Division of Package Pavement Co., Inc.
675 Leetown Road, PO Box 408
Stormville, NY 12582
(800) 724-8193 Fax (845) 221-0433

DATE: July 18, 2016

PACKAGE PAVEMENT
P.O. BOX 408

STORMVILLE, NEW YORK 12582

RE: ROCKLAND PSYCHIATRIC CENTER

Dear: JOE NARDELLA

IWR -TYPE N MORTAR (w/COLOR)

Package Pavement Company certifies this IWR Type "N" pre-blended mortar with integral water repellent (IWR) which is manufactured and distributed under the PACKAGE PAVEMENT® and SPEC MIX® labels meets or exceeds the requirements of ASTM C-270 which includes ACI 530.1 when mixed in accordance with industry standards and guidelines.

This mix contains:

- 1.0 part / Lafarge Gray Portland Type I / II ASTM C-150 and/or Federal White Portland Type I ASTM C-150
- 1.0 part / Graymont Super Limoid Hydrated Lime Type S ASTM C-207
- 6.0 parts / Mason Sand
- IWR Additive (Integral Water Repellent)

For colored mortar, pigment (ASTM C-979) will be added to match the mortar to the color indicated. Each color will be individually selected and approved. Certifications for the raw materials are enclosed. If you require further information, please contact me. Thank you.

Very truly yours,

Gerald J. Guerro

Quality Assurance Manager

ENVIRONMENTAL BUILDING MATERIALS CERTIFICATION FORM (LEED)

CONTRACTOR: PACKAGE PAVEMENT

PROJECT NAME: Rockland Psychiatric Center

CONTACT NAME: Joe Nardella

TEL#: (845) 221-2224 x375

Package Pavement

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Stormville, NY 12582
P (845) 221.2224 F (845) 221.0433
www.packagepavement.com

Product	Vendor or Manufacturer (Source City, State)	Total Installed COST	Material COST (excluding labor & equipment)	Contains Recycled Content?		Manu-factured within 500 miles (Y/N)	% Raw Materials Extracted within 500 Miles. (% by weight)	Miles from source to Package Pavement	Miles from source to project site
				% Post Consumer	% Post Industrial				
IWR – Type N Mortar (Colored)	Package Pavement Stormville, NY			N/A	1.9%	Y	93.5%	N/A	50
Gray Portland LaFarge-Holcim – June-16	LaFarge - Holcim N.A. Ravena, NY			N/A	9.6%	Y	100%	66	116
White Portland Cement 7-2016	Federal White Woodstock, Ontario, NY			N/A	N/A	Y	100%	372	422
Hydrated Lime Cert 3-21-16	Graymont-Dolime, Inc. Genoa, OH			N/A	N/A	Y	N/A	465	515
C144 Mason Sand Sieve 2-19-16	Palette Stone Corp. Saratoga Springs, NY			N/A	N/A	Y	100%	106	156
Iron Oxide Pigments C979 – Cert 2016	Lanxess Pigments Bayville, NJ			N/A	93%	N	N/A	700	750
IWR BASF 210D Additive Specsheet	BASF CORPORATION Florham Park, NJ			N/A	N/A	N	N/A	N/A	50
SPEC MIX – IWR Water Repellent – Specsheet	Spec Mix, Inc. St. Paul, MN			N/A	N/A	N	N/A	N/A	50
Type N Mortar Cert – 3-3-16	Package Pavement Co, Inc. Stormville, NY			N/A	N/A	N	N/A	N/A	50

Notes/Definitions:

1. **Post-Consumer Recycled Content:** Portion of material or product derived from discarded consumer waste that has been recovered for use as a raw material (e.g. plastic bottles).

ENVIRONMENTAL BUILDING MATERIALS CERTIFICATION FORM (LEED)

2. **Post-Industrial Recycled Content:** Portion of material or product derived from recovered industrial and manufactured materials diverted from municipal solid waste for use in a different manufacturing process prior to use by a consumer (e.g. fly-ash in concrete).
3. **Manufacturer:** Entity that processes raw materials into the final product. (e.g. Type N Mortar is manufactured in Stormville, NY)
4. **Raw Materials:** Virgin or recovered resources from which the product's components are made (i.e. before processing or manufacturing). If 10% of the material is extracted from a source within a 500 mile radius from the project and 1/2 is outside that radius the Raw Materials Extraction Value would be 50%.
5. **Miles to Source:** Distance from the Source to the jobsite of the final manufactured material and the source materials.

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CONTRACTOR: PACKAGE PAVEMENT

PROJECT NAME: Rockland Psychiatric Center

CONTACT NAME: Joe Nardella

TEL#: (845) 221-2224 x375

Contractor Certification:

I, Gerald Guerro, a duly authorized representative of PACKAGE PAVEMENT Co. Inc., hereby certify that the information contained herein accurately represents the listed "green building" characteristics of the materials to be provided by our company as components of the building construction. Furthermore, I understand that any change in such "green building" material characteristics during the purchasing and/or installation period will require prior written approval from the Construction Manger and Owner.

Signature of Authorized Representative: 

Date: 2016-07-18

LAFARGE
Building better cities™

Cement Mill Test Report

Month of Issue: June-16

Plant:	**Ravena, New York**
Product:	**Portland Cement Type I/II**
Manufactured:	**May-16**

ASTM C 150-12 and AASHTO M 85-09 Standard Requirements

CHEMICAL ANALYSIS

Item	Spec limit	Test Result
Rapid Method, X-Ray *(C 114)*		
SiO2 (%)	--	20.2
Al2O3 (%)	6.0 max	4.8
Fe2O3 (%)	6.0 max	3.4
CaO (%)	--	63.0
MgO (%)	6.0 max	1.9
SO3 (%)	3.0 max *	2.9
NaEq (%)	--	0.51
Loss on ignition (%)	3.0 max	2.08
Insoluble residue (%)	0.75 max	0.27
Cement CO2 (%)		0.44
Limestone (%)	5.0 max	1.05
CaCO3 in Limestone (%)		94.4
Adjusted Potential Phase Composition *(C 150)*		
C3S (%)		55.7
C3A (%)	8 max	6.8
C3S+4.75*C3A (%)	100 max	87.9
C4AF	--	10.4
Optimum SO3 (%) (C 563)		2.90
Expansion in Water (%) (C 1038)	0.020 max	0.010

