

NATIONAL CONCRETE MASONRY RESEARCH & DEVELOPMENT LABORATORY

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

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

Standard Specification: ASTM C90-16a

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

Summary of Test Results

Physical Property
Net Compressive Strength
Gross Compressive Strength
Density
Absorption
Percent Solid
Net Cross-Sectional Area
Gross Cross-Sectional Area

ASTM
C90-16a
Specified
Values
2000 min
18 max
181.03

Average
Test
Results
2180
1070
101.0
12.4
48.8
88.38
181.03

Physical Property
Min. Faceshell Thickness (t_f)
Min. Web Thickness (t_w)
Equivalent Web Thickness
Normalized Web Area (A_{wn})
Equivalent Thickness
Max. Var. from Spec. Dimensions

ASTM
C90-16a
Specified
Values
1.25 min
0.75 min
0.5 min
1.125 max

Average
Test
Results
1.55
1.29
2.99
33.3
5.67
0.055

Individual Unit Test Results

Compression Units

Date Tested:
3/23/2018

Specimen No.	Received Weight lb	Cross-Sectional Area *		Max. Load lb	Compressive Strength	
		Gross in ²	Net in ²		Gross psi	Net psi
#1	41.52	181.03	88.38	203120	1120	2300
#2	41.54	181.03	88.38	206000	1140	2330
#3	41.78	181.03	88.38	199000	940	1920
Average	41.61	181.03	88.38	199000	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

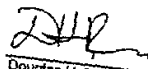
Specimen No.	Avg Width in.	Avg Height in.	Avg Length in.	Minimum Web Height in.	Avg./Min. Face Shell Thickness in.	Min. Web Thickness in.	Minimum Web Area in ²	Normalized Web Area in ² /ft ²
#4	11.62	7.64	16.58	7.64	1.55	1.30	29.67	33.4
#5	11.63	7.64	15.57	7.64	1.56	1.29	29.57	33.3
#6	11.63	7.63	15.58	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 lb	Immersed Weight lb	Saturated Weight lb	Oven-Dry Weight lb	Absorption pcf	Density pcf	Net Volume ft ³	Percent Solid
#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	41.66	19.98	44.30	39.48	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: f) These units meet or exceed the compression strength, absorption and dimensional requirements of ASTM C90-16a.


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