

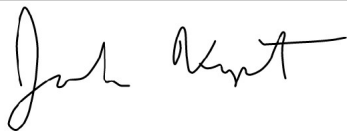


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Masonry Test Report

Report No: CU:17-20999-M3
Issue No: 1

Client: MARSHALL CONCRETE PRODUCTS **CC:** Dave Meyer
 Fish Fischer
Project: Production Check - Marshall
 Minneapolis, MN
Job No: 20-16173

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Date of Issue: 10/27/2017
Reviewed By: John Haupt
 Senior Engineer

Sample Details	
Sample ID:	17-20999-M3
Specification:	ASTM C90
Supplier:	MARSHALL CONCRETE PRODUCTS
Size:	12" x 8" x 16"
Sample Location:	
Set No.:	20-16173-3
Date Received:	10/12/2017
Type of Unit(s):	Plain

Average Test Results	
Width (in):	11.7
Length (in):	15.6
Height (in):	7.6
Minimum Web Thickness (in):	1.33 ≥ 0.75
Equivalent Thickness (in):	5.3
Gross Area (in²):	181.9
Immersed Weight (lb):	29.2
Oven Dry Weight (lb):	48.5
Density (pcf):	132.2 ≥ 125
Absorption (pcf):	9.6 ≤ 13
Minimum Face Shell Thickness (in):	1.29 ≥ 1.25
Normalized Web Area (in²/ft²):	446.4 ≥ 6.5
Net Area (in²):	83.3
Percent Solid:	45.8
Saturated Weight (lb):	52.1
Maximum Load (lbf):	415260

Dimensions of Concrete Masonry Units										ASTM C 140
Specimen ID	Date Tested	Width (in)	Height (in)	Length (in)	Min. Face Shell (in)	Min. Web Thickness (in)	Gross Volume (ft ³)	Gross Area (in ²)	Weight Oven Dry (lb)	Net Area (in ²)
20-16173-3\1	10-19-17	11.6	7.6	15.6	1.29	1.35	0.80	181.0	48.1	83.1
20-16173-3\2	10-19-17	11.7	7.7	15.7	1.27	1.33	0.81	183.1	48.9	83.3
20-16173-3\3	10-19-17	11.7	7.6	15.6	1.31	1.32	0.80	181.7	48.6	83.4

Compression of Concrete Masonry Units									ASTM C 140
Specimen ID	Date Tested	Width (in)	Height (in)	Length (in)	Maximum Load (lbf)	Gross Area (in ²)	Net Area (in ²)	Gross Strength (psi)	Net Strength (psi)
20-16173-3\4	10-26-17	11.6	7.6	15.6	457420	181.0	5490	2530	
20-16173-3\5	10-26-17	11.7	7.7	15.7	355100	183.7	4260	1930	
20-16173-3\6	10-26-17	11.7	7.6	15.6	433280	182.5	5200	2370	
Average Compressive Strength (psi)							4980	2280	
Specified Strength (psi)							2000		

Notes	Remarks
	The samples meet ASTM:C90-16a specifications for concrete masonry units.