



**NATIONAL  
CONCRETE MASONRY  
ASSOCIATION**

Sustainable Concrete Products for Structures and Hardscapes

13750 Sunrise Valley Drive  
Herndon, VA 20171-4662  
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April 12, 2013

Terry Popham  
Texas Building Products  
3261 State Highway 108  
Strawn, TX 76475-2706

Please find enclosed a copy of a test report that we performed at your request on the following product that you supplied to the NCMA Research and Development Laboratory:

8 x 8 x 16 Inch Concrete Masonry Unit  
Mark "NW"

NCMA Job Number: 13-232-3A

We are pleased to report that the tested properties from this report comply with the applicable requirements of ASTM C 90-12, Standard Specification for Loadbearing Concrete Masonry Units.

The attached report includes the tested compressive strength of the concrete masonry unit. The compressive strength of masonry 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 602-11 / ACI 530.1-11 / ASCE 6-11). In accordance with this method, the compressive strength of masonry is a function of unit strength and mortar type. As shown in the attached test report...

Net Area Compressive Strength of  
8 x 8 x 16 Inch Concrete Masonry Unit  
Mark "NW" 6140 psi

Therefore, the net area compressive strength of masonry when these units are used, can be considered to be the following:

	Net Area Compressive Strength of Masonry	
<u>When used with:</u>		
Type M or S mortar	3000	psi
Type N mortar	3000	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 has been documented.

The Unit Strength Method is acknowledged to be a conservative method for determining compliance with the specified compressive strength of masonry. A second method, the Prism Test Method can also be used. The results from the Prism Test Method will likely not be the same as the results of the Unit Strength Method above, and a higher compressive strength of masonry value will usually be obtained from the Prism Test Method.

Sincerely,

Nicholas R. Lang  
Manager, Research & Development Laboratory



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**ASTM C140-12a Test Report  
Sampling and Testing Concrete Masonry Units and Related Units**

Job No.: 13-232-3A  
Report Date: 4/12/2013

Client: Texas Building Products  
Address: 3261 State Highway 108  
Strawn, TX 76475-2706

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

Standard Specification: ASTM C90-12

Sampling Party: Texas Building Products

Unit Description: 8 x 8 x 16 Inch Concrete Masonry Unit  
Mark "NW"

Date Samples Received: 1/25/2013

**Summary of Test Results**

Physical Property	ASTM C90-12 Specified Values	Average Test Results	Physical Property	ASTM C90-12 Specified Values	Average Test Results
	Net Compressive Strength	1900 min		6140 psi	Min. Faceshell Thickness ( $t_{fs}$ )
Gross Compressive Strength	****	3380 psi	Min. Web Thickness ( $t_w$ )	0.75 min	1.41 in.
Density	****	132.5 pcf	Equivalent Web Thickness	****	3.25 in.
Absorption	13 max	8.1 pcf	Normalized Web Area ( $A_{wn}$ )	6.5 min	36.3 in. <sup>2</sup> /ft <sup>2</sup>
Percent Solid	****	55.0 %	Equivalent Thickness	****	4.18 in.
Net Cross-Sectional Area	****	65.44 in. <sup>2</sup>	Max. Var. from Spec. Dimensions	.125 max	0.050 in.
Gross Cross-Sectional Area	****	119.00 in. <sup>2</sup>			

**Individual Unit Test Results**

Compression Units	Specimen No.	Received Weight lb	Cross-Sectional Area *		Max. Load lb	Compressive Strength	
			Gross in <sup>2</sup>	Net in <sup>2</sup>		Gross psi	Net psi
			#1	39.32		119.00	65.44
#2	38.98	119.00	65.44	366740	3080	5600	
#3	37.94	119.00	65.44	406120	3410	6210	
Average	38.75	119.00	65.44	401830	3380	6140	

\* 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.	Avg Width in.	Avg Height in.	Avg Length in.	Avg./Min. Face Shell Thickness in.	Min. Web Thickness in.	Minimum Web Area in. <sup>2</sup>	Normalized Web Area in. <sup>2</sup> /ft <sup>2</sup>								
									#4	7.61	7.62	15.65	1.27	1.41	32.31	36.3
									#5	7.61	7.62	15.68	1.26	1.41	32.28	36.3
#6	7.60	7.61	15.63	1.26	1.41	32.13	36.1									
Average	7.60	7.61	15.65	1.27	1.41	32.24	36.3									

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

Date Tested: 2/22/2013 to 2/26/2013	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 %									
										#4	39.20	22.81	40.86	38.58	7.9	133.4	0.2893	55.1
										#5	38.96	22.62	40.62	38.32	8.0	132.8	0.2885	54.9
#6	38.34	22.26	40.18	37.72	8.6	131.3	0.2872	54.9										
Average	38.83	22.56	40.55	38.21	8.1	132.5	0.2883	55.0										

Comments: These units meet or exceed the compressive strength, absorption and dimensional requirements of ASTM C90-12.

Nicholas R. Lang  
Manager, Research & Development  
Laboratory