PHYSICAL ANALYSIS

Item	Spec limit	Test Result
Air content of mortar (%) *(C 185)*	12 max	8.9
Blaine Fineness (m2/kg) *(C 204)*	280-420**	411
-325 (%) *(C 430)*	--	95.2
Autoclave expansion (%) *(C 151)*	0.80 max	0.02
Compressive strength Mpa (PSI) *(C 109)*		
3 days	12.0 (1740) min	22.7 (3290)
7 days	19.0 (2760) min	29.5 (4280)
28 days (Previous Month)		40.8 (5920)
Time of setting (minutes)		
Vicat Initial *(C 191)*	45 - 375	120
Heat of Hydration (cal/g) *(C 1702)****		
3 days (for information only)	--	71.5

* May exceed 3.0% SO3 maximum based on our C1038 results of <0.02% expansion at 14 days. Data available upon request.

**The max Blaine does not apply if the Sum of C3S + 4.75*C3A is less than or equal to 90

*** Current Production run not available - most recent provided

We certify that the above described cement, at the time of shipment, meets the chemical and physical requirements for Type I-II portland cement as specified in the American Society of Testing and Materials (ASTM) Specification C 150-12 and the American Association of State Highway and Transportation Officials (AASHTO) Specification M 85-09.

US Stronghold - Ravena Plant
P.O. Box3 - Ravena, NY 12143
CVC Phone: 1-800-263-3561

Joshua Farr
Quality Manager

Date Report Created: 6/9/2016

FEDERAL WHITE CEMENT INC.

CEMENT TEST REPORT

July 4, 2016

IDENTIFICATION: **TYPICAL TEST DATA**

SAMPLE SOURCE: **PORTLAND TYPE I - MAY 2016 INVENTORY**

PHYSICAL TESTS

Setting Time, Vicat Initial ……	**104**	minutes
Fineness, passing #200 mesh ……	**98.20**	%
Fineness, passing #325 mesh ……	**97.40**	%
Fineness Blaine Specific Surface Area ….	**438**	m_2/kg
Autoclave Expansion ……	**0.00**	%
Air Content ……	**5.12**	%

Compressive Strength at:	1 day……	**2170** psi.	**15.0** MPa
	3 days….	**3800** psi.	**26.2** MPa
	7 days….	**4400** psi.	**30.3** MPa
	28 days…	**6600** psi.	**45.5** MPa

CHEMICAL TESTS

SiO_2…….	**22.22** %	$CaO_{(Free)}$..	**2.24** %
Al_2O_3……	**4.45** %	MgO…….	**0.98** %
Fe_2O_3…..	**0.27** %	SO_3……..	**3.30** %
CaO (Total)	**65.82** %	L.O.I…….	**2.25** %

Tricalcium Silicate (C_3S)……	**59** %
Dicalcium Silicate (C_2S)……	**19** %
Tricalcium Aluminate (C_3A)…..	**11** %

OPTIONAL TESTS:

INSOLUBLE RESIDUE……	**0.22** %
TOTAL EQUIVALENT ALKALI (AS % Na2O)……..	**0.30** %
TOTAL EQUIVALENT WATER SOLUBLE ALKALI (AS % Na2O)….. ……..	**0.14** %

REFERENCE SPECIFICATION A.S.T.M. C-150

GRAYMONT

CERTIFICATION OF MATERIAL

JOB:

ARCHITECT:

GENERAL CONTRACTOR:

SUB CONTRACTOR:

We the undersigned certify that the following material supplied by us complies with the requirements and tests of the American Society of Testing Materials Specifications as stated below and is so guaranteed by us.

Super Limoid Type S ASTM C-207, Type S

By _____

Edward M. Jensen
Quality Control Supervisor
March 21st, 2016
Graymont Dolime (OH) Inc.
P.O. Box 158
Genoa, OH 43430
1-800-537-4489

GRAYMONT DOLIME (OH) INC.

HEAD OFFICE / PLANT
21880 West State Route 163
P.O. Box 158
Genoa, Ohio 43430
Tel: (419) 855-8336
(800) 537-4489
Fax: (419) 855-4602

Website: www.graymont-oh.com
E-mail: info@graymont-oh.com

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MASON'S PRE-BLEND®

MORTASEAL®

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3348 Route 208, Campbell Hall, NY 10916
Phone: 845-496-1600 Fax: 845-496-1398
25 Hathorn Road, Enfield, NH 03748
42 Day Farm Road, West Stockbridge, MA 01266
1813 State Route 7, Harpursville, NY 13787

Client:	**Package Pavement Co. Inc.**	**Project:**	Quality Control
Item:	Spec Mix Mason Sand (REF#SB13958)	**Project Number:**	070702
Source:	Package Pavement Co.	**Lab Number:**	16-0141C
Date Sampled:	2/17/2016	**Sampled By:**	Client
Date Tested:	2/19/2016	**Tested By:**	Aaron Connor

GRADATION (SIEVE ANALYSIS) OF SOIL OR AGGREGATE

Test Method(s): ASTM D422, C136, C117; AASHTO T88, T27, T11

Lab Number	Sample Type	Sampling Location	Specification
16-0141C	Spec Mix Mason Sand	Unknown	C144

Sieve Size		%	%	Spec. %
mm	Inches	Retained	Passing	Pass
25.0 mm	1"	0.0	100.0	
9.5 mm	3/8"	0.0	100.0	
4.75 mm	#4	0.0	100.0	100
2.36 mm	#8	0.8	99.2	95-100
1.18 mm	#16	3.9	95.3	70-100
0.600 mm	#30	15.7	79.6	40-75
0.300 mm	#50	38.3	41.3	10-35
0.150 mm	#100	32.3	9.0	2-15
0.075 mm	#200	7.4	1.6	0-5
Pan		1.6		

Comments: **Test results do not comply with specification**
Minus #200 by wash-sieve method.

