

ONYX SOLAR GROUP LLC TEST REPORT

SCOPE OF WORK

TESTING ON SAFETY GLAZING MATERIAL

THE BELOW LISTED REPORT NUMBERS HAVE BEEN REVIEWED

L7169.01-119-37

For INTERTEK B&C:

COMPLETED BY:	Todd M. Wilt
TITLE:	Lead Technician
SIGNATURE:	
DATE:	12/18/20

TMW:vtm/aas

REVIEWED BY:	Virgal T. Mickley, Jr., P.E.
TITLE:	Senior Staff Engineer
SIGNATURE:	
DATE:	12/18/20

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TEST REPORT FOR ONYX SOLAR GROUP LLC

Report No.: L7169.01-119-37 R0

Date: 12/18/20

REPORT ISSUED TO

ONYX SOLAR GROUP LLC

Calle Rio Cea 1, H6

Avila, 05004, Spain

SECTION 1

TEST SAMPLE DESCRIPTION

Tested in Accordance with: ANSI Z97.1-2015, CPSC 16 CFR 1201-2012, & CAN/CGSB 12.1-2017

Samples Obtained from Manufacturer: Onyx Solar Group LLC - Avila, Spain

Received Date: 11/24/20

Glazing Product Designation: Prototype

Overall Glazing Thickness: 18 mm (nominal)

Glazing Type: Laminated Transparent Glass (LTG)

Sample Dimensions: Impact: 34" wide x 76" high ($\pm 1/8"$) **Thermal:** 12" x 12" ($\pm 1/8"$)

Interlayer Manufacturer/Type: Hornos Industriales Pujol/Evalam

Interlayer Manufacturer/Type Obtained from: Onyx Solar Group LLC

Size Classification: Unlimited

Thickness Standard: ASTM C1036

Laminated Glazing Composition Details

SAMPLE TYPE	THICKNESS MEASUREMENTS (inches) ^A			
	OVERALL	GLASS LITE 1	INTERLAYER ^B	GLASS LITE 2
Thermal	0.695	0.312	0.074	0.309
Impact	0.696	0.310	0.076	0.310
Type	--	Tempered	Interlayer	Tempered

^A Measurement values obtained from the first test specimen of the thermal and impact test.

^B Calculated thickness based on summation of glass thicknesses subtracted from overall thickness.

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SECTION 2

TEST RESULTS

Test Date: 12/14/20

Lab Temperature: 69°F

Duration of Pre-Conditioning @ 65 - 85°F: 24 Hours

Thermal Test Results

Method: Boil

SPECIMEN NUMBER	OVERALL THICKNESS (inches)	TEST RESULTS & OBSERVATIONS	PASS/FAIL
1	0.695	No crack, no bubbles or defects within 1/2"	Pass
2	0.695	No crack, no bubbles or defects within 1/2"	Pass
3	0.698	No crack, no bubbles or defects within 1/2"	Pass

Acceptance Criteria: No bubbles or defects more than 1/2" from edge or crack.

Impact Test Results

Specimens were impacted once from a drop height of 48 inches.

SPECIMEN NUMBER	OVERALL THICKNESS (inches)	TEST RESULTS & OBSERVATIONS	PASS/FAIL
1	0.696	Did not break	Pass
2	0.702	Did not break	Pass
3	0.703	Did not break	Pass
4	0.700	Did not break	Pass

Acceptance Criteria: After impact, openings are evaluated as described below and detached particles are collected. Individual detached particles less than the mass equivalent of 1 sq. in. of the original test specimen are excluded from evaluation.

- (a) No shear or opening through which a 3" sphere can freely pass with 4 lbs. force.
- (b) Detached particles collected after impact shall not weigh more than 15.5 sq. in. of the original test specimen.
- (c) No single particle shall weigh more than 6.82 sq. in. of the original test specimen.

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SECTION 3

CONCLUSION

The specimens meet the thermal and impact requirements of the referenced standards for the size classification listed and meet the thickness requirements of the referenced standard.

All test specimens were destroyed by test or by personnel and have been disposed of as trash. Representative sections of failed samples will be retained for up to 30 days from the date of report issuance. After 30 days, representative samples will be automatically discarded. The test record retention period ends four years after the test date.

SECTION 4

LIST OF OFFICIAL OBSERVERS

NAME	COMPANY
Todd M. Wilt	Intertek B&C

SECTION 5

REVISION LOG

REVISION #	DATE	PAGES	REVISION
0	12/18/20	N/A	Original Report Issue