

## TEST REPORT

No. : SHIN2107051151CM

Date : Aug 05, 2021

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CUSTOMER NAME: JINAN EVERGREEN GLASS CO., LTD  
ADDRESS: BUILDING 3, ZHONGRUN CENTURY CENTER, NO.12111 JINGSHI ROAD, LIXIA DIST, JINAN CITY, CHINA

Sample Name : 13.80mm LAMINATED GLASS  
Product Specification : 1900\*860mm  
Product or Lot No. : EZ2021  
Manufacturer : Jinan Evergreen Glass Co., Ltd  
Buyer : Jack's Manufacturing Pte Limited  
Material and Mark : 5mm float glass+3.80mm PVB+5mm float glass

Above information and sample(s) was/were submitted and confirmed by the client. SGS, however, assumes no responsibility to verify the accuracy, adequacy and completeness of the sample information provided by client.

\*\*\*\*\*

Test Required : Impact Test  
SGS Ref. No. : SHIN2107050970SC  
Ref. Standard : AS/NZS 2208:1996 Section 3.2 & Appendix D and Client's Requirement  
Date of Receipt : Jul 21, 2021  
Testing Start Date : Jul 21, 2021  
Testing End Date : Aug 05, 2021  
Test result(s) : For further details, please refer to the following page(s)  
(Unless otherwise stated the results shown in this test report refer only to the sample(s) tested)

Signed for  
SGS-CSTC Standards Technical  
Service (Shanghai)Co., Ltd.

*Ziven Wang*

Ziven Wang  
Authorized signatory



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Summary of Results:

No.	Test Item	Test Method	Result	Conclusion
1	Impact Test	AS/NZS 2208:1996 Section 3.2 & Appendix D and Client's Requirement	See Result	Pass

Note: Pass : Meet the requirements;  
 Fail : Does not meet the requirements;  
 / : Not Apply to the judgment.

Original Sample Photo(s):



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Test Item: Impact Test

Test Method: AS/NZS 2208:1996 Section 3.2 & Appendix D and Client's Requirement

Test Condition:

Specimen: 1900mm×860mm×13.8mm, 4pcs

Classification: Grade A

Drop height: 300mm, 450mm, 600mm, 750mm, 900mm, 1200mm and 1500mm

Test Result:

Test Item	Test Classification	Client's Requirement	Conclusion
Impact Test	Grade A	Grade A	Pass

Note:

- 1) Please see Table 1 for details of classification of glazing material according to behavior when subjected to the Impact test.
- 2) Please see Table 2 and 3 for detailed test data of impact test.

Table 1 – Classification of Glazing Material

According to Behavior When Subjected to the Impact Test

Class	Drop height 200 mm nominal	Drop height 300 mm to 1500 mm nominal	Drop height greater than 1500 mm by a center punch
A	No requirement	No breakage, or breaks safely	Breaks safely or deforms
B	No breakage, or breaks safely	No breakage, or breaks safely	No requirement



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Table 2 – Detailed test data of Impact test

Drop Height (mm)	Test result			
	No.1	No.2	No.3	No.4
300	No breakage	No breakage	No breakage	No breakage
450	No breakage	No breakage	No breakage	No breakage
600	No breakage	No breakage	No breakage	No breakage
750	No breakage	No breakage	No breakage	No breakage
900	No breakage	No breakage	No breakage	No breakage
1200	Breaks safely	Breaks safely	Breaks safely	Breaks safely
1500	/	/	/	/

Table 3 Failure mode

Specimen No.	The total weight of the fragments (g)	The equivalent weight of 10000mm <sup>2</sup> /4400mm <sup>2</sup> (g)
1	0	282/124
2	0	
3	0	
4	0	

Specimen test result description: After test, all 4 specimens broke in accordance Note g (ii).

Summary: Performance classification is Grade A.

Note: As per AS/NZS 2208:1996 Appendix D

Step (h) If any one of the test specimens which break do not comply with the requirements of Step (g), terminate the procedure the product has failed.

Step (g) Inspect the test specimen and determine if it complies with any of the following requirements after impact and record-



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- (i) It has remained unbroken; or
- (ii) It has broken and numerous cracks or fissures appear but no shear or opening develops within the body of the glazing material through which a 76mm diameter sphere can be passed freely; additionally, if fragments are detached from the test piece up to 3 min after impact, they shall, in total, weigh no more than the mass equivalent to 10000mm<sup>2</sup> of the original test piece and the largest single fragment shall weigh less than the mass equivalent to 4400mm<sup>2</sup> of the original test piece; or
- (iii) It has broken and disintegration occurs but the 10 largest crack-free fragments selected 3 min after impact, together weigh no more than the mass equivalent to 6500mm<sup>2</sup> of the original test piece; or
- (iv) It has broken and the breakage results in several separate pieces, which may or may not be retained in the frame. Those pieces that are exposed after the impact shall be in accordance with one or both of the following:

- (A) The perimeter shall not sharp.
- (B) Where any pointed protrusion occurs in any perimeter, the length of the chord between the two points which are established when an arc of radius 25mm, whose center is at the apex of the protrusion, crosses the perimeter on each side of the apex shall be not less than 25mm.

Interpretation: In the event of the glazing material not breaking after being impacted from a drop height of 1500mm, use a center-punch with sufficient force to deform or break the glazing material and examine the fracture pattern as followings:

- (i) If the glazing material disintegrates into small fragments as defined in Step(g) above, it is considered a pass.
- (ii) If the panel cracks or deforms but is held together in a safe manner, it passes.
- (iii) If it breaks in large pieces and can be pushed out of the frame, it fails.

\*\*\*\*\* End of report\*\*\*\*\*

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