Report Reviewed By: Emily J. Rodriguez

PDF

EMPIRE BLENDED DISTRIBUTORS, INC.
250 HICKORY LANE
BAYVILLE, NJ 08721
PH (732) 269-4949 FAX (732) 269-0497

January 1, 2016

Package Pavement Co., Inc.
675 Leetown Road
Stormville, NY 12582

To Whom it May Concern;

Empire Blended Distributors, Inc. is an authorized distributor of the the Bayferrox® Synthetic Iron Oxide Pigments, which are manufactured by the LANXESS Corporation.

Bayferrox synthetic iron oxide pigments are manufactured by LANXESS, and each of their manufacturing sites has ISO 9000-2000 certification. The pigments must meet stringent color and quality specification parameters set forth by LANXESS and the American Society for the Testing of Materials (ASTM) designation C979. These specifications are closely monitored at the Bayferrox pigments production facilities and quality assurance laboratories. A full range of high quality iron oxide pigments is produced for various applications. Bayferrox pigments meet the following requirements of ASTM Designation C979, *Standard Specification for Pigments for Integrally Colored Concrete:*

	Test	**Test Method**
1.	Water Wettability	ASTM C979 7.1
2.	Alkali Resistance	ASTM C979 7.2
3.	Total Sulfates	ASTM C979 7.3
4.	Water Solubility	ASTM C979 7.4
5.	Atmospheric Curing Stability	ASTM C979 7.5
6.	Light Resistance	ASTM C979 7.6
7.	Effects on Concrete	
	a. 28-days Compressive Strength	ASTM C979 7.7.5
	b. Initial or Final Set	ASTM C979 7.7.3
8.	Color Match of Shipment	ASTM C979 7.8

Please see attached manufacturer's specification sheet for additional information.

Sincerely,

Randy Gornitzky

Randy Gornitzky
President
Empire Blended Distributors, Inc.

NOTE: Bayferrox® is a registered trademark of Bayer AG, Germany.

The manner in which you use and the purpose to which you put and utilize these products, technical assistance and information (whether verbal, written or by way of production evaluations), including any suggested formulations and recommendations are beyond our control. Therefore, it is imperative that you test the products, technical assistance and information to determine to your own satisfaction whether they are suitable for your intended uses and applications. This application-specific analysis must at least include testing to determine suitability from a technical as well as health, safety, and environmental standpoint. Such testing has not necessarily been done by us. Unless we otherwise agree in writing, all products are sold strictly pursuant to the terms of our standard conditions of sale. All information and technical assistance is given without warranty or guarantee and is subject to change without notice. It is expressly understood and agreed that you assume and hereby expressly release us from all liability, in tort, contract or otherwise, incurred in connection with the use of our products, technical assistance, and information. Any statement or recommendation not contained herein is unauthorized and shall not bind us. Nothing herein shall be construed as a recommendation to use any product in conflict with patents covering any material or its use. No license is implied or in fact granted under the claims of any patent. We make no warranty as to the fitness for a specific purpose, nor do we provide a warranty as to the use of the property contrary to the contents of this letter.

LANXESS

Product Information

Bayferrox® Synthetic Iron Oxide Pigments

Specification Requirements for Coloring Concrete Products

Colored concrete and precast concrete products have experienced tremendous growth rates around the world. The most widely used pigments for coloring these products are synthetic iron oxides due to their outstanding price/performance ratio. At low dosages, they can turn gray concrete into a wide range of earth tone colors, which show virtually no fading even after years of exposure.

Bayferrox® synthetic iron oxide pigments are made by LANXESS Corporation, and each of our manufacturing sites has ISO certification. The pigments must meet stringent color and quality specification parameters set forth by LANXESS and the American Society for the Testing of Materials (ASTM) designation C979. These specifications are closely monitored at the Bayferrox® pigments production facilities in Germany and Brazil, and in our quality assurance laboratories. A full range of high quality iron oxide pigments (yellows, reds, blacks, and browns) is produced for various applications. Bayferrox® pigments meet the following requirements of ASTM Designation C979, *Standard Specification for Pigments for Integrally Colored Concrete:*

	Test	Test Method
1.	Water Wettability	ASTM C979 7.1
2.	Alkali Resistance	ASTM C979 7.2
3.	Total Sulfates	ASTM C979 7.3
4.	Water Solubility	ASTM C979 7.4
5.	Atmospheric Curing Stability	ASTM C979 7.5
6.	Light Resistance	ASTM C979 7.6
7.	Effects on Concrete	
	A. 28-days Compressive Strength	ASTM C979 7.7.5
	B. Initial or Final Set	ASTM C979 7.7.3
8.	Color Match of Shipment	ASTM C979 7.8

The chart on the reverse side of this sheet lists the results of data that has been collected on the use of Bayferrox® pigments in integrally colored concrete using the ASTM test methods.

Bayferrox® pigments have proven to be an excellent choice for coloring concrete products such as:

- Blocks and bricks
- Paving stones / interlocking pavers
- Roof tiles
- Patio slabs
- Precast products
- Veneer stones
- Segmental retaining wall units
- Grouts
- Colored mortar cement
- Stucco
- Ready-mixed concrete
- Fiber cement products

