

Giles Engineering Associates, Inc.

GEOTECHNICAL, ENVIRONMENTAL AND CONSTRUCTION MATERIALS CONSULTANTS
N8 W22350 JOHNSON DRIVE, SUITE A1 / WAUKESHA, WI 53186 / (262) 544-0118 / FAX: (262) 549-5868

Report of Tests on Concrete Masonry Units

CLIENT: County Materials Corp.-Corporate Office
205 North Street / P.O. Box 100
Marathon, Wisconsin

PROJECT: WCMA Certification 2007

DATE: February 8, 2007

PROJ. NO.: 1M-0611004

Nominal Size & Type: 12-inch Sound Cell - Lightweight Concrete Block, Two Cell
12 by 8 by 16

Lab No.: B-06198

Units Manufactured by: County Materials, Corp. - Milwaukee

Date Received: 10/12/2006

Units sampled by: client

Date Made:

Sampled from: plant stock

Material: Expanded Clay or Shale

Dimensional Analysis

Unit ID	Dimensions (in)			Area (in ²)		Volume (ft ³)	
	Width	Height	Length	Net	Gross	Net	Gross
198B	10.68	7.65	15.55	86.21	165.94	0.3814	0.73
198E	10.68	7.61	15.52	86.24	165.62	0.3798	0.73
198F	10.72	7.60	15.53	86.60	166.48	0.3806	0.73
Average	10.69	7.62	15.53	86.35	166.02	0.3806	0.73

Minimum Average Face Shell Thickness (in): 1.50

Equivalent Thickness (in): 5.6

Minimum Average Web Thickness (in): 1.23

Equivalent Web Thickness (in): 2.9

Average Cell Space (%): 47.98

Absorption Analysis

Unit ID	Block Weights (lbs)				Absorption pcf	Moisture %	Moisture Content (%)	Density (pcf)
	Received	Immersed	Wet (24hr)	Oven Dry				
198B	41.80	20.65	44.45	40.00	11.7	11.1	40.4	104.9
198E	41.35	20.50	44.20	39.80	11.6	11.1	35.2	104.8
198F	41.40	20.50	44.25	39.95	11.3	10.8	33.7	105.0
Average	41.52	20.55	44.30	39.92	11.5	11.0	36.5	104.9

**Absorption Specifications
(Maximum Limits)**

Individual		
Average	18	

Compressive Strength Analysis

Unit ID	Test Date	Test Age (days)	Maximum Load (lbs)	Net Area (sq in)	Compressive Strength (psi)	Fracture Type	Remark
198A	11/15/2006		276695	86.21	3210		
198C	11/15/2006		277885	85.70	3240		
198D	11/15/2006		279075	86.60	3220		
Average			277885	86.17	3223		

**ASTM Specified Minimum
Compressive Strength**

Individual	1700
Average	1900

Test Method Used: ASTM C 140

Specification Used: ASTM C 90

Comment: Units meet or exceed specifications according to ASTM C 90 'Loadbearing Concrete Masonry Units' for dimensional tolerance, absorption, and compressive strength.

Reviewing Engineer: Charles S. Gresser, P.E.

Giles Engineering Associates, Inc.

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 N8 W22350 JOHNSON DRIVE, SUITE A1 / WAUKESHA, WI 53186 / (262) 544-0118 / FAX: (262) 549-5868

Report of Tests on Concrete Masonry Units

CLIENT: County Materials Corp.
 Menomonee Falls, WI

PROJECT: County Materials Corp.
 WCMA Certification 2003
 Menomonee Falls, WI

DATE: September 9, 2003

PROJ. NO.: 1M-0309007

Nominal Size & Type: 12-inch Normal Weight Sound Cell Concrete Block
 12 by 8 by 16

Lab No.: B-03083

Date Received: 3/4/03

Units Manufactured by: County Materials, Corp. - Lilly Road

Date Made:

Units sampled by: Giles

Material: Limestone

Sampled from: plant stock

Dimensional Analysis

Unit ID	Dimensions (in)			Area (in ²)		Volume (ft ³)	
	Width	Height	Length	Net	Gross	Net	Gross
8-9A	11.68	7.63	15.55	86.74	181.49	0.3830	0.80
8-9B	11.66	7.61	15.55	86.79	181.25	0.3822	0.80
8-9E	11.69	7.64	15.58	86.45	182.07	0.3822	0.80
Average	11.68	7.63	15.56	86.66	181.60	0.3825	0.80

Minimum Average Face Shell Thickness (in): 1.50

Equivalent Thickness (in): 5.6

Minimum Average Web Thickness (in): 1.27

Equivalent Web Thickness (in): 2.9

Average Cell Space (%): 52.52

Absorption Analysis

Unit ID	Received	Block Weights (lbs)			Absorption		Moisture Content (%)	Density (pcf)
		Immersed	Wet (24hr)	Oven Dry	pcf	%		
8-9A	53.80	32.15	56.05	52.50	9.3	6.8	36.6	137.1
8-9B	53.40	32.10	55.95	52.35	9.4	6.9	29.2	137.0
8-9E	53.60	32.05	55.90	52.40	9.2	6.7	34.3	137.1
Average	53.60	32.10	55.97	52.42	9.3	6.8	33.4	137.0

Absorption Specifications
 (Maximum Limits)

Individual		
Average	13	

Compressive Strength Analysis

Unit ID	Test Date	Test Age (days)	Maximum Load (lbs)	Net Area (sq in)	Compressive Strength (psi)	Fracture Type	Remark
8-9C	3/11/03		337650	86.74	3890		
8-9D	3/11/03		338830	86.79	3900		
8-9F	3/11/03		327950	86.45	3790		
Average			334810	86.66	3860		

Specified Minimum
 Compressive Strength

Individual	1700
Average	1900

Test Method Used: ASTM C 140-01

Comment: Units meet or exceed specifications according to ASTM C 90-02 'Loadbearing Concrete Masonry Units' for dimensional tolerance, absorption, and compressive strength.

