



Project: County Materials-Lab Testing
Waukesha, WI

Client: County Materials Corporation
205 North Street
PO Box 100
Marathon, WI 54448
Attention: Bob Goldman

Giles Project No.: 1M- 1802003

Sample ID No.: B-180806

Report Date: July 18, 2018

Sample Description: 70mm County Materials Pavers
W x H x L: 8-inch by 3-inch by 8-inch
Material:
Block Type: Concrete Interlocking Pavers
Weight Type: Normal weight

Manufacturer: County Materials Corp.-Janesville, WI
Sampled By: Client
Source: Janesville
Specification: ASTM C936
Sampled from: plant stock
Date Made:
Date Rec'd at Lab: 6/22/2018

DIMENSIONAL ANALYSIS, ASTM C 140

BLOCK ID	DIMENSIONS, in			MINIMUM THICKNESS, in		WEB HT, in	AREA, in ²		% SOLID	VOLUME, ft ³ NET
	WIDTH	HEIGHT	LENGTH	FACE SHELL	WEB		NET	GROSS		
180806A	7.7	2.8	7.7				59.3	59.4	99.9	0.10
180806B	7.7	2.8	7.7				58.5	59.1	99.0	0.09
180806C	7.7	2.8	7.7				58.4	59.3	98.6	0.10
AVERAGE	7.7	2.8	7.7				58.8	59.3	99.2	0.10

EQUIVALENT THICKNESS, in:

AVE CELL SPACE, %:

MAX. VARIANCE FROM SPECIFIED DIMENSIONS, in: 0.08

SPECIFIED MAX VARIANCE, in: 0.125

AVE NORMALIZED WEB AREA, in²/ft²:

TESTED BY: DTA

ABSORPTION ANALYSIS, ASTM C 140

BLOCK ID	RECEIVED	BLOCK WEIGHTS, lbs			DENSITY pcf	ABSORPTION		TESTED BY
		IMMERSED	WET (24-HR)	OVEN DRY		pcf	%	
180806A	13.8	8.1	14.1	13.5	139.9	5.9	4.2	DTA
180806B	13.7	8.0	13.9	13.4	141.2	5.3	3.7	DTA
180806C	13.7	8.0	13.9	13.4	141.0	5.3	3.7	DTA
AVERAGE	13.8	8.0	14.0	13.4	140.7	5.5	3.9	
TEST SAMPLE CONFIGURATION		ABSORPTION SPECIFICATIONS			INDIVIDUAL	7		
full block		(MAXIMUM LIMITS)			AVERAGE	5		

COMPRESSIVE STRENGTH ANALYSIS, ASTM C 140

BLOCK ID	TEST DATE	TEST AGE	MAX. LOAD, lbs	AREA, in ²		COMPR. STR., psi		TESTED BY	COMMENTS
				COUPON	GROSS	NET A	GROSS A		
180806D	7/13/2018		248420	29.7	59.4	8370		DTA	Nominal 4-in x 3-in x 8-in coupon.
180806E	7/13/2018		245900	29.2	59.1	8410		DTA	Nominal 4-in x 3-in x 8-in coupon.
180806F	7/17/2018		247600	29.7	59.3	8340		DTA	Nominal 4-in x 3-in x 8-in coupon.
AVERAGE			247307	29.5		8373	n/a-cpn		
Testing started on 7/5/2018 and ended on 7/13/2018.					SPEC'D MIN. NET AREA		INDIVIDUAL	7200	
					COMPR. STRENGTH, psi		AVERAGE	8000	

Comments:

Thickness/Width aspect factor applied to compressive strength.

Reviewed by: Steven P. Homar, P.E.

GILES ENGINEERING ASSOCIATES, INC.

-GEOTECHNICAL, ENVIRONMENTAL AND CONSTRUCTION MATERIALS CONSULTANTS-

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

Client:	County Materials Corp.	Project:	Freeze-thaw Testing
Address:	205 North Street PO Box 100 Marathon, WI 54448	Project No.:	1M-1802003
Report Date:	August 24, 2018	Giles Lab No.:	B180806

Paver Freeze-Thaw Durability Test Method ASTM C1645-16

Manufactured by:	County Materials Corp. Janesville, WI
Unit Description:	70mm Paver
Sampling Party:	County Materials Corp.
Specimen Dimensions (mm):	196 x 71 x 196
Total Surface Area by measurement	0.1325 square meter
Test Period:	July 27, 2018 - August 24, 2018
Test Media:	Water

Unit No.	Accumulative Residue Weight (nearest 0.2 g.)		Mass Lost (grams/square meter)		
	Cycle No.:				
1	7	0.00	1.00	7.39	
2	28	0.00	0.80	5.43	
3		0.00	0.80	6.03	
Ave.		0.00	0.87	6.28	Pass

Loss of mass of three full-size pavers shall not be greater than 225 grams/ square meter of total surface area of the individual paver after 28 cycles of freezing and thawing. Test Specification ASTM C936-16

Reviewing Engineer : Steven P. Homar, P.E.