Shade of Bayferrox® pigments	Yellows			Reds			Blacks			Browns		
	Straight Pigment	Loading 0.5%	Loading 6.0%	Straight Pigment	Loading 0.5%	Loading 6.0%	Straight Pigment	Loading 0.5%	Loading 6.0%	Straight Pigment	Loading 0.5%	Loading 6.0%
Test												
Water-Wettability (ASTM C979 7.1)	P	N/A	N/A	P	N/A	N/A	P	N/A	N/A	P	N/A	N/A
Alkali Resistance (ASTM C979 7.2)	R	N/A	N/A	R	N/A	N/A	R	N/A	N/A	R	N/A	N/A
Total Sulfates (ASTM C979 7.3)	0.3-0.7%	N/A	N/A	0.05-0.13%	N/A	N/A	0.2-0.7%	N/A	N/A	0.3-0.7%	N/A	N/A
Water Solubility (ASTM C979 7.4)	0.15-0.35%	N/A	N/A	0.2-0.4%	N/A	N/A	0.3-0.6%	N/A	N/A	0.3-0.6%	N/A	N/A
Atmospheric Curing Stability (ASTM C979 7.5)	N/A	R	R	N/A	R	R	N/A	R	R	N/A	R	R
Light Resistance (ASTM C979 7.6)	N/A	R	R	N/A	R	R	N/A	R	R	N/A	R	R
Effect on Setting of Concrete (ASTM C979 7.7.3)	N/A	N/A	i* -15 | f* +5	N/A	N/A	i* -25 | f* -10	N/A	N/A	i* +5 | f* +25	N/A	N/A	i* -25 | f* +25
Effect on Compressive Strength (ASTM C979 7.7.5)	N/A	N/A	102%**	N/A	N/A	106.5%	N/A	N/A	106%	N/A	N/A	106.5%
Color Match of Shipment (ASTM C979 7.8)	ΔE* <1.0	N/A	N/A	ΔE* <1.0	N/A	N/A	ΔE* <1.5	N/A	N/A	ΔE* <1.5	N/A	N/A

LEGEND: P = Passed
R = Resistant
ΔE* = Color difference according to CIELAB (see ASTM D2244)

*deviation in minutes Standard = -60/+90
i = initial f = final
**Control (unpigmented) = 100%
N/A – Not Applicable

These items are provided as general information only. They are approximate values and are not considered part of the product specifications.

The manner in which you use and the purpose to which you put and utilize our products, technical assistance and information (whether verbal, written or by way of production evaluations), including any suggested formulations and recommendations are beyond our control. Therefore, it is imperative that you test our products, technical assistance and information to determine to your own satisfaction whether they are suitable for your intended uses and applications. This application-specific analysis must at least include testing to determine suitability from a technical as well as health, safety, and environmental standpoint. Such testing has not necessarily been done by us. Unless we otherwise agree in writing, all products are sold strictly pursuant to the terms of our standard conditions of sale. All information and technical assistance is given without warranty or guarantee and is subject to change without notice. It is expressly understood and agreed that you assume and hereby expressly release us from all liability, in tort, contract or otherwise, incurred in connection with the use of our products, technical assistance, and information. Any statement or recommendation not contained herein is unauthorized and shall not bind us. Nothing herein shall be construed as a recommendation to use any product in conflict with patents covering any material or its use. No license is implied or in fact granted under the claims of any patent.

Health and Safety Information

Appropriate literature has been assembled which provides information concerning the health and safety precautions that must be observed when handling the LANXESS products mentioned in this publication. Before working with any of these products, you must read and become familiar with the available information on their hazards, proper use, and handling. This cannot be overemphasized. Information is available in several forms, e.g., material safety data sheets and product labels. Consult your LANXESS Corporation representative or contact LANXESS's Product Safety and Regulatory Affairs Dept., Pittsburgh, PA.

LANXESS

LANXESS Corporation
111 RIDC Park West Drive
Pittsburgh, PA 15275
1-800-LANXESS (526-9377)

www.Bayferrox.com
www.US.LANXESS.com

Note: The information contained in this bulletin is current as of December 2009. Please contact LANXESS Corporation to determine if this publication has been revised.

BASF
We create chemistry

3
4
03 40 00 Precast Concrete
04 22 00 Concrete Unit Masonry

MasterPel® 210D

Powdered Masonry Water-Repellent Admixture

Formerly Rheopel Plus D*

Description

MasterPel 210D admixture is a highly efficient powdered water-repellent admixture for use in producing water-repellent masonry mortar mixes. This water-redispersible silane-based water-repellent admixture contains a fine mineral filler that provides excellent water repellency. Masonry mortar treated with MasterPel 210D admixture demonstrates outstanding resistance to moisture migration and wind-driven rain as per ASTM E 514. MasterPel 210D admixture has also been tested for bond strength as per ASTM C 1072.

MasterPel 210D admixture is compatible with the MasterPel Water Repellent Admixture System, an innovative technology available from BASF.

Applications

Recommended for use in the masonry mortar mixes as part of the water-repellent system to increase water repellency.

Features

- Outstanding water repellency
- High efficiency (low dosage rate)
- Excellent ability to mix with water (water redispersible technology)
- Compatible with the MasterPel Water Repellent Admixture System from BASF

Benefits

- Improves water repellency characteristics
- Reduces water absorption rate
- Helps control efflorescence
- Minimizes the need for post-applied sealers

Performance Characteristics

Technical Data

Appearance	Light beige powder
Bulk density	250 - 500 lb/yd^3 (150 - 300 kg/m^3)

Guidelines for Use

Dosage: Use MasterPel 210D admixture at a dosage range of 0.2% to 0.5% of total cementitious materials by mass. Consult your local sales representative if dosages outside the recommended range are being considered.

Mixing: Prepare masonry mortar in accordance with ASTM C 270. Mortars can be mixed by hand or machine. Hand mixing generates low shear forces compared to mechanical mixing. Hence, if the mortar is hand mixed, it should be remixed after a five-minute rest period.

MASTER® BUILDERS SOLUTIONS

Product Notes

Design and Construction Considerations: Water tightness of the mortar joint is influenced by its ability to resist moisture wicking, block the flow of water and integrate with the associated masonry units. The addition of MasterPel 210D admixture imparts water repellency throughout the mortar. However, proper joint tooling is critical to the performance of exterior walls. Both the National Concrete Masonry Association (NCMA) and The Brick Institute of America (BIA) recognize a concave-tooled mortar joint as being the least prone to allowing water penetration. Therefore, concave tooling is recommended whenever MasterPel 210D admixture is used in the mortar.

Preparatory Work: Concrete masonry units treated with MasterPel 240 admixture are manufactured by producers using performance optimized mixture proportions and qualified admixture dosages.

