

CLIENT: Kimberly-Clark Corporation
1400 Holcomb Bridge Road
Roswell, GA 30076

Test Report No: RJ2750-10	Date: June 16, 2014
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SAMPLE ID: Kimberly-Clark BLOCK-IT* House Wrap.

SAMPLING DETAIL: Test samples were randomly selected by a QAI representative at the manufacturing facility on August 23, 2013. The manufacturing facility address is documented in QAI Test Report RJ2750-06. QAI documented the materials and manufacturing procedures in accordance with ICC-ES AC85, Section 3.1.

DATE OF RECEIPT: Samples were received on August 30, 2013.

TESTING PERIOD: November 27, 2013.

AUTHORIZATION: Signed QAI Test Proposal BB070313-4 dated July 3, 2013.

TEST PROCEDURE: Testing was conducted in accordance with ASTM E 2273-03, *Standard Test Method for Determining the Drainage Efficiency of Exterior Insulation and Finish Systems (EIFS) Clad Wall Assemblies.*

RESULTS: The tested wall assembly demonstrated a drainage efficiency of 98%.

Prepared By



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Project Leader-Physical Testing

**Signed for and on behalf of
QAI Laboratories Inc.**



Chris Scoville
Operations Manager



DRAINAGE EFFICIENCY TEST PER ASTM E 2273

Wall Assembly Construction Details

Two 4' wide x 8' high wall assemblies were constructed for the test. Each wall assembly consisted of nominal 2 x 4 wood framing spaced 16 inches on center, $\frac{7}{16}$ " OSB, Exposure 1, sheathing, *Kimberly-Clark BLOCK-IT* House Wrap* and four 2' x 4' pieces of ASTM C 578, Type I EPS foam board having a minimum density of 1 pcf. To simulate an infield installation, a T-Joint with a 6" overlap was included when installing the House Wrap over the sheathing board and the seams sealed with an approved 2" wide House Wrap tape. In addition, two vertical joints were provided in two of the four pieces of EPS foam boards. The EPS boards were placed over the House Wrap and fastened to the wood sheathing using #8 x 2" long exterior Philips Bugle Head Screws along with 2" diameter plastic EIFS washers. The EPS fasteners were spaced 24" on center along the edges and 16" on center in both directions in the field of the board.

Note: As the purpose of this test was for demonstration only and not compliance, no exterior basecoat or finish was applied over the EPS as otherwise would be required.

Test Procedure

A water spray system consisting of a clear acrylic plastic spray box measuring 24½ inches by 9½ inches by 7¼ inches, two spray nozzles, located ½-inch from the front edge of the spray box and 6 inches to the right and to the left of center was prepared for the test. The water spray system was calibrated by collecting water in a tared container for a period of 15 minutes, weighing the water, and then multiplying the weight of the collected water by 5. The result was defined as the water delivered to the test specimen. The line pressure was adjusted to achieve a minimum water delivery rate of 106 grams per minute.

Each panel was individually placed vertically on the test frame in such a manner to allow observation of water draining from the bottom of the panel. The spray box was then mounted flush over the 2-inch by 24-inch slot fault. The bottom of the spray box was angled so that the water was directed into the slot fault.

Water spray was delivered into the slot fault for a period of 75 minutes during which time, the water drained from the bottom of the panel was collected in a tared container at 15-minute intervals and weighed to the nearest gram. The panel was then allowed to drain for an additional 60 minutes and the collected water weighed.

The drainage efficiency of the test specimen, in percent, was calculated by dividing the weight of the water collected during the 75-minute test period and the 60-minute drain period by the weight of the water delivered to the test specimen multiplied by 100%.



DRAINAGE EFFICIENCY TEST PER ASTM E 2273

Test Results

Water Delivered to the Test Specimens: 8,428.8 grams

Wall Assembly No.	Amount of Water Collected (grams)							Drainage Efficiency (%)
	After 15 Minutes	After 30 Minutes	After 45 minutes	After 60 Minutes	After 75 Minutes	After 60 Minutes (Drain)	Total	
1	1,247.1	1,611.6	1,729.5	1,711.7	1,680.2	190.0	8,170.1	96.9
2	1,466.2	1,704.6	1,679.9	1,727.1	1,728.5	98.5	8,404.8	99.7
Average	***	***	***	***	***	***	***	98.3

Observations

For both assemblies, water appeared to be draining freely from the bottom of the panel. Water penetration was also observed at the EPS joints and fasteners and then leaked along the front of the test specimen into the collection pan. As a result, the values listed in the table above could potentially overestimate the drainage efficiency as compared to what would occur if basecoat and finish were applied to the front face of the specimen. Since the water absorption capacity of the basecoat and finish is low as compared to the overall volume of water introduced during the test, it is unlikely that this difference would result in a drainage efficiency below 75%.

******End of Report******