

**JOB NUMBER:** 30160 06-76501-R  
**PAGE:** 1 of 9  
**DATE:** July 24, 2006

662 Cromwell Avenue  
 Saint Paul, MN 55114  
 USA

Telephone : (651) 645-3601  
 Toll Free : (888) 645-TEST  
 Telefax : (651) 659-7348  
 Website : www.storktct.com

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Construction Materials  
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 Welder Qualification

**TESTING OF  
 SURE CAVITY  
 DRAINAGE SYSTEM**

**Prepared for:  
 Masonry Technology Incorporated  
 Attn: Mr. John Koester  
 24235 Electric Street  
 P.O. Box 214  
 Cresco, IA 52136-9635**

**Prepared By:**

*William E. Stegeman*

**William Stegeman  
 Project Manager  
 Product Evaluation Department  
 Phone: 651-659-7230**

**Reviewed By:**

*Steven R. Miller*

**Steven R. Miller  
 Laboratory Supervisor  
 Product Evaluation Dept.**

The test results contained in this report pertain only to the samples submitted for testing and not necessarily to all similar products.

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**JOB NUMBER:** 30160 06-76501-R

**PAGE:**

2 of 9

**DATE:**

July 24, 2006

## **TESTING OF SURE CAVITY DRAINAGE SYSTEM**

### **INTRODUCTION:**

This report presents the results of Drainage Efficiency tests conducted on samples of Sure Cavity Drainage System. The testing was authorized by Mr. John Koester of Masonry Technology Incorporated on May 15, 2006. The testing and data analysis were completed on July 13, 2006.

The scope of our work was limited to conducting Drainage Efficiency tests on the samples submitted and reporting the results.

### **SUMMARY OF RESULTS:**

Wall ID	Time to Stop Draining, hr	Observations
A	>3:30	Wall did not drain but absorbed the water. After 3 ½ hours still wet as water bleeds through scratch coat
B	00:01:40	Dripping stopped and wall starting to dry
C	00:02:45	Dripping stopped and wall starting to dry
D	00:05:00	Dripping stopped and wall starting to dry
E	00:02:30	Dripping stopped and wall starting to dry

Dripping stopped is defined as less than one drop in 30 sec.

### **SAMPLE IDENTIFICATION:**

The samples were identified as A through E. Construction details follow. Walls were assembled May 24-26, 2006.

#### **WALL A Configuration, by layers**

1. Plywood
2. "Double D" Paper
3. Metal Lath
4. Scratch Coat
5. ½" Vented Weep Screed

#### **WALL B Configuration, by layers**

1. Plywood
2. "Double D" Paper
3. 3/16" SURE CAVITY
4. Metal Lath.
5. Scratch Coat
6. ½" Vented Weep Screed

**JOB NUMBER:** 30160 06-76501-R

**PAGE:**

3 of 9

**DATE:**

July 24, 2006

WALL C Configuration, by layers

1. Plywood
2. "Double D" Paper
3. 3/16" SURE CAVITY
4. WOW Weep
5. Brick Mold Detail
6. Metal lath
7. Scratch Coat

WALL D Configuration, by layers

1. Plywood
2. "Double D" Paper
3. 10mm SURE CAVITY
4. Metal lath
5. Scratch Coat
6. 1/2" Vented Weep Screed

WALL E Configuration, by layers

1. Plywood
2. "Double D" Paper
3. 10mm SURE CAVITY
4. Wow Weep
5. Brick Mold Detail
6. Metal Lath
7. Scratch Coat

**TEST METHOD:**

The samples were constructed and then allowed to cure at standard room temperature of 72 ± 5°F for at least 28 days prior to testing. Testing was done according to proposed ASTM Standard "Standard Test Method for Determining the Drainage Efficiency of an Interior Drainage System of an Exterior Wall when a Scratch Coat of Mortar is Placed Against the Drainage System During the Construction Phase". Funnel cavity volume was determined to be 2.344 gallons and therefore the amount of water to use (3/4 of funnel volume) was 6.65Kg.

**CALIBRATED TEST EQUIPMENT:**

Sartorius Balance, model CISLI-U, ID PT 161-012, calibrated 3/06

**JOB NUMBER:** 30160 06-76501-R

**PAGE:**

4 of 9

**DATE:**

July 24, 2006

**UNCALIBRATED TEST EQUIPMENT and SUPPLIES:**

Holcim Mortar Mix  
Jumbo Tex Weather-Resistive Barrier  
Stopwatch  
Workforce 16' tape measure  
Dewalt variable speed cordless drill/driver  
Assorted hand tools  
Lumber and general hardware

**TEST DATA:**

Wall A

First Test 6-23-06

No water leaked from the bottom of the wall. Most of the water leaked through the seam between the edges of the wall and the frame. Observation Holes in the back of the wall: No moisture in the center row of holes. Moisture in outside rows of holes weeped around the edges of the DD paper.