Methods: Design and construction details must observe all applicable design codes incorporating the recommendations of NCMA TEK 10-1A, Crack Control in Concrete Masonry Walls; TEK 19-2A, Design for Dry Single Wythe Concrete Masonry Walls; TEK 19-4A, Flashing Strategies For Concrete Masonry Walls; and TEK 19-5A, Flashing Details For Concrete Masonry Walls.

MasterPel 210D admixture will not compensate for flaws in building design, materials, mixture proportions, improper construction procedures or improper construction methods. BASF is not responsible for inappropriate use of MasterPel 210D admixture.

Rake joints should not be permitted for water-repellent masonry projects. Remove excess mortar promptly and clean any residue using procedures recommended in NCMA TEK 8-2A, Removal of Stains From Concrete Masonry.

Note: All MasterPel water repellent admixture specified water–repellent masonry projects must incorporate MasterPel 240 Mortar Admixture or MasterPel 210D admixture (or other BASF-approved equivalent) in the accompanying masonry mortar to produce a moisture-resistant wall system. Failure to do so will result in compromised water repellency of the masonry structure and will be in violation of the MasterPel Water Repellent Admixture System guide specifications.

Storage and Handling

Storage Temperature: MasterPel 210D admixture should be stored at a temperature between 35 °F and 105 °F (2 °C and 40 °C) and should be protected from moisture. If the product is stored under pressure or in damaged/opened packaging, the powder may cake.

Shelf Life: MasterPel 210D admixture has a minimum shelf life of 18 months. Depending on the storage conditions, the shelf life may be greater than stated. Contact your local sales representative regarding suitability for use and dosage recommendations if the shelf life has been exceeded.

Packaging

MasterPel 210D admixture is available in 33 lb (15 kg) bags. There are 30 bags on a pallet. A full pallet weighs 990 lb (450 kg).

Related Documents

Safety Data Sheets: MasterPel 210D admixture

Additional Information

For additional information on MasterPel 210D admixture or its use in developing a mortar mixture with special performance characteristics, contact your local sales representative.

The Admixture Systems business of BASF's Construction Chemicals division is the leading provider of solutions that improve placement, pumping, finishing, appearance and performance characteristics of specialty concrete used in the ready-mixed, precast, manufactured concrete products, underground construction and paving markets. For over 100 years we have offered reliable products and innovative technologies, and through the Master Builders Solutions brand, we are connected globally with experts from many fields to provide sustainable solutions for the construction industry.

Limited Warranty Notice

BASF warrants this product to be free from manufacturing defects and to meet the technical properties on the current Technical Data Guide, if used as directed within shelf life. Satisfactory results depend not only on quality products but also upon many factors beyond our control. BASF MAKES NO OTHER WARRANTY OR GUARANTEE, EXPRESS OR IMPLIED, INCLUDING WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE WITH RESPECT TO ITS PRODUCTS. The sole and exclusive remedy of Purchaser for any claim concerning this product, including but not limited to, claims alleging breach of warranty, negligence, strict liability or otherwise, is shipment to purchaser of product equal to the amount of product that fails to meet this warranty or refund of the original purchase price of product that fails to meet this warranty, at the sole option of BASF. Any claims concerning this product must be received in writing within one (1) year from the date of shipment and any claims not presented within that period are waived by Purchaser. BASF WILL NOT BE RESPONSIBLE FOR ANY SPECIAL, INCIDENTAL, CONSEQUENTIAL (INCLUDING LOST PROFITS) OR PUNITIVE DAMAGES OF ANY KIND.

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* Rheopel Plus D became MasterPel 210D under the Master Builders Solutions brand, effective January 1, 2014.

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U. S. A.

IWR MORTAR
INTEGRAL WATER REPELLENT MORTAR

1-888-SPECMIX

DIVISION
MASONRY PRODUCTS 04

Superior Bond. Water Repellent.

SPEC MIX® Integral Water Repellent (IWR) Mortar is a dry, preblended mortar mix containing Portland cement and hydrated lime, mortar cement or masonry cement with dried masonry sand and water repellent admixture formulated for water repellency, superior bond, water retention and board life. Meets ASTM C 270 requirements. In addition to custom mix designs that are available for specific applications or properties, the standard IWR mortar is designed to be compatible with the characteristics of the specified masonry unit. It is acceptable for all types of masonry construction with submittals available upon request. The mortar may be used above or below grade when manufactured to the appropriate specification. SPEC MIX® IWR Color Mortar also is available.

IWR Mortar is produced under strict manufacturing, and complete quality control measures are implemented with each batch. A digital printout displaying the proper proportions per batch may be kept as a permanent record. Each SPEC MIX® manufacturer certifies that SPEC MIX® masonry products are designed to meet specifications and applicable ASTM and ACI standards.

MATERIALS USED

PORTLAND CEMENT
HYDRATED LIME
MASONRY CEMENT
MORTAR CEMENT
INTEGRAL WATER REPELLENT ADMIXTURES
SAND

TOTAL QUALITY CONTROL WITH EVERY BAG
LABORATORY TESTED
TO ASSURE BOND AND WATER REPELLENCY

PREBLENDED WITH ADMIXTURE FOR CONSISTENCY
MORE COST EFFECTIVE THAN LIQUID ADMIXTURES
GREAT WORKABILITY AND BOARD LIFE
NO SAND PILES OR WASTED MATERIALS LEFT ON SITE

Reliable Performance. Proven Durability.

SPEC MIX Integral Water Repellent (IWR) mortar is specially formulated to reduce water penetration, shrinkage and efflorescence of masonry mortar joints while meeting ASTM C 270 requirements. By incorporating a proprietary, dry polymeric integral water repellent admixture during the SPEC MIX manufacturing process, the designer, specifier, owner and contractor are assured the mortar on their project will repel moisture, while maintaining optimal workability and flexural bond strength.

