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**Job Number:** 11-0045D  
**Test Date(s):** 6/30-7/1/11  
**Report Date:** 7/22/11

## **Test Procedures:**

**AAMA 501.1** Standard Test Method for Water Penetration of Windows, Curtain Walls, and Doors Using Dynamic Pressure

**AAMA 501.5** Test Method for Thermal Cycling of Exterior Walls

**ASTM E283-04** Standard Test Method for Determining Rate of Air Leakage through Exterior Windows, Curtain Walls, and Doors Under Specified Pressure Differences Across the Specimen

**ASTM E331-00(2009)** Standard Test Method for Water Penetration of Exterior Windows, Skylights, Doors, and Curtain Walls by Uniform Static Air Pressure Difference

**ASTM E330-02(2010)** Standard Test Method for Structural Performance of Exterior Windows, Doors, Skylights and Curtain Walls by Uniform Static Air Pressure Difference

## **Test Specimen Description:**

### Stud wall:

A freestanding test buck in 12" wide steel 'C' channel was prepared by MT Group, 10'-0" in height and 10'-0" wide. A load bearing panel was constructed with 6" deep x 16 gauge studs fitted in to a tracks at the top and base of the panel. The tracks were fastened to the buck with 3/32" thick x 3/4" long stainless steel hex head screws 12" centers. Studs were fixed to the tracks at 16" centers. 5/8" plywood sheathing boards was screwed to the vertical studs at 12" centers with 1 5/8" board screws. A priming agent EXOAIR 5 agent was applied to the plywood and EXOAIR110 air/vapor barrier was applied.

### Rainscreen System: **Corium Brick System**

(7) 9 gauge vertical aluminum 2" deep 'Z' sections were fixed 6" from edge and at 16" through the sheathing to the stud behind using 1/4" x 2" stainless steel hexagon head coarse thread. (39) proprietary HPS200 Colorcoat steel brick trays were fastened in to the vertical 'Z's using 3/16" x 1" stainless steel hexagon head coarse thread screws. The trays interlock. The brick slips are inserted into trays using spacers to maintain 3/8" vertical joints between the brick slips. The slips are built stagger bond or stacked. The mortar joints were pointed manually with an Eastpointe Historic natural hydraulic lime mortar.

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## **Test Results:**

### **Air infiltration**

ASTM E 283

@ 1.57 psf (25 MPH)	>.01 cfm/ft <sup>2</sup>
@ 6.24 psf (50 MPH)	> .01 cfm/ft <sup>2</sup>
@ 25 psf (100 MPH)	.01 cfm/ft <sup>2</sup>

### **Water Penetration**

ASTM E547 (Four (4) five minute cycles)  
@ 25 psf

No leakage or visible water

ASTM E331 (15 minute continuous)  
@25 psf

No leakage or visible water

AAMA 501.1 Dynamic  
@ 25psf (100 MPH)

No leakage or visible water

### **Uniform Load Structural**

ASTM E330

#### **Design Pressure**

+60 psf (21" Span between anchors)	0.005"
-60 psf (21" Span between anchors)	0.005"

#### **Overload**

+90 psf (21" Span between anchors)	0.005"
-90 psf (21" Span between anchors)	0.005"

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**Thermal Cycling**

**AAMA 501.5 (Three (3) cycles -40°F – +140°F)**

Phase 1: During the first hour, the temperature was increased on the weather side condition to the specified high temperature conditions of 140°F. These conditions were maintained for two hours.

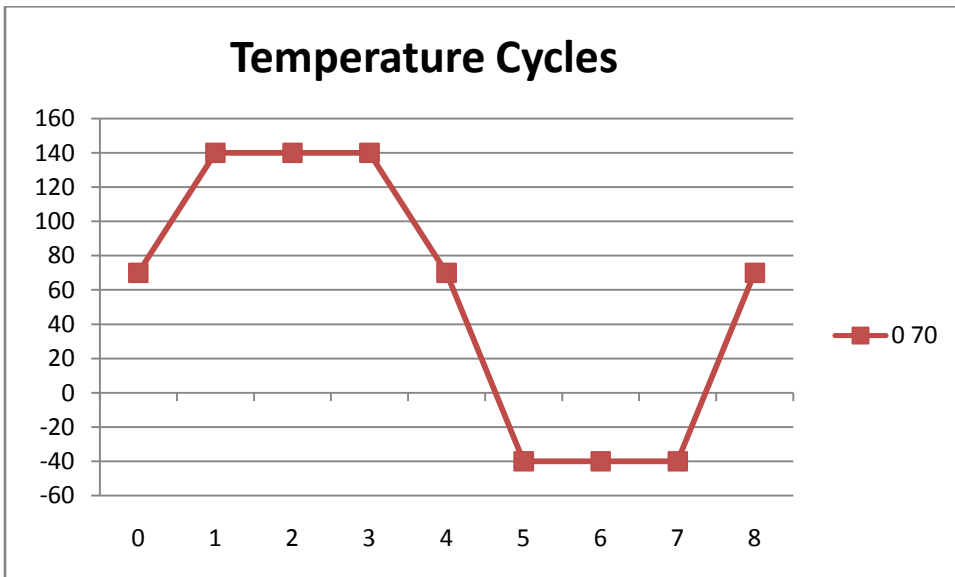
Phase 2: Weather side temperature decreased to 75°F in one hour.

Phase 3: Weather side conditions were lowered to specified low temperature conditions -40°F over the next hour. These conditions were maintained for two hours.

Phase 4: Weather side temperature increased to 75°F in one hour.

*(The temperatures were average readings based on thermocouples placed six (6) inches from the top, center and six (6) inches from the bottom.)*

- |         |  |
|---------|--|
| Cycle 1 | No permanent damage due to expansion and contraction |
| Cycle 2 | No permanent damage due to expansion and contraction |
| Cycle 3 | No permanent damage due to expansion and contraction |



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MT Group

A handwritten signature in black ink, appearing to read "W. B. J.", written in a cursive style.

VP- Window/Curtain Wall Division