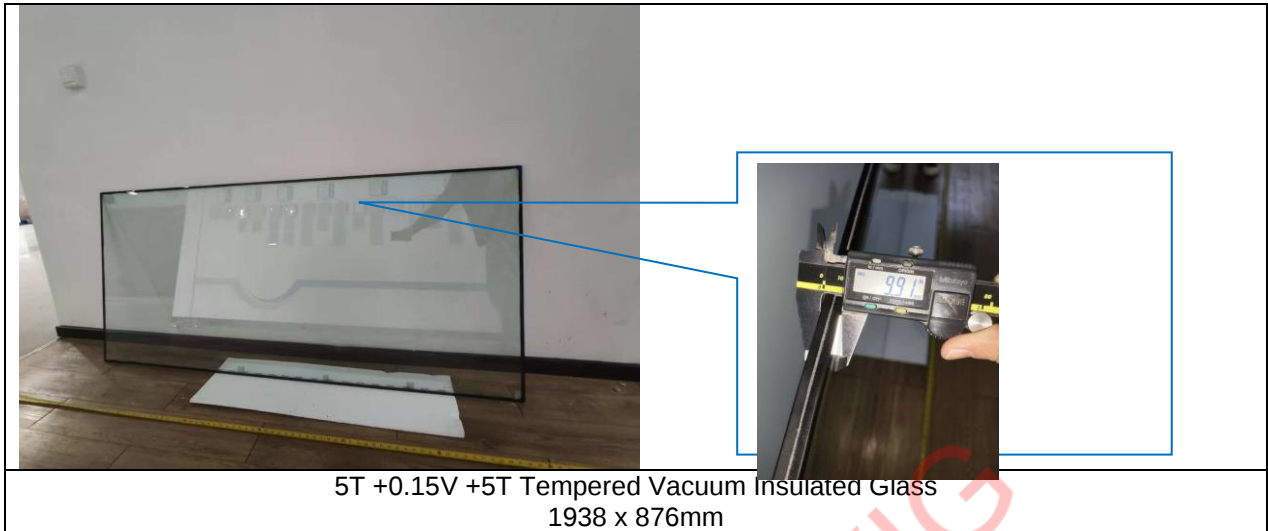
Test result of Clause 8 of EN12150-1

5T +0.15V +5T Tempered Vacuum Insulated Glass		
Sample No.	Total particles	Longest length (mm)
1	92	25.42
2	112	12.22
3	103	20.13
4	83	11.09
5	92	16.62

Test result of Clause 9.5 of EN12150-1

Item	Drop height class	Mode of breakage
5T +0.15V +5T Tempered Vacuum Insulated Glass	Class 1	1(C)3
1.All 4 samples did not break at the height of 190 mm. 2.All 4 samples broken at the height of 450 mm and the max. area of 10 largest crack-free particles was 2259 mm ² 3.All 4 samples broken at the height of 1200 mm and the max. area of 10 largest crack-free particles was 217 mm ²		

Appendix B
Product photos



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Appendix C
Revision page

Revision No.	Date	Changes	Author	Reviewer
R0	Dec. 21, 2024	First issue	Jinhui Zheng	Kelming Wang

*****End of this report*****

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