



# Sampling and Testing Concrete Masonry Units

Birmingham, Alabama  
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ASTM C140

Project Name: Blair Block	Report Date: 9/18/2023
Project #: BH230196	Test Date(s): 8-29 to 8-31
Client Name: Blair Block	Sample Date: NA
Sample Location: Blair Block Plant	Date Received: 9/11/2023
Unit Specification: ASTM C90	
Unit Designation/Description: 12" CMU With CJ	

## Summary of Test Results

Physical Property	Avg. Test Results
Net Compressive Strength:	2330 psi
Gross Compressive Strength:	1130 psi
Density:	105.7 pcf
Absorption:	12.2 pcf
Absorption:	11.5 %
Net Cross-Sectional Area:	87.7 in <sup>2</sup>
Gross Cross-Sectional Area:	181.0 in <sup>2</sup>

Physical Property	Avg. Test Results
Min. Faceshell Thickness (t <sub>fs</sub> ):	1.55 in
Min. Web Thickness (t <sub>w</sub> ):	1.27 in
Normalized Web Area (A <sub>wn</sub> ):	32.5 in <sup>2</sup> /ft <sup>2</sup>
Equivalent Thickness:	5.62 in
Percent Solid:	48.4 %
Max. Variation from Spec.: Dim.:	0.41 in
Fire Rating (NCMA TEK 7):	4 hrs

### Absorption Units

Samle Number	Avg. Width (in)	Avg. Height (in)	Avg. Length (in)	Avg./Min. Face Shell Thickness (in)	Min. Web Thickness (in)	Min. Web Area (in <sup>2</sup> )	Normalized Web Area (in <sup>2</sup> /ft <sup>2</sup> )
#1	11.6	7.6	15.6	1.57	1.28	29.0	32.6
#2	11.6	7.6	15.6	1.54	1.25	28.6	32.2
#3	11.6	7.6	15.6	1.56	1.28	29.0	32.7
Average:	11.6	7.6	15.6	1.55	1.27	28.9	32.5

Samle Number	Received Weight (lb)	Immersed Weight (lb)	Saturated Weight (lb)	Oven-Dry Weight (lb)	Absorption (pcf)	Absorption (%)	Density (pcf)	Net Volume (ft <sup>3</sup> )	Percent Solid (%)
#1	42.3	21.4	45.4	40.6	12.5	11.8	105.6	0.3846	48.4%
#2	41.7	21.4	45.1	40.4	12.4	11.6	106.4	0.3798	47.7%
#3	42.8	21.3	45.7	41.1	11.8	11.2	105.1	0.3910	49.1%
Average:	42.3	21.4	45.4	40.7	12.2	11.5	105.7	0.3851	48.4%

### Compression Units

Samle Number	Received Weight (lb)	Area (in <sup>2</sup> )		Max Load (lbs)	Compressive Strength (psi)	
		Gross	Net		Gross	Net
#4	42.2	181.2	87.7	198,001	1,094	2,259
#5	41.9	180.9	86.4	205,535	1,135	2,344
#6	42.1	181.0	88.9	209,509	1,157	2,390
Average:	42.1	181.0	87.7	204,350	1,130	2,330

Notes:

<b>DG</b>  <i>Performed By</i>	<b>Darrell Gargis</b>  <i>QA Reviewer</i>	<b>Laboratory Supervisor</b>  <i>Position/Title</i>	  <i>Signature</i>	<b>9-18-23</b>  <i>Date</i>
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