



CONSTRUCTION MATERIALS

TECHNOLOGIES

LABORATORY TEST RESULTS

Report for: Winkler USA
88 South State Street
Hackensack, NJ 07601

Attention: Paul Sancaian

Product Name: Skermo Terrazze	Manufacturer: Winkler USA
Date Received: Nov. 14, 2014	Sampling: PRI-CMT
PRI-CMT Project No.: WNKL-015-02-01	Dates Tested: Dec. 2, 2014 – Dec. 30, 2014

Purpose: Evaluate *Winkler USA's Skermo Terrazze* for physical properties required by the Sealant, Waterproofing and Restoration Institute's Product Validation Program for Clear Penetrating Vertical Water Repellent.

Test Methods: Testing was completed in accordance with the Sealant, Waterproofing and Restoration Institute's Product Validation Program for Clear Penetrating Vertical Water Repellent. Test methods utilized were ASTM C 67-11: *Standard Test Methods for Sampling and Testing Brick and Structural ClayTile (modified)*, ASTM C 140-11: *Standard Test Methods for Sampling and Testing Concrete Masonry Units and Related Units (modified)*, ASTM D 6532-00(2006): *Standard Test Method for Evaluation of the Effect of Clear Water Repellent Treatments on Water Absorption of Hydraulic Cement Mortar Specimens* and ASTM D 6490-99(2006): *Standard Test Method for Water Vapor Transmission of NonFilm Forming Treatments Used on Cementitious Panels*.

In accordance with the Sealant, Waterproofing and Restoration Institute's Product Validation Program for Clear Penetrating Vertical Water Repellent, all ASTM tests performed shall be conducted under the standardized criteria set forth in *Appendix A*, which has been included herein. Coverage rates were achieved by submerging substrates in the clear water repellent treatment in accordance with *Appendix A*.

Product Sampling: PRI-CMT received shipment from Winkler SLR (Italy) on Nov. 14, 2014.

Note: This material is currently not commercially available in North America. Sampling by purchase from distribution, in accordance with the SWR Institute Product Validation Program, was not practical. It is the responsibility of the manufacturer to gain approval for the alternate sampling procedure for this material.

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Results of Testing:

SWR Institute Product Validation Testing: Clear Penetrating Water Repellent

Property	Test Method	Result			Requirement
		Water absorption of Control (%)	Water absorption of Treated (%)	Percent Water Absorption Reduction (%)	
Water Absorption Reduction (%)					
Mortar; 3 specimens; 2in x 2in x 2in 3d immersion coverage rate: ~275 ft ² /gal	ASTM D 6532 ¹	2.04	0.58	72.33	Report
Brick; 5 specimens; ½ brick; 24h immersion; coverage rate: ~ 440 ft ² /gal	ASTM C 67 Modified ¹	2.76	0.12	95.77	Report
CMU; 3 specimens; 6"x4"x2"; 24h immersion coverage rate: ~ 100 ft ² /gal	ASTM C 140 Modified ¹	6.42	1.72	72.38	Report

Note(s): 1- In accordance with the SWR Institute Clear Penetrating Vertical Water Repellent Validation Program Performance Properties Profile, "All ASTM tests shall be conducted under the standardized criteria set forth in Appendix A." Appendix A is attached in the Appendix of this report.


ASTM D 6490

Test Conditions	Test Method	Property	Specimen Results					Requirement
			#1	#2	#3	Avg	StDev	
Cementitious Panel ¹ @ 73 °F & 50 %RH coverage rate: ~350ft ² /gal	ASTM D 6490	WVT (grains/h·ft ²)	0.74	0.68	0.78	0.71	0.06	Report
		Permeance (Perms)	1.80	1.66	1.90	1.74	0.14	Report

Note(s): 1- Cementitious panels were prepared in accordance with ASTM D 1734.

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Statement of Attestation: The properties of this material were determined in accordance with the requirements set forth in the Sealant, Waterproofing and Restoration Institute's Product Validation Program for Clear Penetrating Vertical Water Repellent. The laboratory test results presented in this report are representative of the material supplied.

Signed: 

Bill Bennett
Laboratory Technician

Signed: 

Brad Grzybowski
Managing Director

Date: _____
January 26, 2015

Date: _____
January 26, 2015

Report Issue History:

Issue #	Date	Pages	Revision Description (if applicable)
Original	01/26/2015	7	NA

APPENDIX ATTACHED

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Appendix:

- A. Appendix A - Standardization of ASTM Test Methods
- B. Test Data Worksheets

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Appendix A: Appendix A - Standardization of ASTM Test Methods

APPENDIX A – Standardization of ASTM Test Methods

- ASTM C 67 - Substrate will be selected in accordance with ASTM C 216:
Brick type FBX, grade SW
Bricks shall be cut in half for testing purposes
- Coverage rate will be dictated by the manufacturer's datasheet, if no coverage rate is indicated for this particular test, the manufacturer shall recommend a coverage rate. All reports will list coverage rate as tested in sf/gallon and total milliliters applied.
 - Application of material will be performed via submersion of the specimen and repeated until the desired application rate is achieved
 - Test shall be conducted under Section 8.3 "Cold Water Absorption"
 - Test results will be reported as both "Total Absorption" treated v. untreated (see Section 8.3 for calculations) and "Percent Water Absorption Reduction". "Percent Reduction" will be calculated as:
$$\% \text{ Reduction} = [(W_{su} - W_{st}) / W_{su}] \times 100$$

