

THE THOMPSON & LICHTNER COMPANY, INC.

Consulting Engineers
Engineering and Testing Laboratories

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April 12, 2001

Mr. David Lite
Carlisle Coatings and Waterproofing, Inc.
446 Bay Road
South Easton, Massachusetts 02375

Re: Air Infiltration and Water Penetration Testing of a Mock-Up Air Barrier Back-Up Wall Assembly for Compliance with Chapter 13, 'Energy Conservation,' in the Commonwealth of Massachusetts State Building Code, Effective July 1, 2001

Dear Mr. Lite:

We report herewith the results of air infiltration and water penetration of a mock-up air barrier back-up wall assembly. The tests were conducted on April 3, 2001, and were witnessed in whole or in part by you, Mr. Keith Sportack of Pace Representatives, Inc., and Mr. Paul Curtis of Heckmann Building Products.

I. BACKGROUND

A. AIR BARRIER BACK-UP WALL ASSEMBLY

The mock-up air barrier back-up wall assembly was constructed in our laboratory test chamber in the following manner:

1. A back-up wall of 1/2" thick Georgia Pacific Dens-Glass was installed over 2" x 6" steel studs set at 17" on center. The Dens-Glass sheathing contained one horizontal and one vertical joint.
2. The Dens-Glass back-up wall was primed with two coats of Carlisle 702 primer and allowed to dry. Carlisle 705 cavity wall membrane was installed over the primed Dens-Glass. The wall membrane was pressed into place on the sheathing and at vertical and horizontal joints in the membrane.
3. Dow Z-Mate 2" thick extruded polystyrene insulation boards were placed over the Carlisle membrane.
4. 2-1/2" long Pos-I-Tie wall tie anchors were screwed into the insulation, air barrier, Dens-Glass, and steel studs of the wall assembly in three horizontal rows spaced at 17" and three vertical columns spaced at 16", for a total of nine wall tie anchors.

The completed mock-up air barrier back-up wall assembly measured 62" wide by 78" high.

B. AIR BARRIER AIR LEAKAGE REQUIREMENTS

In Chapter 13, 'Energy Conservation,' in the Commonwealth of Massachusetts State Building Code, which will take effect on July 1, 2001, Paragraph 13.04.3, 'Air Leakage,' contains the following requirements:

1. The air barrier is to be continuous, with all joints made airtight.
2. The air barrier shall have an air permeability not to exceed 0.004 cfm per square foot under a pressure differential of 0.3 inches of water (1.57 psf).
3. All penetrations in the air barrier shall be made airtight.

II. TEST PROCEDURES

The mock-up air barrier back-up wall assembly was tested for air infiltration in our laboratory chamber for conformance with the requirements contained with the revisions to Paragraph 13.04 in Chapter 13 of the Commonwealth of Massachusetts State Building Code, as described in Item I.B, above.

Testing was performed in accordance with applicable provisions of ASTM: E 283, "Standard Test Method for Determining Rate of Air Leakage Through Exterior Windows, Curtainwalls, and Doors Under Specified Pressure Difference Across the Specimen," and ASTM: E 331, "Water Penetration of Exterior Windows, Curtain Walls, and Doors by Uniform Static Air Pressure Difference."

III. TEST RESULTS

The following test results were obtained.

A. AIR INFILTRATION @ 1.57 PSF

Measured Air Leakage	0.0	cfm
Calculated Air Infiltration	0.0	cfm per square foot
Allowable Air Infiltration	0.004	cfm per square foot

The mock-up air barrier back-up wall assembly met the State Code requirements for measurement of air infiltration through the air barrier back-up wall.

III. TEST RESULTS, continued

B. WATER PENETRATION @ 6.24 PSF

Water was applied to the exterior side of the mock-up air barrier back-up wall assembly at the standard rate of 5.0 gallons per hour per square foot while a negative chamber pressure of 6.24 was maintained on the interior side of the mock-up.

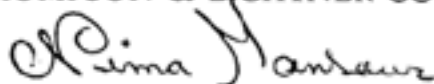
No leakage was observed on the interior surface of the steel-framed back-up wall assembly during the 15-minute test period.

IV. COMMENTS

The mock-up air barrier back-up wall assembly met the requirements in Chapter 13, , 'Energy Conservation,' in the Commonwealth of Massachusetts State Building Code, relative to air leakage through air barrier seams, air barrier membrane, and penetrations in the air barrier made by Heckmann Pos-I-Tie wall tie anchors.

Very truly yours,

THE THOMPSON & LICHTNER COMPANY, INC.



Nima Mansour
Senior Engineer



Michael Vielmetti
Manager, Weatherproofing Services

NM/MV/hw