



Concrete Masonry & Hardscapes Association  
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April 22, 2024

Chris Washington  
Texas Building Products  
3261 Highway 108  
Strawn, TX 76475

Please find enclosed the test report conducted in accordance with ASTM C140/C140M-23a, *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 CMHA Research and Development Laboratory:

CMHA Project Number: 24-182-1A  
8x8x16 inch CMU  
Mark: 8816 Standard Gray

The attached report includes results documenting the tested compressive strength of the concrete masonry units submitted for evaluation. The compressive strength of a masonry assembly constructed using these units can be calculated using the Unit Strength Method as outlined in Section 1.4 B.2.b of *Specification for Masonry Structures* (TMS 602-13/ACI 530.1-13/ASCE 6-13) as referenced in the 2015 *International Building Code*; or as outlined in Section 1.4 B.2.b of *Specification for Masonry Structures* (TMS 602-16) as referenced in the 2018 and 2021 *International Building Codes*.

The net area compressive strength of these concrete masonry units is: 3,080 psi

Using the Unit Strength Method, the net area compressive strength of masonry constructed with these units can be considered to be the following for projects designed under the 2015, 2018, or 2021 *International Building Codes*:

Net Area Compressive Strength of Masonry When Used with Type M or S Mortar =	2,430	psi
Net Area Compressive Strength of Masonry When Used with Type N Mortar =	2,140	psi

The values provided above can be compared directly to the specified compressive strength of masonry,  $f'_m$ . If these values exceed  $f'_m$ , compliance with the specified compressive strength of masonry has been demonstrated. Please note that the contents of this report are not to be reproduced, except in full, without the written approval of the CMHA Research and Development Laboratory.

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 CMHA's Research and Development Laboratory. Please feel free to contact me directly with any comments or questions at: 571-224-0935 or [nlang@masonryandhardscapes.org](mailto:nlang@masonryandhardscapes.org).

Sincerely,

Nicholas R. Lang  
Vice President of Engineering, Masonry



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**ASTM C140/C140M-23a Test Report**  
**Sampling and Testing Concrete Masonry Units and Related Units**

CMHA Project Number: 24-182-1A  
 Report Date: 4/22/2024

Client: Texas Building Products  
 Address: 3261 Highway 108  
 Strawn, TX 76475

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

Standard Specification: ASTM C90-23

Sampling Party: Texas Building Products  
 Date Samples Produced: 3/1/2024  
 Date Samples Received: 3/22/2024

Sample Description: 8x8x16 inch CMU  
 Mark: 8816 Standard Gray

**Summary of Test Results**

Physical Property	ASTM C90-23 Specified Values			ASTM C90-23 Average Test Results		
	Values	Results		Values	Results	
Net Compressive Strength	2,000 min	3,080	psi	Min. Face Shell Thickness ( $t_{fs}$ )	1.25 min	1.27 in.
Gross Compressive Strength	****	1,580	psi	Min. Web Thickness ( $t_w$ )	0.75 min	1.03 in.
Density	****	118.6	pcf	Equivalent Web Thickness	****	2.71 in.
Absorption	15 max	12.9	pcf	Normalized Web Area ( $A_{wn}$ )	6.5 min	30.1 in. <sup>2</sup> /ft <sup>2</sup>
Percent Solid	****	51.2	%	Equivalent Thickness	****	3.91 in.
Full-Size Unit Net Cross-Sectional Area	****	60.94	in. <sup>2</sup>	Maximum Variation from Specified Dimensions	.125 max	0.05 in.
Full-Size Unit Gross Cross-Sectional Area	****	119.11	in. <sup>2</sup>			

**Individual Unit Test Results**

Compression Units	Specimen No.	Received Weight lb	Cross-Sectional Area*		Maximum Load lb	Compressive Strength	
			Gross in <sup>2</sup>	Net in <sup>2</sup>		Gross psi	Net psi
Date Tested: 4/1/2024	1	32.0	119.1	60.9	189,720	1,590	3,110
	2	32.1	119.1	60.9	182,880	1,540	3,000
	3	32.4	119.1	60.9	191,140	1,600	3,140
	Average	32.2	119.1	60.9	187,910	1,580	3,080

\* 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.	Min. Web Thickness in.	Minimum Web Area in. <sup>2</sup>	Normalized Web Area in. <sup>2</sup> /ft <sup>2</sup>
						Face Shell Thickness** in.			
Date Tested: 3/27/2024	4	7.63	7.63	15.58	7.63	1.27	1.03	26.85	30.2
	5	7.64	7.59	15.59	7.59	1.27	1.03	26.71	30.0
	6	7.67	7.62	15.57	7.62	1.27	1.02	26.83	30.2
	Average	7.65	7.61	15.58	7.61	1.27	1.03	26.79	30.1

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

Date Tested:	Specimen No.	Received Weight lb	Immersed Weight lb	Saturated Weight lb	Oven-Dry Weight lb	Absorption pcf	Density pcf	Net Volume ft <sup>3</sup>	Percent Solid %
3/29/2024	4	32.1	18.5	35.2	31.7	13.1	118.2	0.268	51.2
to	5	32.2	18.5	35.2	31.8	12.9	118.8	0.267	51.2
4/1/2024	6	32.5	18.7	35.5	32.0	12.8	118.9	0.269	51.2
	Average	32.2	18.6	35.3	31.8	12.9	118.6	0.268	51.2

Nicholas R. Lang  
 Vice President of Engineering, Masonry



Representative Test Specimen