Intertek | Architectural Testing

FIELD TEST REPORT

Rendered to:

REAL ESTATE AND CONSTRUCTION SERVICES

PROJECT: Senate / New Legislative Office Building
St. Paul, Minnesota

Report No.: E8666.01-201-43
Test Dates: 07/17/15
And: 07/27/15
Report Date: 08/07/15

Consultant's Report

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FIELD TEST REPORT

Rendered to:

REAL ESTATE AND CONSTRUCTION SERVICES –
Department of Administration –
State of Minnesota
309 Administration Building, 50 Sherburne Avenue
St. Paul, Minnesota 55155

Report No.:	E8666.01-201-43
Test Dates:	07/17/15
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Report Date:	08/07/15

Project Identification: Senate / New Legislative Office Building
St. Paul, Minnesota

Project Summary: Architectural Testing, Inc., an Intertek company ("Intertek-ATI"), was contracted to perform on-site testing at the above referenced project. Water penetration retests were conducted on one specimen consisting of a Kawneer 1600 UT Curtain Wall System. The specimen tested met the performance requirements listed herein.

Test Methods: Tests were conducted in accordance with the following:

AAMA 503-14, *Voluntary Specification for Field Testing of Newly Installed Storefronts, Curtain Walls, and Sloped Glazing Systems*

ASTM E 783 – 02 (2010), *Standard Test Method for Field Measurement of Air Leakage Through Installed Exterior Windows and Doors*

ASTM E1105–00 (2008), *Standard Test Method for Field Determination of Water Penetration of Installed Exterior Windows, Skylights, Doors, and Curtain Walls, by Uniform or Cyclic Static Air Pressure Difference*

Pre-Test Inspection:

A visual inspection of the designated test area was performed prior to testing. The test specimen was compared to other adjacent curtain walls on the project. No obvious deficiencies or anomalies were observed.

Test Procedure:

The perimeter of the chamber was attached and sealed to the precast surrounding the interior of the curtain wall framing.

The chamber was equipped with a centrifugal blower/vacuum pump, air flow meter, and a pressure sensing device to maintain the desired air pressure differential across the assembly.

Air infiltration testing was conducted at 6.24 psf. Water penetration testing was conducted at 15.0 psf pressure differential while simultaneously spraying water on to the exterior face of the assembly at the required rate of 5 gph/ft^2. During testing, the interior face of the test area was inspected for water leakage. Testing continued for 15 minutes.

Performance Criteria: Provided by Real Estate and Construction Services–Department of Administration–State of Minnesota per job specifications

Air Infiltration: Maximum allowable air leakage rate of 0.09 cfm / ft^2
Water Leakage: (Field Water Definition)

TEST RESULTS
Date: 07/17/15
Ambient Exterior Air Temperature: 82°F
Barometric Pressure: 29.72 in

***General Note #1**: All locations referenced are as viewed from the interior unless otherwise noted.*

***General Note #2**: Unless specifically noted within this report, atmospheric conditions at the time of testing did not have an adverse impact on the results of the test. These environmental conditions are recorded for informational use only to confirm that the conditions will not have a negative impact on testing.*

Test Specimen:

Manufacturer: Kawneer 1600 UT
Description: Aluminum curtain wall system
Overall Size: 106-3/4" wide by 113-3/4" high
Location: CW 26 window area, West elevation, third floor, first punched opening from the south

Title of Test	Test Results	Allowable
Air Infiltration @ 6.24 psf	< 0.01 cfm/ft^2	0.09 cfm/ft^2 maximum

Test Results: (Continued)

Title of Test	Test Results	Allowable
Water Penetration @ 15.0 psf	Water Observed (See *Note #1*)	No water leakage

Note 1: 3-1/2 minutes into the test moisture was observed on the top glazing gasket of the lower left lite. At the completion of testing dampness was observed on the precast below the lower right lite. InterClad personnel removed the exterior snap trim and pressure plates exposing the primary seal and zone dams. No anomalies were observed.

TEST RESULTS
Date: 07/27/15
Ambient Exterior Air Temperature: 81°F
Barometric Pressure: 29.93 in

Title of Test	Test Results	Allowable
Water Penetration Retest @ 15.0 psf	No Water Leakage	No water leakage

*Prior to testing the area was dried with no residual moisture observed. It was determined that the moisture observed during the initial testing was residual water in the system.

Witnesses: The following representatives witnessed all or part of the testing.

Name	Company
Jacob Schneider	M. A. Mortenson Construction
Jake Bauer	CPMI
Chris Bubsen	M. A. Mortenson Construction
Steve Flatten	InterClad
Mark Kramer	InterClad
Dan Waarvik	Inspec
Sam Moseley	Intertek-ATI
Dax Stoehr	Intertek-ATI

Intertek-ATI will service this report for a period of four years from the test date. Test records, such as detailed drawings, datasheets, representative samples of test specimens, or other pertinent project documentation, will be retained by Intertek-ATI for the entire test record retention period.

This report does not constitute certification of this product nor an opinion or endorsement by this laboratory. It is the exclusive property of the client so named herein and relates only to the specimen tested. This report is intended to help in the client's quality assurance program, but it does not represent a continuous or exhaustive evaluation of the specimen tested or of other products or materials that were not evaluated. The statements and data provided herein do not constitute approval, disapproval, certification, or acceptance of performance or materials.

For INTERTEK-ATI:

Digitally Signed by: Dax Stoehr

Dax R. Stoehr
Technician

Digitally Signed by: Daniel A. Johnson

Daniel A. Johnson
Director-Regional Operations

DRS/jb

Attachments (pages): This report is complete only when all attachments listed are included.
Appendix-A: Photographs (3 pages)

Revision Log

Rev. #	Date	Page(s)	Revision(s)
0	08/07/15	N/A	Original report issue.

APPENDIX A

Photographs

Interior view of test specimen.

Glazing leak at the upper left corner of lower left lite.

Water observed below the anchors at the sill.