Water penetration resistance of concrete masonry walls is dependent on wall design, design for differential movement, workmanship, wall maintenance, and the application of water repellents in both masonry units and mortar. Tests indicate that SPEC MIX IWR Mortar, when used with Dry Block® treated CMUs, creates a water-repellent assemblage when properly designed and constructed.

Based on independent testing in accordance with ASTM E 514 *"Test Method for Water Penetration and Leakage Through Masonry,"* SPEC MIX IWR Mortar and the masonry test wall showed no signs of water penetration *(R.L. Nelson report, Oct. 2002).* The water repellent in the mortar mix imparts hydrophobic properties to the mortar. This impedes water movement through the mortar joints, which also potentially reduces efflorescence.

When using ASTM C 1357 *"Test Method for Evaluating Masonry Bond Strength"* to compare the flexural bond strength of SPEC MIX IWR Mortar to the same reference mortar mixed with the leading liquid admixture, the SPEC MIX IWR mortar demonstrated a 46 percent increase in bond strength *(R.L. Nelson report, Oct. 2002).* In addition, ASTM C 270 compressive strength values reported for IWR Mortar made with Portland cement and lime materials, as well as masonry cement, achieved similar results as the SPEC MIX reference mortar.

Weighing and blending the dry water repellent admixture during the computer batching process guarantees the consistency and quality assurance of IWR Mortar. The same amount of IWR admixture, as well as the other mortar components, is included in each bag, every time. For the contractor, this eliminates the time associated with measuring and hand-adding materials on site that lower job site efficiency. More importantly, it eliminates the possibility of varying admix dosage rates that effect the integrity and aesthetic value of the masonry structure.

Using SPEC MIX IWR mortar can greatly reduce the potential for problems associated with water penetration of the building envelope. Preblending all dry mortar materials ensures uniformity of the mixture and increases productivity while improving the long-term performance of the wall system. SPEC MIX IWR is THE ultimate solution.

PROVEN COMPATIBILITY WITH TREATED MASONRY UNITS

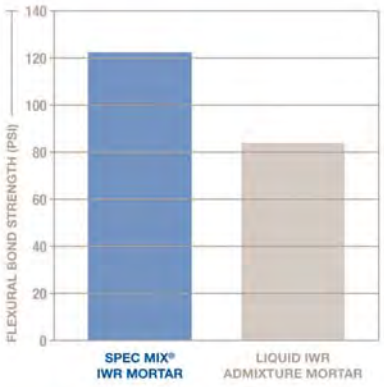
FOR MASONRY WALLS TO ACHIEVE OPTIMAL WATER RESISTANCE, IT IS ESSENTIAL THAT INTEGRAL WATER REPELLENT ADMIXTURES BE INCORPORATED INTO CONCRETE UNITS AND MORTAR DURING THE MANUFACTURING PROCESS. TO TEST THE PERFORMANCE AND COMPATIBILITY OF SPEC MIX IWR MORTAR WITH MASONRY UNITS TREATED WITH WATER REPELLENT ADMIXTURES, STANDARD TEST METHOD ASTM E 514 WAS EMPLOYED. THIS STANDARD TEST IS THE MOST COMMONLY USED TEST AS IT MEASURES THE RELATIVE WATER PENETRATION RESISTANCE OF AN ENTIRE ASSEMBLAGE.

THE TEST SIMULATED THE AFFECTS OF WIND DRIVEN RAIN ON MASONRY ASSEMBLAGES BUILT WITH WATER REPELLENT UNITS AND SPEC MIX IWR MORTAR. DURING THE ACTUAL TEST, 40.8 GALLONS OF WATER PER HOUR FOR FOUR HOURS WERE APPLIED TO THE WALL PRESSURIZED AT 10 LBS/FT2, WHICH EQUALS 3.4 GAL/FT2/HR. THIS WOULD EQUATE TO A WIND VELOCITY OF 62.5 MILES PER HOUR AND A RAINFALL RATE OF 5.5 INCHES PER HOUR.

CONCLUSION: WHETHER DRY SPEC MIX IWR ADMIXTURE IS BLENDED WITH PORTLAND CEMENT AND LIME OR MASONRY CEMENT MORTARS, NO SIGNS OF DAMPNESS OR WATER PENETRATION WERE VISIBLE AFTER THE FOUR-HOUR TEST PROCEDURE. SPEC MIX IWR MORTAR IS COMPATIBLE WITH TREATED MASONRY UNITS WHILE ACHIEVING 46 PERCENT GREATER FLEXURAL BOND STRENGTH COMPARED TO THE SAME MORTAR MIXTURE INCORPORATING A LEADING LIQUID WATER REPELLENT ADMIXTURE.

FLEXURAL BOND STRENGTH COMPARISON

SPEC MIX IWR MORTAR SIGNIFICANTLY OUT-PERFORMED LIQUID IWR ADMIXTURE MORTAR IN LABORATORY TESTS COMPARING FLEXURAL BOND STRENGTH. THE TEST MEETS ASTM C 1072 STANDARDS AND WAS CONDUCTED WITH AN AVERAGE OF 6 PRISMS CONSTRUCTED WITH UNITS TREATED WITH A WATER REPELLENT MIXTURE.



