

ASTM C140-10 Test Report
Sampling and Testing Concrete Masonry Units and Related Units

Job No: 11-406 Revised
Report Date: 6/6/2011
Revision Date: 6/7/2011

Client: Grace Construction Products
Address: 7221 Parkland Court West
Milwaukee, WI 53223

Testing Agency: National Concrete Masonry Association
Address: Research and Development Laboratory
13750 Sunrise Valley Drive
Herndon, VA 20171-4662

Project Identification: TRIAL 445

Unit Specification: ASTM C936/C936M-09

Sampling Party: Flagstone Pavers Inc. (Brooksville, FL)

Unit Description: Concrete Paving Units

Date Samples Received: 6/1/2011

Specified Height (mm): 60

Summary of Test Results

	Required	Actual	
Net Area Compressive Strength.....	8000 min	10650	psi
Absorption	5 max	4.4	%
Density (Oven Dry Condition)	****	137.1	pcf
Net Cross Sectional Area	****	30.09	in ²
Variation from Specified Width Dimensions.....	.063 max	0.033	in.
Variation from Specified Height Dimensions.....	.125 max	0.122	in.
Variation from Specified Length Dimensions.....	.063 max	0.037	in.

Individual Unit Test Results

Full Size Unit Measurements

	Avg. Width (in.)	Avg. Height (in.)	Avg. Length (in.)	Sample Weight (lb)
Unit #1	3.845	2.458	7.813	5.97
Unit #2	3.872	2.431	7.798	5.93
Unit #3	3.850	2.485	7.800	6.00
Average	3.856	2.458	7.803	5.97

Compression Specimens

	Avg. Width (in.)	Avg. Height (in.)	Avg. Length (in.)	Sample Weight (lb)	Aspect Ratio	After Capping Height (in.)	Average Cap Thickness (in.)	Total Load (lb)	Net * Area (in. ²)	Net Area Compressive Strength (psi)
Unit #1	3.845	2.458	7.813	5.97	0.64	2.494	0.018	323070	30.04	10750
Unit #2	3.872	2.431	7.798	5.93	0.63	2.468	0.018	342290	30.19	11340
Unit #3	3.850	2.485	7.800	6.00	0.65	2.532	0.024	296340	30.03	9870
Average	3.856	2.458	7.803	5.97	0.64	2.498	0.020	320570	30.09	10650

* Net area determined as the product of the length and width of the unit.

Absorption Specimens

	Received Weight W _R (lb)	Immersed Weight W _I (lb)	SSD Weight W _S (lb)	Oven-Dry Weight W _D (lb)	Absorption (%)	Density (pcf)	Net Volume (ft ³)
Unit #4	6.03	3.42	6.08	5.81	4.6	136.4	0.0426
Unit #5	6.05	3.43	6.09	5.84	4.3	137.3	0.0425
Unit #6	5.98	3.40	6.02	5.76	4.5	137.6	0.0419
Average	6.02	3.42	6.06	5.80	4.4	137.1	0.0423

Comments: These units meet or exceed the compressive strength, absorption, and dimensional requirements of ASTM C936/C936M-09.



Revised Sampling Party.

Nicholas R. Lang
Manager, Research & Development Laboratory