$$W_{su} = \text{Saturated Weight of Untreated specimens}$$

$$W_{st} = \text{Saturated Weight of Treated specimens}$$
- ASTM C 140 - Substrate will be selected in accordance with ASTM C 90:
Medium Weight Block
Blocks shall be cut from full size specimens to no less than 6"x4"x2"
- Coverage rate will be dictated by the manufacturer's datasheet, if no coverage rate is indicated for this particular test, the manufacturer shall recommend a coverage rate. All reports will list coverage rate as tested in sf/gallon and total milliliters applied.
 - Application of material will be performed via submersion of the specimen and repeated until the desired application rate is achieved
 - See Sections 8 and 9 for Absorption and Calculations
 - Base percent absorption on oven dry weight (W_d) v. saturated weight (W_s).
 - Note: "immersed weight" need not be taken.
 - Test results will be reported as both "Total Absorption" treated v. untreated (see Section 9.1 for calculations) and "Percent Water Absorption Reduction". "Percent Reduction" will be calculated as:
$$\% \text{ Reduction} = [(W_{su} - W_{st}) / W_{su}] \times 100$$

$$W_{su} = \text{Saturated Weight of Untreated specimens}$$

$$W_{st} = \text{Saturated Weight of Treated specimens}$$
- ASTM D 6532 - Coverage rate will be dictated by the manufacturer's datasheet, if no coverage rate is indicated for this particular test, the manufacturer shall recommend a coverage rate. All reports will list coverage rate as tested in sf/gallon and total milliliters applied.
- ASTM D 6490 - Substrate will be a standardized cementitious panel in accordance with ASTM D 1734.
- Coverage rate will be dictated by the manufacturer's datasheet, if no coverage rate is indicated for this particular test, the manufacturer shall recommend a coverage rate. All reports will list coverage rate as tested in sf/gallon and total milliliters applied.

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Appendix B: Test Data Worksheets

Client:	Winkler USA					
Project:	WNKL-015-02-01					
Test Method:	ASTM D 6532; Evaluation of the Effect of Clear Water Repellant Treatments on Water Absorption of Hydraulic Cement Mortar Specimens					
Technician:	BB					
Mean Weight Gain (untreated control samples)						
Substrate	Specimen ID	Untreated Before Immersion (g)	Untreated After Immersion (g)	Weight Gain (g)	Mean Weight Gain (g)	
Brick	C-1	1230.47	1267.38	36.91	34.77	
	C-2	1267.10	1303.28	36.18		
	C-3	1265.79	1305.70	39.91		
	C-4	1277.10	1302.78	25.68		
	C-5	1269.69	1304.86	35.17		
CMU	C-1	1280.82	1362.07	81.25	82.99	
	C-2	1286.39	1372.74	86.35		
	C-3	1312.87	1394.25	81.38		
Mortar	C-1	265.36	270.31	4.95	5.40	
	C-2	266.20	271.80	5.60		
	C-3	262.07	267.71	5.64		
Water Exclusion						
Substrate	Specimen ID	Treated Before Immersion (g)	Treated After Immersion (g)	Weight Gain (g)	Water Exclusion (%)	Water Exclusion Average (%)
Brick	T-1	1254.56	1256.55	1.99	94.28	95.77
	T-2	1240.81	1242.22	1.41	95.94	
	T-3	1241.80	1243.11	1.31	96.23	
	T-4	1241.11	1242.43	1.32	96.20	
	T-5	1241.06	1242.39	1.33	96.17	
CMU	T-1	1320.74	1333.46	12.72	84.67	72.38
	T-2	1318.47	1342.91	24.44	70.55	
	T-3	1343.68	1375.29	31.61	61.91	
Mortar	T-1	259.16	260.11	0.95	82.40	72.33
	T-2	253.15	254.80	1.65	69.43	
	T-3	257.10	258.98	1.88	65.16	

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Client: Winkler USA
Project: WNKL-015-02-01
Test Method: ASTM D 6532; Evaluation of the Effect of Clear Water Repellant Treatments on Water Absorption of Hydraulic Cement Mortar Specimens
Technician: BB

Water absorption (%)

Substrate	Specimen ID	Treated Before Immersion (g)	Treated After Immersion (g)	Weight Gain (g)	Treated Samples H ₂ O Abs. (%)	Treated Samples H ₂ O Abs. (Avg %)	Untreated Samples H ₂ O Abs. (%)	Untreated Samples H ₂ O Abs. (Avg %)
Brick	T-1	1254.56	1256.55	1.99	0.16	0.12	3.00	2.76
	T-2	1240.81	1242.22	1.41	0.11		2.86	
	T-3	1241.80	1243.11	1.31	0.11		3.15	
	T-4	1241.11	1242.43	1.32	0.11		2.01	
	T-5	1241.06	1242.39	1.33	0.11		2.77	
CMU	T-1	1320.74	1333.46	12.72	0.96	1.72	6.34	6.42
	T-2	1318.47	1342.91	24.44	1.85		6.71	
	T-3	1343.68	1375.29	31.61	2.35		6.20	
Mortar	T-1	259.16	260.11	0.95	0.37	0.58	1.87	2.04
	T-2	253.15	254.80	1.65	0.65		2.10	
	T-3	257.10	258.98	1.88	0.73		2.15	

END OF REPORT

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