TEST RESULTS OF THE FLEXURAL BOND AND WATER PENETRATION STUDY

- SPEC MIX® IWR MORTAR UTILIZING IWR ADMIX INTEGRAL WATER REPELLENT ADMIXTURE WAS AS EFFECTIVE AND COMPARABLE TO MORTARS CONTAINING A NATIONALLY RECOGNIZED, PROPRIETARY LIQUID WATER-REPELLENT ADMIXTURE.
- THE FLEXURAL BOND STRENGTH OF SPEC MIX IWR MORTAR WAS COMPARABLE TO THAT OF THE REFERENCE MORTAR. THE FLEXURAL BOND STRENGTH OF THE SPEC MIX IWR MORTAR SIGNIFICANTLY EXCEEDED THE BOND STRENGTH RESULTS OF A SIMILAR MORTAR MIXTURE CONTAINING A NATIONALLY RECOGNIZED PROPRIETARY LIQUID WATER-REPELLENT ADMIXTURE.
- SPEC MIX IWR MORTAR AND A MORTAR CONTAINING THE NATIONALLY RECOGNIZED PROPRIETARY LIQUID WATER-REPELLENT ADMIXTURE BOTH PROVIDED GREATER RESISTANCES TO WATER PENETRATION THAN THE REFERENCE MORTAR WHEN TESTED IN ACCORDANCE WITH ASTM E 514.
- SPEC MIX IWR MORTAR MADE WITH A DRY INTEGRAL WATER REPELLENT ADMIXTURE, WHEN USED WITH DRY BLOCK TREATED UNITS, CREATES A WATER-REPELLENT MASONRY ASSEMBLAGE WHEN PROPERLY DESIGNED AND CONSTRUCTED.
- THE SEVEN AND 28 DAY COMPRESSIVE STRENGTH OF THE SPEC MIX IWR MORTAR WAS SIMILAR TO THAT OF THE REFERENCE MORTAR.

OPPOSITE PAGE: SPEC MIX IWR MORTAR SHOWS NO WATER PENETRATION WHEN TESTED IN ACCORDANCE WITH E 514 STANDARD TEST METHOD FOR WATER PENETRATION AND LEAKAGE THROUGH MASONRY. THE TEST APPARATUS SIMULATES RAIN AT 60 MPH.

TOP LEFT: SPEC MIX IWR MORTAR EXCEEDS C 1367 BOND REQUIREMENTS.

ABOVE: FOR PROJECTS CONSTRUCTED WITH ARCHITECTURAL INTEGRAL WATER REPELLENT MASONRY UNITS, IWR MORTAR REDUCES THE PROBLEMS ASSOCIATED WITH WATER PENETRATION OF THE BUILDING ENVELOPE.

INSTALLATION/APPLICATION

Mortar type should correlate with the particular masonry unit to be used. The specifier should evaluate the interaction of the mortar type and masonry unit specified. That is, masonry units having a high initial rate of absorption will have greater compatibility with mortar that has a high-water retentivity. The material properties of mortar that influence the structural performance of masonry are compressive strength, bond strength and elasticity. Because the compressive strength of masonry mortar is less important than bond strength, workability and water retentivity, the latter properties should be given principal consideration in mortar selection. Select mortar based on the design requirements and with consideration of code and specification provisions affected by the mortar.

A sample of the proposed product will be provided by the manufacturer for architectural approval and testing, if required. Preparation of this panel with all materials and systems employed in the final project is imperative. Retain the mock-up or field sample through the completion of the project.

When mixing, a mechanical batch mixer best ensures homogeneity, workability and good board life. Use clean, potable water and add the maximum amount consistent with optimum workability. Mixing time is five minutes and should be consistent from batch to batch. Tool mortar joints when the surface is thumb-print hard. Keep tooling time consistent. Do not strike joints too early or too late as the color will not remain consistent with the mock-up panel. Hand mixing mortar should be permitted only with written approval by the specifier who should outline hand-mixing procedures. Mortar should be cured a minimum of 28 days. Clean masonry only with a national proprietary cleaning agent or potable water.

Mortar shall be used and placed in final position within two-and-one-half hours after initial mixing or discarded at that time. Retemper mortar only when mixing water is lost due to evaporation. Do not retemper colored mortar. SPEC MIX products are custom packaged to the specification. They must be kept dry, covered and protected from weather and other damage.

SIZES AND EQUIPMENT

SPEC MIX IWR Mortar is available in 80 lb. (36 kg.) packages for easy hand loading or in 3000 lb. (1362 kg.) reusable bulk bags to be used with the various patented SPEC MIX silo systems. When using the silo system, once the bulk bags of mortar are delivered to the project site, the portable silo is loaded with a jobsite forklift and the product is dispensed into a mechanical batch mixer.

TYPICAL PERFORMANCE

SPEC MIX IWR MORTAR HAS BETTER WATER RETENTION AND RESISTANCE TO WATER PENETRATION THAN THE REFERENCE SPEC MIX MORTAR (TABLE 1). TYPE S MASONRY CEMENT MORTAR ALSO EXHIBITS BETTER WATER PENETRATION RESISTANCE AND WATER RETENTION CHARACTERISTICS (TABLE 2)

TABLE 1 ASTM C 270 AND ASTM E 514
1:1:6 PROPORTIONED PORTLAND/LIME/SAND MORTARS

	REFERENCE TYPE N MORTAR	TYPE N MORTAR WITH IWR MIXTURE
ASTM C 270		
WATER RETENTION	89 %	93 %
AIR	6.3 %	6.1 %
7-DAY COMPRESSIVE STRENGTH	1520 PSI	1570 PSI
28-DAY COMPRESSIVE STRENGTH	1730 PSI	1800 PSI
ASTM E 514		
TIME OF FIRST DAMPNESS	60 MIN	NONE
TIME OF FIRST VISIBLE WATER	NONE	NONE
AREA OF DAMPNESS, (% OF TEST AREA)	10 %	NONE
WATER COLLECTED IN 4 HOURS	NONE	NONE

TABLE 2 TABLE 2 ASTM C 270 AND ASTM E 514
1:3 MASONRY CEMENT/SAND MORTARS

	REFERENCE TYPE N MORTAR	TYPE N MORTAR WITH IWR MIXTURE
ASTM E 270		
WATER RETENTION	86 %	86 %
AIR	15.8 %	15.3 %
7-DAY COMPRESSIVE STRENGTH	1570 PSI	1600 PSI
28-DAY COMPRESSIVE STRENGTH	1950 PSI	2040 PSI
ASTM E 514		
TIME OF FIRST DAMPNESS	38 MIN	NONE
TIME OF FIRST VISIBLE WATER	NONE	NONE
AREA OF DAMPNESS, (% OF TEST AREA)	12 %	NONE
WATER COLLECTED IN 4 HOURS	NONE	NONE

