



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:	8" CMU Light Weight		

Summary of Test Results

Physical Property	Avg. Test Results	Physical Property	Avg. Test Results
Net Compressive Strength:	2440 psi	Min. Faceshell Thickness (t_{fs}):	1.36 in
Gross Compressive Strength:	1170 psi	Min. Web Thickness (t_w):	1.16 in
Density:	104.2 pcf	Normalized Web Area (A_{wn}):	37.1 in ² /ft ²
Absorption:	13.0 pcf	Equivalent Thickness:	3.62 in
Absorption:	12.4 %	Percent Solid:	47.8 %
Net Cross-Sectional Area:	56.5 in ²	Max. Variation from Spec.: Dim.:	0.05 in
Gross Cross-Sectional Area:	118.2 in ²	Fire Rating (NCMA TEK 7):	1.75 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 ²)	Normalized Web Area (in ² /ft ²)
#1	7.6	7.7	15.6	1.38	1.16	35.5	39.9
#2	7.6	7.7	15.6	1.36	1.16	35.5	39.9
#3	7.6	7.7	15.6	1.36	1.16	28.0	31.5
Average:	7.6	7.7	15.6	1.36	1.16	33.0	37.1

Samle Number	Received Weight (lb)	Immersed Weight (lb)	Saturated Weight (lb)	Oven-Dry Weight (lb)	Absorption (pcf)	Absorption (%)	Density (pcf)	Net Volume (ft ³)	Percent Solid (%)
#1	27.2	13.7	29.3	26.0	13.2	12.7	104.0	0.2500	47.9%
#2	27.3	13.7	29.4	26.1	12.9	12.4	104.1	0.2510	48.0%
#3	27.2	13.7	29.3	26.1	12.8	12.3	104.4	0.2500	47.6%
Average:	27.2	13.7	29.3	26.1	13.0	12.4	104.2	0.2503	47.8%

Compression Units

Samle Number	Received Weight (lb)	Area (in ²)		Max Load (lbs)	Compressive Strength (psi)	
		Gross	Net		Gross	Net
#4	27.4	117.8	56.5	142,747	1,208	2,525
#5	27.5	118.2	56.7	133,432	1,129	2,360
#6	27.3	118.6	56.5	137,377	1,163	2,430
Average:	27.4	118.2	56.5	137,850	1,170	2,440

Notes:

DG	Darrel Gargis	Laboratory Supervisor	9-18-23
Performed By	QA Reviewer	Position/Title	Signature
			Date