NCMA LAB
RESEARCH & DEVELOPMENT

National
Concrete Masonry
Association
13750 Sunrise Valley Drive
Herndon, VA 20171-4662

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July 30, 2021

Matt Perreault
Best Block
2088 FM 949
Alleyton, TX 78935

Please find enclosed the test report conducted in accordance with ASTM C140/C140M-20a, *Standard Test Methods for Sampling and Testing Concrete Masonry Units and Related Units*, that we performed at your request on the following product that you supplied to the NCMA Research and Development Laboratory:

NCMA Project Number: 21-314-6A
4x8x16 in. CMU
ID: Normal Weight No. 6

We take pride in meeting your product evaluation requirements and look forward to continuing to service your testing needs for years to come. Thank you for choosing NCMA's Research and Development Laboratory. Please feel free to contact me directly with any comments or questions at: 571-224-0924 or tjones@ncma.org.

Sincerely,

Timothy Jones
Manager, Research and Development Laboratory

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

NCMA Project Number: 21-314-6A
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

Standard Specification: ASTM C90-16a

Sampling Party: Best Block

Sample Description: 4x8x16 in. CMU
ID: Normal Weight No. 6

Date Samples Received: 6/3/2021

Summary of Test Results

Physical Property	ASTM C90-16a Specified Values	Average Test Results		Physical Property	ASTM C90-16a Specified Values	Average Test Results	
Net Compressive Strength	2,000 min	6,350	psi	Min. Face Shell Thickness (t_{fs})	0.75 min	1.01	in.
Gross Compressive Strength	****	4,710	psi	Min. Web Thickness (t_w)	0.75 min	1.08	in.
Density	****	123.3	pcf	Equivalent Web Thickness	****	3.32	in.
Absorption	15 max	7.4	pcf	Normalized Web Area (A_{wn})	6.5 min	36.5	$in.^2/ft^2$
Percent Solid	****	74.1	%	Equivalent Thickness	****	2.68	in.
Net Cross-Sectional Area	****	41.84	$in.^2$	Maximum Variation from			
Gross Cross-Sectional Area	****	56.47	$in.^2$	Specified Dimensions	.125 max	0.13	in.

Individual Unit Test Results

Compression Units	Specimen No.	Received Weight lb	Cross-Sectional Area* Gross in^2	Cross-Sectional Area* Net in^2	Maximum Load lb	Compressive Strength Gross psi	Compressive Strength Net psi
Date Tested:	1	23.1	56.5	41.8	261,430	4,630	6,250
6/21/2021	2	22.9	56.5	41.8	289,640	5,130	6,920
	3	22.8	56.5	41.8	246,220	4,360	5,880
	Average	22.9	56.5	41.8	265,760	4,710	6,350

* 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	Specimen No.	Average Width in.	Average Height in.	Average Length in.	Minimum Web Height in.	Avg./Min. Face Shell Thickness** in.	Min. Web Thickness in.	Minimum Web Area $in.^2$	Normalized Web Area $in.^2/ft^2$
Date Tested:	4	3.62	7.54	15.60	7.54	1.00	1.10	33.00	37.1
6/19/2021	5	3.63	7.52	15.59	7.52	1.02	1.07	32.09	36.1
	6	3.63	7.50	15.59	7.50	1.01	1.08	32.24	36.3
	Average	3.62	7.52	15.59	7.52	1.01	1.08	32.44	36.5

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

	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 %
Date Tested:	4	23.0	12.6	23.9	22.6	7.5	123.7	0.183	74.2
6/17/2021	5	22.8	12.4	23.8	22.4	7.4	123.3	0.182	74.0
to	6	22.7	12.3	23.6	22.3	7.3	123.0	0.181	74.0
6/21/2021	Average	22.9	12.4	23.8	22.4	7.4	123.3	0.182	74.1

Representative Test Specimen

Timothy James
Manager, Research and Development Laboratory

Jason J. Thompson
Vice President of Engineering