Specification Used: ASTM C 90-02

Reviewing Engineer: Charles S. Gresser, P.E.

GILES ENGINEERING ASSOCIATES, INC.
CONCRETE MASONRY UNIT TESTING

Project No. 1M-9912024

Results of tests on 12" SOUND CELL; Concrete Block

Date 1/11/00

Nominal size and type 12"x 8"x 16"

IDENTIFICATION OF SPECIMENS

Units manuf. by _____	Date Made _____
Brand Mark _____	Material <u>Crushed Limestone</u>
Specimens selected by <u>AW</u>	Title _____ Date <u>12/20/99</u>
Sampled from <u>Plant Stock</u>	Quantity Represented _____
Job <u>WCMA Certification</u>	Type of Work _____
Identification Marks or Seals <u>CMU 24-2 (SOUND CELL)</u>	

Date Received at Lab 1/5/00

ABSORPTION TEST

Specimen No.	24-2A	24-2B	24-2F				Average
Sampled weight (lbs.)	54.65	54.50	55.55				54.90
Immersed weight (lbs.)	31.90	31.85	32.80				32.18
Wet weight (24 hr.) (lbs.)	56.20	56.15	57.15				56.50
Oven dry weight (lbs.)	53.05	52.95	54.45				53.48
Weight per cu. ft. (dry) (lbs.)	136.2	136.0	139.5				137.2
Absorption (%)	5.9	6.0	5.0				5.6
Moisture content (% of abs.)	50.79	48.44	40.74				46.66
Absorption (lbs./cu. ft.)	8.1	8.2	6.9				7.7

COMPRESSION TEST

Test date	Age			Condition			
Specimen No.	24-2C	24-2D	24-2E				Average or Variation
Air-dry weight (lbs)	55.15	55.20	55.10				55.15
Height (in.)	7.61	7.60	7.63				7.61
Width (in.)	11.66	11.66	11.65				11.66
Length (in.)	15.59	15.59	15.58				15.59
Gross area (sq. in.)	181.78	181.78	181.37				181.64
Gross volume (cu. ft.)	0.80	0.80	0.80				0.80
Net area (sq.in.)	88.43	88.60	88.38				88.47
Net volume (cu. ft.)	0.3894	0.3894	0.3902				0.3897
Ultimate load (lbs)	388,630	403,740	371,580				387,983
Compress. Strength	Gross area (psi)	2140	2220	2050			2140
	Net area (psi)	4390	4560	4200			4390
Type of fracture							
Equivalent thickness (in.)	5.7	5.7	5.7				5.7
Equiv. web thickness (in.)	2.87	2.88	2.87				2.87

GENERAL DATA

Face shell thickness (in., min. ave.) <u>1.51</u>	Web Thickness (in., min. ave.) <u>1.21</u>
Cells _____	Ave. Cell Space (%) <u>51.29</u>
Test Method <u>ASTM C140 - 98</u>	

SPECIFICATIONS (ASTM C90)

Compressive strength (min., psi)	Gross area	Ind.	Ave.	Absorption (max.)	(%)-(lbs/cu. ft.)	Ind.	Ave.
		Net area	1700			1900	

Remarks _____

Report to _____

 Charles S. Gresser P. E.
 REVIEWING ENGINEER

GILES ENGINEERING ASSOCIATES, INC.
CONCRETE MASONRY UNIT TESTING

12" PRISM SOUNDCELL

Results of tests on Block Prisms Project No. 1M-9609026
 Nominal size and type Acoustical Date 9/2/96

IDENTIFICATION OF SPECIMENS

Units manufactured by Best Block Date Made 8/30/96
 Brand Mark None Material ---
 Specimens selected by Client Title --- Date ---
 Sampled from --- Quantity Represented ---
 Job --- Type of Work ---
 Identification Marks or Seals ---

Date Received at Lab 9/2/96

ABSORPTION TEST

Specimen No.		Average
Sampled weight (lbs.)	BLOCK PRISM TEST UTILIZING "N" MORTAR 12" UNIT	
Immersed weight (lbs.)		
Wet weight (24 hr.) (lbs.)		
Oven dry weight (lbs.)		
Weight per cu. ft. (dry) (lbs.)		
Absorption (%)		
Moisture content (% of abs.)		
Absorption (lbs./cu. ft.)		

COMPRESSION TEST

Test date	9/27/96	Age	28	Condition	
Specimen No.					Average or Variation
Air-dry weight (lbs.)					
Height (in.)					
Width (in.)					
Length (in.)					
Gross area (sq. in.)					
Gross volume (cu. ft.)					
Net area (%)	67.63	67.63	67.63		67.63
Net volume (cu. ft.)					
Ultimate load (lbs.)	220,400	236,724	206,243		221,122
Compress. Strength	Gross area (psi)				
	Net area (psi)	3260	3500	3050	3270
Type of fracture					
Equivalent Thickness (in.)					

GENERAL DATA

Face shell thickness (in., min. ave.) _____ Web Thickness (in., min. ave.) _____
 Equivalent web thickness (in./lin. ft., ave.) _____
 Cells _____ Ave. Cell Space (%) _____
 Test Method _____

SPECIFICATIONS

		Ind.	Ave.		Ind.	Ave.
Compressive strength (min., psi)	Gross area			Absorption (%) - (max.) (lbs/cu. ft.)		
	Net area					

Remarks Center web not mortared Two Block High - Stack Bond
Net area determined by dimension

Report to _____

Charles S. Gresser P. E.
REVIEWING ENGINEER