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TOPSEAL CO., LTD
TEST REPORT

SCOPE OF WORK
ASTM C719 CLASS 50 CYCLIC MOVEMENT EVALUATION OF TOPSEAL™ 793 STRUCTURAL GLAZING SEALANT FOR COMPLIANCE WITH SWRI SEALANT VALIDATION PROGRAM

REPORT NUMBER
R9173.01-106-31 R0

TEST DATES
02/21/25 - 04/23/25

ISSUE DATE
10/16/25

RECORD RETENTION END DATE
04/23/29

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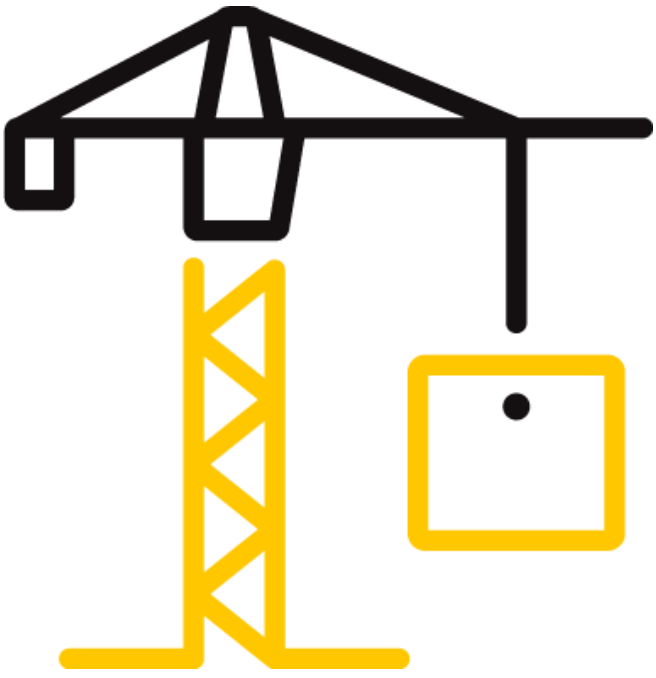

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TEST REPORT FOR TOPSEAL CO., LTD
Report No.: R9173.01-106-31 R0
Date: 10/16/25

REPORT ISSUED TO

TOPSEAL CO., LTD
37-20, Maengdongsandan-ro, Maengdon-myeon,
Eumseong-gun, Chungcheongbuk-do. South Korea 27733

SECTION 1

SCOPE

Product: TopSeal™ 793 Structural Glazing Sealant

Architectural Testing, Inc. (an Intertek company) dba Intertek Building & Construction (B&C) was contracted by TopSeal Co., LTD to evaluate TopSeal™ 793 Structural Glazing Sealant in accordance with ASTM C719 for Class 50 Cyclic Movement for SWRI Validation. Results obtained are tested values and were secured by using the designated test method. Testing was conducted at the Intertek B&C test facility in York, Pennsylvania.

This report does not constitute certification of this product nor an opinion or endorsement by this laboratory.

Unless differently required, Intertek reports apply the "Simple Acceptance" rule, also called "Shared Risk approach," of ILAC-G8:09/2019, Guidelines on Decision Rules and Statements of Conformity.

For INTERTEK B&C:

COMPLETED BY:	Steven Marmolejos	**REVIEWED BY:**	Joseph M. Brickner
TITLE:	Technician I Materials Laboratory	**TITLE:**	Technical Manager Materials Laboratory
SIGNATURE:	Digitally Signed by: Steven Marmolejos	**SIGNATURE:**	Digitally Signed by: Joseph M. Brickner
DATE:	10/16/25	**DATE:**	10/16/25

SM:jmb/kae

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SECTION 2
TEST METHOD

The specimens were evaluated in accordance with the following:

ASTM C719-22, *Standard Test Method for Adhesion and Cohesion of Elastomeric Joint Sealants Under Cyclic Movement (Hockman Cycle)*

For compliance with: SWRI Sealant Validation Program

SECTION 3
MATERIAL SOURCE

The materials were purchased by Intertek B&C personnel. The following were received in good condition on 12/9/24:

- One (1), box of twenty-six 300ml tubes of TopSeal® 793 Structural Glazing Sealant (Lot #: 241111, Exp. Date: Nov. 2025)
- Two (2), cans of Dowsil Primer-C OS, (Batch #: YY00O1J005, Exp. Date: 07/12/25)
- One (1), box of plastic nozzles

Refer to the product description photos in Section 9. The materials were tested as received, except for preparing test specimens from the original materials. Representative materials/test specimens will be retained by Intertek B&C for a minimum of four years from the test completion date.

SECTION 4
LIST OF OFFICIAL OBSERVERS

NAME	COMPANY
Steven Marmolejos	Intertek B&C
Joseph M. Brickner	Intertek B&C

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SECTION 5
TEST PROCEDURE

All conditioning of test specimens and test conditions were at standard laboratory conditions, unless otherwise reported. Refer to the test related photos in Section 9. Calibration certificates are available on request.