Second Test 7-3-2006

Elapsed Time      Observations

2:32	Water dripping from weep holes in bottom center of wall.
7:00	¾" of water left in trough. Water weeping through scratch coat at top of wall.
11:30	Trough empty, ¾ to 1 cup of water missed catch pan.
15:00	1550g of water collected.
35:00	Slight drying at top center of wall. Full wet at ¾ of the way up the wall.
50:00	Front of wall dampness the same. 1 layer of paper removed from the rear of wall, no dampness between the layers of paper.
60:00	2/3 of the way up the wall, water is still bleeding through the scratch coat.
3:30:00	At 3 ½ hours, wall still wet.

WALL B

Test 7-3-2006

Elapsed Time Observations

0:10	Water dripping from weep holes in bottom of wall.
0:50	Trough empty.
1:40	Done dripping.
3:30	Small wet spots at top of wall starting to dry.
15:00	Small wet spots all drying. 5095g of water collected, ¼ to ½ cup missed collection pan.
35:00	All wet spots drying.
2:55:00	At 2 hours 55 minutes, wall nearly dry.

**JOB NUMBER:** 30160 06-76501-R

**PAGE:**

5 of 9

**DATE:**

July 24, 2006

**WALL C**

Test 7-3-2006

Elapsed Time Observations

0:10 Water dripping from weep holes in bottom of wall.  
0:37 Trough empty.  
2:45 Done dripping. No moisture observed in observation holes in back of wall.  
15:00 5566g of water collected, ¼ cup missed collection pan.

**WALL D**

Test 7-3-2006

Elapsed Time Observations

0:03 Water dripping from weep holes in bottom of wall.  
0:07 Trough empty.  
5:00 Done dripping. No moisture observed in observation holes in back of wall.  
15:00 5915g of water collected.

**WALL E**

Test 7-3-2006

Elapsed Time Observations

0:02 Water dripping from weep holes in bottom of wall.  
0:20 rough empty.  
2:30 Done dripping. No moisture observed in observation holes in back of wall.  
15:00 5995g of water collected, just a negligible amount missed the collection tray.

**PHOTOS:**



Base Wall Unit



Double D Paper



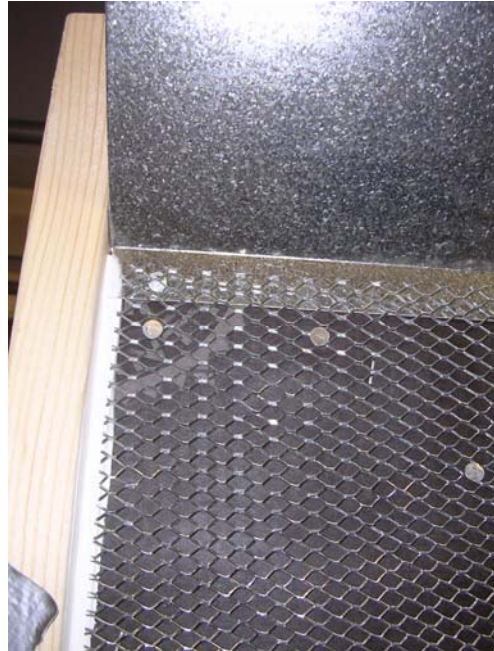
**JOB NUMBER:** 30160 06-76501-R

**PAGE:** 6 of 9  
**DATE:** July 24, 2006

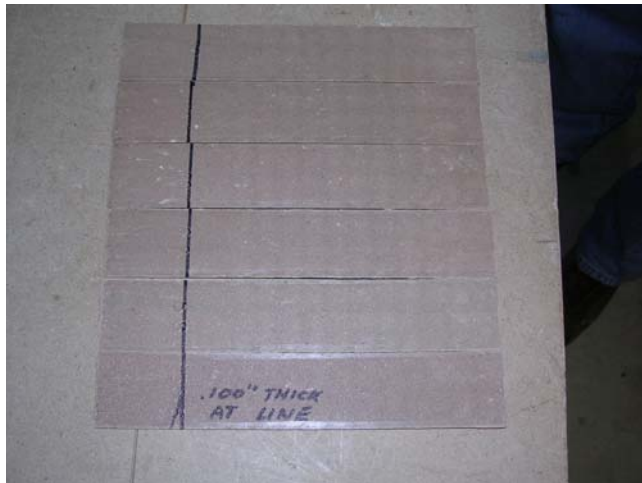
**PHOTOS Continued:**



Wall A with Paper and trough



Wall A with Metal Lathe



Spacers



Spacers in Trough between paper and metal lathe

**JOB NUMBER:** 30160 06-76501-R

**PAGE:**

7 of 9

**DATE:**

July 24, 2006

**PHOTOS Continued:**



Application of Scratch Coat



Sure Cavity Wall



Wall A first test



Water running along outside edge of Wall A on first test

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**JOB NUMBER:** 30160 06-76501-R

**PAGE:**

8 of 9

**DATE:**

July 24, 2006

**PHOTOS Continued:**



Wall A mid test



Water running from back weep hole of Wall A



Top Trough view



Water dripping into collection pan



**JOB NUMBER:** 30160 06-76501-R

**PAGE:**

9 of 9

**DATE:**

July 24, 2006

**PHOTOS Continued:**



Sure Cavity Wall



Wall A

**REMARKS:**

The test materials not consumed in testing will be retained for 14 days from the date of this report and then discarded unless we receive written notification requesting otherwise.

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