

ASTM C140/C140M-20a Test Report
Sampling and Testing Concrete Masonry Units and Related Units

NCMA Job No: 21-314-12
Report Date: 7/30/2021

Client: Best Block
Address: 2088 FM 949
Alleyton, TX 78935

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

Unit Specification: ASTM C55-17

Unit Description/Designation: 4x16x24 in. CMU
ID: Solid Oversize Normal Weight No. 12

Sampling Party: Best Block (Alleyton)

Date Samples Received: 6/3/2021

Summary of Test Results

Physical Property	ASTM C55-17 Required Value	ASTM C55-17 Tested Value
Net Compressive Strength	2,500 psi minimum	6,880 psi
Density	**** pcf maximum	131.2 pcf
Absorption	13 pcf maximum	7.5 pcf
Net Cross-Sectional Area	**** in ²	25.4 in ²
Maximum Variation from Specified Dimensions	0.125 in. maximum	0.055 in.

Individual Unit Results

Note: Specimens for compressive strength testing reduced in size to conform to specimen configuration requirements of ASTM C140/C140M-20a.

Reduced Compression Units	Specimen	Specimen	Specimen	Aspect Ratio	
	No.	Width in.	Height in.		Length in.
	#1	3.65	2.25	7.03	0.62
	#2	3.63	2.24	7.03	0.62
	#3	3.59	2.27	7.03	0.63
	Average	3.62	2.26	7.03	0.62

Specimen No.	Specimen	Cross-Sectional	Max. Load lb	Compressive Strength Net psi
	Received Wt, W _r lb	Area * Net in ²		
#1	4.42	25.61	185,000	7,220
#2	4.32	25.49	163,380	6,410
#3	4.39	25.22	177,140	7,020
Average	4.38	25.44	175,173	6,880

Date Tested:
7/7/2021

* Net cross-sectional area calculated as the product of the length and the width of the units since units are solid.

Full Size Absorption Units	Specimen	Avg	Avg	Avg
	No.	Width in.	Height in.	Length in.
	#4	3.65	15.65	23.59
	#5	3.63	15.66	23.64
	#6	3.59	15.68	23.59
	Average	3.62	15.66	23.60

Date Tested:
6/11/2021

Specimen No.	Received	Immersed	Saturated	Oven-Dry	Absorp pcf	Density pcf	Net Volume ft ³	Percent Solid %
	Wt, WR lb	Wt, WI lb	Wt, WS lb	Wt, WD lb				
#4	43.32	24.34	44.18	41.90	7.2	131.8	0.3179	100.0
#5	43.18	24.27	44.06	41.56	7.9	131.0	0.3171	100.0
#6	42.42	23.74	43.28	40.96	7.4	130.8	0.3131	100.0
Average	42.97	24.34	43.84	41.47	7.5	131.2	0.3161	100.0

Date Tested:
6/30/2021
to
7/6/2021



Timothy Jones
Manager, Research and Development Laboratory



Jason J. Thompson
Vice President of Engineering