ASTM C719 - Adhesion and Cohesion Under Cyclic Movement

Three specimens having glass substrates primed with DOWSIL™ C OS Primer were prepared using a 1/2 in. wide spacer having a 1/2 in. deep by 2 in. long cavity and filling it with sealant. The specimens were allowed to cure for 21 days at standard lab conditions with the spacers being removed after the second week.

At the conclusion of the curing period, the specimens were submerged in room temperature distilled water for a period of seven days, and each specimen was hand flexed twice to about 60° to check the bond. The specimens were compressed to the minimum dimension of 0.250" and placed in an oven at 158°F for seven days.

Within 24 hours of removal from the oven exposure, the specimens were placed into a Horizontal Sealant Tester (ICN: 005612) and compressed to a gap dimension of 0.250 in. then expanded to a gap dimension of 0.750 in. and returned to their normal dimension of 0.500 in. at a rate of 1/8 in. per hour. This process was repeated for a total of ten cycles at standard laboratory conditions.

Following the ten cycles, the specimens were again checked for bond loss. Each specimen was compressed and clamped to its minimum dimension of 0.250 in. and placed in an oven maintained at 158°F for a period of 16 to 20 hours. Upon completion of this timeframe, the specimens were removed from the oven, the clamps were removed, and the specimens were allowed to return to room temperature over a period of two to three hours. Each specimen was placed in the Horizontal Sealant Tester and expanded from the 0.250 in. gap dimension to the 0.750 in. gap dimension while in a -15°F environment. Once the specimens attained this dimension, they were removed from the device and allowed to return to room temperature for a period of two hours at the 0.750 in. gap. A check for bond loss was performed and the process was repeated for a total of ten cycles. After the last cycle, a final bond loss evaluation was conducted.

Note: Following manufacturer's instructions, substrates used for Tensile Adhesion and Adhesion in Peel tests were cleaned with Isopropyl Alcohol to remove any possible contaminants before a thin, even layer of Dowsil Primer-C OS, was applied on the substrates using a clean, non-linting cloth (KimTec wipes). Once the primer had thoroughly dried, the sealant was applied on the substrates according to their respective test method.

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SECTION 6
TEST SPECIMEN DESCRIPTION

TEST PROCEDURE	NUMBER OF SPECIMENS	NOMINAL SPECIMEN DIMENSIONS	VISUAL CHARACTERISTICS
ASTM C719 - Cyclic Movement	3	1/2 in. by 1/2 in. by 2 in.	Glass Substrate

SECTION 7
TEST RESULTS

ASTM C719 - Adhesion and Cohesion Under Cyclic Movement

SPECIMEN NO.	OBSERVATION	
	ROOM TEMP CYCLE	HOT/COLD CYCLE
1	Minimal Detachment from Substrate at Corners, No Complete Failure	Failure at Cycle #6, Complete Detachment from Substrate, Removed from Test, 90% Adhesive Failure
2		Specimen Completed 10 Cycles, No Deformation or Bubbling, 20% Cohesive Failure
3	Minimal Detachment at One Corner and Partial Detachment at Center, No Complete Failure	Specimen Completed 10 Cycles, No Deformation or Bubbling, 40% Cohesive Failure

SECTION 8
CONCLUSION

The TopSeal® 793 Structural Glazing Sealant met the joint movement capability listed on the manufacturers Technical Data Sheet and also meets the requirements of the SWRI Validation Program.

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SECTION 9
PHOTOGRAPHS

Photo No. 1
Material - As Received

Photo No. 2
Prepped Specimens Prior to Cycling

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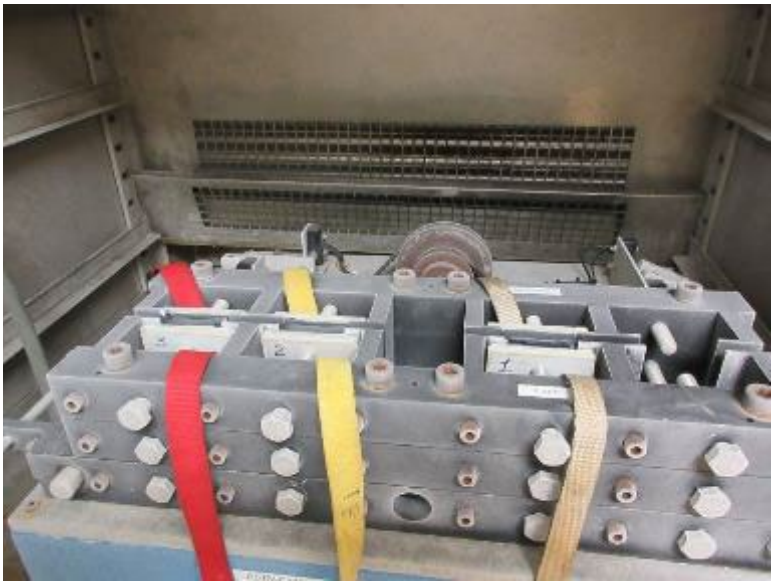

Photo No. 3
Specimens Undergoing Hot/Cold Cycling Segment

Photo No. 4
Test Result of Specimen 1 Complete Separation from Substrate.

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SECTION 10
REVISION LOG

REVISION #	DATE	PAGES	REVISION
0	10/16/25	N/A	Original Report Issue