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**COMPRESSION TESTING
OF
SURE CAVITY VARIATIONS**

**Prepared for:
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Prepared By:



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Reviewed By:



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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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COMPRESSION TESTING OF SURE CAVITY VARIATIONS

INTRODUCTION:

This report presents the results of compression tests conducted on samples of Sure Cavity panels. The testing was authorized by Mr. Steve Samec of Masonry Technology Incorporated on April 20, 2007. The testing and data analysis were completed on April 27, 2007.

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

SUMMARY OF RESULTS:

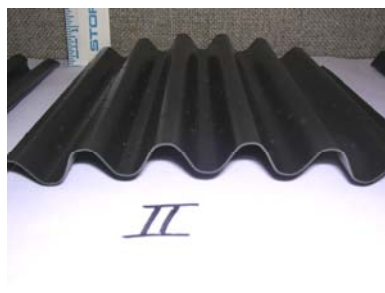
Sample	Average Compressive Strength at 10% Strain, psi
SC Style I, with fabric	3.7
SC Style II, with fabric	4.9
SC Style III, with fabric	5.6
SC Style I, no fabric	3.8
SC Style II, no fabric	5.4
SC Style III, no fabric	7.4

SAMPLE IDENTIFICATION:

The samples were identified as three styles of Sure Cavity drainage panels with varying channel widths of 1/2", 3/4" and 5/8". Each style was represented by a sample of the panel alone and the panel with a spunbond fabric glued to its surface. Five 6" x 6" specimens were cut from each sample.



Style I: 1/2" channel width



Style II: 3/4" channel width



Style III: 5/8" channel width

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TEST METHOD:

The samples were allowed to condition at standard laboratory conditions of $72 \pm 4^\circ\text{F}$ and $50 \pm 5\%$ relative humidity for at least 40 hours prior to testing. Standards used are detailed below, with notes of deviations.

Test Method	Test Method Title	Deviations from Method
ASTM D1621	Standard Test Method for Compressive Properties of Rigid Cellular Plastics	0.4 inch minimum specimen height; 0.04 in/min test speed with 5 lb. slack pre-load

CALIBRATED TEST EQUIPMENT:

MTS Universal Testing machine, model Qtest/50LP, System No. 1532, Stork TCT asset # MM210-009, calibrated 5/06

Mitutoyo Calipers, model CD-8C, S# 0006565, ID MM160-068, calibrated 11/06

UNCALIBRATED TEST EQUIPMENT:

Holding grips, fixtures and clamps

Assorted hand tools

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TEST DATA:

ASTM D 1621, Standard Test Method for Compressive Properties of Rigid Cellular Plastics

Sample	Specimen	Glue line distance from center, in	Width, in	Length, in	Height, in	Peak Load, lbf	Load at 10% Strain, lbf	Stress at 10% Strain, psi	Modulus, psi	
SC Style I, with fabric	1	center	5.988	6.192	0.428	205	145	3.9	54	
	2	center	6.139	6.033	0.437	208	118	3.2	51	
	3	center	5.977	6.118	0.431	249	149	4.1	58	
	4	center	6.138	6.076	0.436	190	117	3.1	51	
	5	center	5.928	6.040	0.424	162	129	3.6	54	
	Average						203	132	3.7	54
	Standard Deviation						32	15	0.4	3

Sample	Specimen	Glue line distance from center, in	Width, in	Length, in	Height, in	Peak Load, lbf	Load at 10% Strain, lbf	Stress at 10% Strain, psi	Modulus, psi	
SC Style II, with fabric	1	center	6.154	6.066	0.444	404	202	5.4	90	
	2	center	6.134	5.897	0.454	288	199	5.5	86	
	3	center	6.056	6.035	0.461	263	166	4.5	96	
	4	1 1/8	6.027	6.110	0.437	243	150	4.1	81	
	5	1 1/8	6.116	6.037	0.429	310	192	5.2	81	
	Average						302	182	4.9	87
	Standard Deviation						63	23	0.6	6

Sample	Specimen	Glue line distance from center, in	Width, in	Length, in	Height, in	Peak Load, lbf	Load at 10% Strain, lbf	Stress at 10% Strain, psi	Modulus, psi	
SC Style III, with fabric	1	1 1/2"	6.120	6.130	0.432	431	199	5.3	108	
	2	1 1/2"	6.105	6.038	0.433	428	215	5.8	122	
	3	1 1/2"	6.144	6.206	0.431	478	219	5.7	122	
	4	1 1/2"	5.990	6.209	0.437	534	207	5.6	122	
	5	1 1/2"	6.017	6.212	0.436	485	218	5.8	114	
	Average						471	212	5.6	118
	Standard Deviation						44	9	0.2	6

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TEST DATA, Continued:

ASTM D 1621, Standard Test Method for Compressive Properties of Rigid Cellular Plastics

Sample	Specimen	Glue line distance from center, in	Width, in	Length, in	Height, in	Peak Load, lbf	Load at 10% Strain, lbf	Stress at 10% Strain, psi	Modulus, psi	
SC Style I, no fabric	1	-	6.066	6.127	0.417	276	138	3.7	49	
	2	-	6.184	6.024	0.415	261	149	4.0	52	
	3	-	6.084	6.068	0.420	272	147	4.0	54	
	4	-	6.084	6.176	0.416	250	139	3.7	50	
	5	-	6.076	6.088	0.423	223	128	3.5	52	
	Average						256	140	3.8	51
	Standard Deviation						21	8	0.2	2

Sample	Specimen	Glue line distance from center, in	Width, in	Length, in	Height, in	Peak Load, lbf	Load at 10% Strain, lbf	Stress at 10% Strain, psi	Modulus, psi	
SC Style II, no fabric	1	-	5.915	6.122	0.420	310	186	5.1	61	
	2	-	6.149	6.047	0.425	304	191	5.1	73	
	3	-	6.040	6.082	0.427	329	211	5.7	88	
	4	-	6.082	6.101	0.424	348	213	5.8	77	
	5	-	6.174	6.112	0.418	323	198	5.3	70	
	Average						323	200	5.4	74
	Standard Deviation						17	12	0.3	10

Sample	Specimen	Glue line distance from center, in	Width, in	Length, in	Height, in	Peak Load, lbf	Load at 10% Strain, lbf	Stress at 10% Strain, psi	Modulus, psi	
SC Style III, no fabric	1	-	6.178	6.186	0.434	636	288	7.5	132	
	2	-	6.112	6.097	0.433	580	274	7.3	126	
	3	-	6.194	6.118	0.434	539	253	6.7	121	
	4	-	6.125	6.155	0.435	574	289	7.7	123	
	5	-	6.078	6.161	0.435	594	285	7.6	124	
	Average						585	278	7.4	125
	Standard Deviation						35	15	0.4	4

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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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