

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

Job No.: 21-314-15
Report Date: 7/30/2021

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

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

Sampling Party: Best Block

Unit Description: 2-1/4x8x16 in. CMU
Mark: 'ID: Solid Normal Weight No. 15'

Date Samples Received: 6/3/2021

Note: Compression specimens have been saw cut from full-size units into coupons in order to comply with the specimen configuration requirements of ASTM C140/C140M-20a.

Summary of Test Results

Physical Property	Tested Values	Physical Property	Tested Values ²
Net Compressive Strength ¹	6000 psi	Min. Faceshell Thickness (t_{fs})	----- in.
Gross Compressive Strength ¹	5990 psi	Min. Web Thickness (t_w)	----- in.
Density ²	136.1 pcf	Equivalent Thickness	2.25 in.
Absorption ²	6.1 pcf	Normalized Web Area	0.00 in. ² /ft ²
		Max. Var. from Spec. Dimensions	0.025 in.
		Percent Solid	100.00 %

¹ Reported values are based on the properties of saw cut compression specimens.

² Reported values are based on the properties of full sized units.

Individual Unit Test Results

Dimensions of Full-Size Units	Avg Width in.	Avg Height in.	Avg Length in.
Unit #1	2.29	7.65	15.62
Unit #2	2.26	7.62	15.61
Date Tested 6/17/2021	2.27	7.62	15.60
Average	2.27	7.63	15.61

Properties of Full-Size Absorption Specimens

Received Wt, W_R	Immersed Wt, W_I	Saturated Wt, W_S	Oven-Dry Wt, W_D	Absorp	Density	Net Volume	Percent Solid		
lb	lb	lb	lb	pcf	pcf	ft ³	%		
Date Tested 6/17/2021	Unit #1	21.94	12.56	22.32	21.42	5.8	136.9	0.1564	100.00
to	Unit #2	21.32	12.17	21.80	20.80	6.5	134.8	0.1543	100.00
6/21/2021	Unit #3	21.60	12.35	21.98	21.06	6.0	136.5	0.1543	100.00
Average		21.62	12.36	22.03	21.09	6.1	136.1	0.1550	100.00

Properties of Saw-Cut Compression Specimens

Received Wt, W_R	Avg Width in.	Avg Height in.	Avg Length in.	Cross-Sectional Area ³		Max. Load lb	Compressive Strength			
				Gross in ²	Net in ²		Gross psi	Net psi		
Unit #1	5.24	2.02	4.03	7.97	16.10	16.10	110,700	6,870	6,870	
Unit #2	5.11	2.02	4.01	7.97	16.10	16.10	89,090	5,530	5,530	
Date Tested 6/23/2021	Unit #3	5.15	2.02	4.00	7.98	16.10	16.10	89,920	5,580	5,580
Average	5.17	2.02	4.01	7.97	16.10	16.10	96,570	5,990	6,000	

³ Unit areas determined as the average width by length of the three saw-cut specimens.



Timothy Jones
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Jason J. Thompson
Vice President of Engineering