Project: County Materials-Lab Testing
Waukesha, WI

Client: County Materials Corporation
205 North Street
PO Box 100
Marathon, WI 54448
Attention: Bob Goldman

Giles Project No.: 1M-1802003
Sample ID No.: B-180807

Report Date: July 17, 2018

Sample Description: 80mm County Materials Pavers
W x H x L: 8.35-inch by 3.15-inch by 8.35-inch
Material:
Block Type: Concrete Interlocking Pavers
Weight Type: Normal weight

Manufacturer: County Materials Corp.-Janesville, WI
Sampled By: Client
Source: Janesville
Specification: ASTM C936
Sampled from: plant stock
Date Made:
Date Rec'd at Lab: 6/22/2018

DIMENSIONAL ANALYSIS, ASTM C 140

BLOCK ID	DIMENSIONS, in			MINIMUM THICKNESS, in		WEB HT, in	AREA, in ²		% SOLID	VOLUME, ft ³ NET
	WIDTH	HEIGHT	LENGTH	FACE SHELL	WEB		NET	GROSS		
180807A	8.4	3.2	8.4					50.4		
180807B	8.4	3.2	8.4					50.3		
180807C	8.4	3.2	8.4					50.3		
AVERAGE	8.4	3.2	8.4					50.4		

EQUIVALENT THICKNESS, in: _____ AVE CELL SPACE, %: _____
MAX. VARIANCE FROM SPECIFIED DIMENSIONS, in: 0.09 SPECIFIED MAX VARIANCE, in: 0.125
AVE NORMALIZED WEB AREA, in²/ft²: _____ TESTED BY: DTA

ABSORPTION ANALYSIS, ASTM C 140

BLOCK ID	RECEIVED	BLOCK WEIGHTS, lbs			DENSITY pcf	ABSORPTION		TESTED BY
		IMMERSED	WET (24-HR)	OVEN DRY		pcf	%	
180807A	13.4	7.9	13.8	13.2	139.6	6.3	4.5	DTA
180807B	13.5	7.9	13.8	13.3	141.1	5.3	3.8	DTA
180807C	13.6	8.0	13.9	13.3	140.9	6.1	4.4	DTA
AVERAGE	13.5	7.9	13.8	13.3	140.5	5.9	4.2	
TEST SAMPLE CONFIGURATION		ABSORPTION SPECIFICATIONS			INDIVIDUAL	7		
full block		(MAXIMUM LIMITS)			AVERAGE	5		

COMPRESSIVE STRENGTH ANALYSIS, ASTM C 140

BLOCK ID	TEST DATE	TEST AGE	MAX. LOAD, lbs	AREA, in ²		COMPR. STR., psi		TESTED BY	COMMENTS
				AVE NET	GROSS	NET A	GROSS A		
180807D	7/13/2018		421456	50.4	69.7	8360		DTA	Test conducted on full block.
180807E	7/13/2018		483900	50.3	69.7	9610		DTA	Test conducted on full block.
180807F	7/13/2018		480465	50.3	69.7	9540		DTA	Test conducted on full block.
AVERAGE			461940	50.4	69.7	9170			
Testing started on 7/5/2018 and ended on 7/13/2018.						SPEC'D MIN. NET AREA		INDIVIDUAL	7200
						COMPR. STRENGTH, psi		AVERAGE	8000

Comments:

Thickness/Width aspect factor applied to compressive strength.
Some calculations are not included above because they are not applicable to L-shaped pavers.

Reviewed by: Steven P. Homar, P.E.

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Client:	County Materials Corp.	Project:	Freeze-thaw Testing
Address:	205 North Street PO Box 100 Marathon, WI 54448	Project No.:	1M-1802003
Report Date:	August 24, 2018	Giles Lab No.:	B180807

Paver Freeze-Thaw Durability Test Method ASTM C1645-16

Manufactured by:	County Materials Corp. Janesville, WI
Unit Description:	80mm Paver
Sampling Party:	County Materials Corp.
Specimen Dimensions (mm):	214 x 81 x 214
Total Surface Area by measurement	0.0978 square meter
Test Period:	July 27, 2018 - August 24, 2018
Test Media:	Water

Unit No.	Accumulative Residue Weight (nearest 0.2 g.)		Mass Lost (grams/square meter)	
	Cycle No.:			
1	7	0.00	1.00	7.57
2	28	0.00	0.80	9.00
3		0.00	0.80	6.13
Ave.		0.00	0.87	7.57 Pass

Loss of mass of three full-size pavers shall not be greater than 225 grams/ square meter of total surface area of the individual paver after 28 cycles of freezing and thawing. Test Specification ASTM C936-16

Reviewing Engineer : Steven P. Homar, P.E.