NATIONAL CONCRETE MASONRY ASSOCIATION
RESEARCH & DEVELOPMENT LABORATORY

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ASTM C140/C140M-17b Test Report
Sampling and Testing Concrete Masonry Units and Related Units

Client:
Address: Parker Block
30324 Millsboro Hwy
Millsboro, DE 19966

Job No.: 18-282-6
Report Date: 3/26/2018

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

Standard Specification: ASTM C90-16a

Unit Description: 12 x 8 x 16 inch Concrete Masonry Unit

Sampling Party: Parker Block

Date Samples Received: 3/15/2018

Summary of Test Results

Physical Property	ASTM C90-16a Specified Values	Average Test Results	
Net Compressive Strength	2000 min	2180	psi
Gross Compressive Strength	****	1070	psi
Density	****	101.0	pcf
Absorption	18 max	12.4	pcf
Percent Solid	****	48.8	%
Net Cross-Sectional Area	****	88.36	$in.^2$
Gross Cross-Sectional Area	****	181.03	$in.^2$

Physical Property	ASTM C90-16a Specified Values	Average Test Results	
Min. Faceshell Thickness (t_{fs})	1.25 min	1.55	in.
Min. Web Thickness (t_w)	0.75 min	1.29	in.
Equivalent Web Thickness	****	2.99	in.
Normalized Web Area (A_{wn})	6.5 min	33.3	$in.^2/in.^2$
Equivalent Thickness	****	5.67	in.
Max. Var. from Spec. Dimensions	.125 max	0.055	in.

Individual Unit Test Results

Compression
Units

Date Tested: 3/23/2018

Specimen No.	Received Weight	Cross-Sectional Area * Gross	Cross-Sectional Area * Net	Max. Load	Compressive Strength Gross	Compressive Strength Net
	lb	in^2	in^2	lb	psi	psi
#1	41.52	181.03	88.36	203120	1120	2300
#2	41.54	181.03	88.36	206000	1140	2330
#3	41.78	181.03	88.36	169890	940	1920
Average	41.61	181.03	88.36	193000	1070	2180

* Unit areas determined as the average of the three absorption units and are assumed to be the same as those units tested in compression.

Absorption
Units

Date Tested: 3/20/2018

Specimen No.	Avg Width	Avg Height	Avg Length	Minimum Web Height	Avg./Min. Face Shell Thickness	Min. Web Thickness	Minimum Web Area	Normalized Web Area
	in.	in.	in.	in.	in.	in.	$in.^2$	$in.^2/in.^2$
#4	11.62	7.64	15.58	7.64	1.55	1.30	29.67	33.4
#5	11.63	7.64	15.57	7.64	1.56	1.29	29.57	33.3
#6	11.63	7.63	15.58	7.63	1.55	1.30	29.62	33.3
Average	11.62	7.63	15.58	7.63	1.55	1.29	29.62	33.3

**Where the thinnest points of opposite face shells differ in thickness by less than 0.125 inches, their measurements are averaged.

Date Tested: 3/22/2018 to 3/24/2018

Specimen No.	Received Weight	Immersed Weight	Saturated Weight	Oven-Dry Weight	Absorption	Density	Net Volume	Percent Solid
	lb	lb	lb	lb	pcf	pcf	ft^3	%
#4	41.46	19.84	44.20	39.38	12.3	100.9	0.3904	48.8
#5	41.64	19.85	44.20	39.38	12.4	100.9	0.3902	48.8
#6	41.68	19.96	44.30	39.46	12.4	101.2	0.3901	48.8
Average	41.59	19.88	44.23	39.41	12.4	101.0	0.3902	48.8

Comments: 1) These units meet or exceed the compression strength, absorption and dimensional requirements of ASTM C90-16a.

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Form TR-C140-01
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