

Client: Telling Architectural Ltd

7 The Dell Enterprise Drive Four Ashes

Wolverhampton, England WV10 7DF

Job Number: 11-0045A 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 Standard Test Method for Thermal Cycling

AAMA 508-07 Voluntary Test Method and Specification for Pressure Equalized Rain Screen Wall Cladding Systems

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 12" 'C' channel test buck was supplied by MT Group. A load bearing wall was constructed with 2 x 6 x 1-1/2 galvanized studs fastened to the buck with 3/32" x 3/4" SS hex head screws 12" centers. Studs were placed on 16" centers. 5/8 plywood sheathing boards were screwed to the vertical studs on 12" centers. A sealing agent was applied to the plywood and a peal/stick vapor membrane was applied.

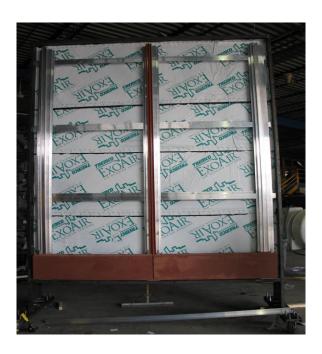
Rain Screen System: ArGeTon with Horizontal Rails and Vertical Top Hats

Aluminum Horizontal 'Z' was fastened to the helping hand brackets using 1/4" x 2" screws starting six inches from the bottom of the buck and 3' centers.

Aluminum Top Hat was fastened to the aluminum 'Z' with 1/4" x 2" screws. The top hat employed 3/16" holes pre-punched through the face @ 6" centers. The tiles bottom edges were placed into base clips. The drainage profile is located on the central tile joint and the spring profiles on the outer edge of the tiles were inserted behind the tiles. The top of the tiles were held in place with intermediate clips. These clips were pop riveted in place. The system included (18) terracotta tiles.

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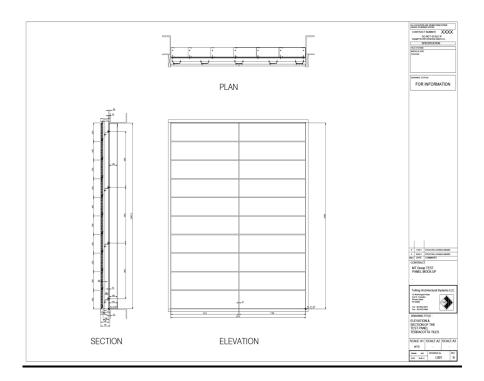






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Test Results:

Air infiltration

ASTM E 283

@ 1.57 psf (25 MPH)

@ 6.24 psf (50 MPH)

@ 25 psf (100 MPH)

 $>.01 \text{ cfm/ft}^2$ > .01 cfm/ft²

 $.01 \text{ cfm/ft}^2$

Water Penetration

ASTM E547 (Four (4) five minute cycles)

@ 25 psf

ASTM E331 (15 minute continuous)

@25 psf

AAMA 501.1 Dynamic

@ 25psf (100 MPH)

No leakage or visible water

No leakage or visible water

No leakage or visible water

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Uniform Load Structural

The pressure differential across the test specimen at the time of testing for deflection measurements was 60.0 psf, first applied in a negative, then positive load. The pressure differential across the test specimen for permanent deformation measurement was 90.0 psf, first applied in a negative, then positive load. ASTM E330. The defection was taken from the longest unsupported span using a straight edge and dial calipers.

ASTM E330

Design Pressure

+60 psf L/175 -60 psf L/175

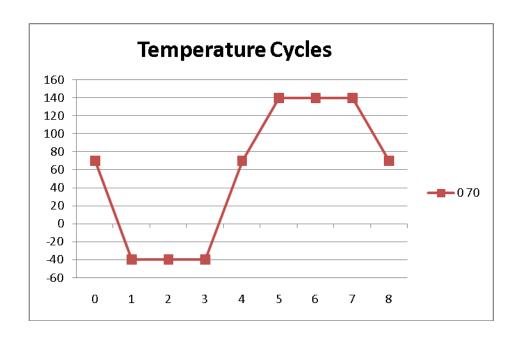
Overload

+90 psf Perm set -90 psf Perm Set

Thermal Cycling

AAMA 501.5 (Three(3) cycles $-40^{\circ}F - +140^{\circ}F$)

Cycle 1No damage, deformation, crackingCycle 2No damage, deformation, crackingCycle 3No damage, deformation, cracking



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Test Witnesses (All or partial):

Davy Adams Telling Architectural LTD

Wayne Breighner MT Group

Michael Wood Telling Architectural LTD

Mike Hendrick MT Group
Ed Armellio MT Group
Wayne Breighner Jr. MT Group

The system tested performed as indicated in this report using components advised as being standard for the ArGeTon system mounted on a backing wall built to withstand the forces that were to be tested. This report is prepared for the convenience of our customers and endeavors to provide accurate and timely project information. It contains a summary of observation made by a qualified representative of Materials Testing Lab, Inc. This report is intended to help in your Quality Assurance Program, but it does not represent a continuous nor exhaustive evaluation. The statements made herein do not constitute approval, disapproval, certification or acceptance of performance or materials.

A copy of this report will be retained by Materials Testing Lab, Inc, for a period of seven years.

This report is the exclusive property of the client so named herein.

MT Group

VP- Window/Curtain Wall Division