APPLICABLE STANDARDS: ASTM AND ACI

C 91 STANDARD SPECIFICATION FOR MASONRY CEMENT: **C 144** STANDARD SPECIFICATION FOR AGGREGATE FOR MASONRY MORTAR: **C 150** STANDARD SPECIFICATION FOR PORTLAND CEMENT: **C 207** STANDARD SPECIFICATION FOR HYDRATED LIME FOR MASONRY PURPOSES: **C 270** STANDARD SPECIFICATION FOR MORTAR FOR UNIT MASONRY: **C 476** STANDARD SPECIFICATION FOR GROUT FOR MASONRY: **C 595** STANDARD SPECIFICATION FOR BLENDED HYDRAULIC CEMENTS: **C 780** STANDARD TEST METHOD FOR PRECONSTRUCTION AND CONSTRUCTION EVALUATION OF MORTARS FOR PLAIN AND REINFORCED UNIT MASONRY: **C 979** STANDARD SPECIFICATION FOR PIGMENTS FOR INTEGRALLY COLORED CONCRETE: **C 1329** STANDARD SPECIFICATION FOR MORTAR CEMENT: **C 1384** STANDARD SPECIFICATION FOR ADMIXTURES FOR MASONRY MORTARS: **E 514** STANDARD TEST METHOD FOR WATER PENETRATION AND LEAKAGE THROUGH MASONRY: **ACI 530.1** MASONRY STRUCTURES: **IMIAC** HOT AND COLD WEATHER CONSTRUCTION GUIDE

WARRANTY

Seller warrants that its Product will conform to and perform in accordance with the product specifications. The foregoing warranty is in lieu of all other warranties, express or implied, including, but not limited to, those concerning merchantability and fitness for a particular purpose. Because of the difficulty in ascertaining and measuring damages hereunder, it is agreed that, except for claims for bodily injury, Seller's liability to the Buyer shall not exceed the total amount billed and billable to the Buyer for the product hereunder.

LIMITATIONS

SPEC MIX IWR Mortar should be installed in accordance with the provisions of the local building code and applicable ASTM standards. Good workmanship coupled with proper detailing and design assures durable, functional, watertight construction.

WARNING

This product contains greater than 0.1% crystalline silica. Avoid breathing dust; use a NIOSH-approved dust respirator and use only with adequate ventilation to keep dust levels below permissible levels. Also contains cementitious materials. Injurious to eyes. Contact with freshly mixed product can cause severe burns. Avoid eye contact or prolonged contact with skin. Wash thoroughly after handling. In case of eye contact, flush with plenty of water for 15 minutes. Consult a physician. Keep out of the reach of children.

2025 CENTRE POINTE BLVD, MENDOTA HEIGHTS, MN 55120 T 1 888-SPEC-MIX F 1 888-329-7732 WWW.SPECMIX.COM

Advance Testing

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42 Day Farm Road, West Stockbridge, MA 01266
1813 State Route 7, Harpursville, NY 13787

CLIENT: Spec Mix
Division of Package Pavement Company, Inc.
Route 52 and Leetown Road
Stormville, NY 12582

PROJECT: Quality Control
PROJ. NO.: 070702
DATE: March 2, 2016

PRECONSTRUCTION TESTING AND EVALUATION OF MORTAR

SAMPLE: Type N Mortar (1:1:6)
REF#SB13873

Preconstruction testing of mortar was performed using pre-batched dry mortar, sampled from production. The compressive strength of the mortar was determined using laboratory-prepared samples under two different conditions. The mortar was mixed to both 'Laboratory' and 'Field' consistencies and water contents. The laboratory condition uses a water content that produces a standard flow value of 110 +/-5, which is a relatively stiff consistency. Mortar mixed to this flow value must meet the strength requirements of ASTM C270, Standard Specification for Mortar for Unit Masonry, when the C270 Property Specification is used. The field condition uses a higher water content to produce mortar that has a consistency representative of freshly-mixed mortar on the job site. Mortar samples obtained at the jobsite are not required to meet the strength requirements of ASTM C270, and typically have lower strengths than samples mixed to the laboratory condition, due to their higher water content.

Mortar was mixed in the lab in accordance with ASTM C305. Flow was determined by method ASTM C1437, using a motarized flow table conforming to ASTM C230 and the procedures in C270. Six 2-inch cube specimens were cast from each mix per ASTM C109, for determination of compressive strength at 7 and 28 days (three tests at each age for each mix.)

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EVALUATION OF MORTAR

SAMPLE:	**Spec Mix** Type N Mortar (1:1:6) REF#SB13873

1. Laboratory Consistency ASTM C270, laboratory mix, flow value of 110 ± 5%
Standard condition for mix evaluation. Simulates mortar strength in the structure.

Date Mixed: 3/2/2016
Actual Flow Value: 115
Air: 3.5%

Specimen Number	Test Age, Days	Date Tested	Area, sq. in.	Load, lbs.	Compressive Strength, psi
4364	7	03/09/16	4.07	4840	1190
4365	7	03/09/16	4.02	4630	1150
4366	7	03/09/16	4.03	4800	1190
4367	28	03/30/16	4.04	6620	1640
4368	28	03/30/16	4.06	7100	1750
4369	28	03/30/16	4.05	7100	1750
Average 28-day compressive Strength					1710

2. Field Consistency ASTM C780, laboratory mix, flow value of 135 ± 5%
Aproximate consistency of freshly-mixed mortar. Simulates strength of field quality control samples.

Date Mixed: 3/2/2016
Actual Flow Value: 133
Air: 3.5%

Specimen Number	Test Age, Days	Date Tested	Area, sq. in.	Load, lbs.	Compressive Strength, psi
4370	7	03/09/16	4.01	3700	920
4371	7	03/09/16	4.04	3850	950
4372	7	03/09/16	4.04	3830	950
4373	28	03/30/16	4.07	5370	1320
4374	28	03/30/16	4.02	5610	1400
4375	28	03/30/16	4.06	5590	1380
Average 28-day compressive Strength					1370

3. Correction Factor
Estimated correction factor to apply to 28-day compressive strength of field quality control samples: 340

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EVALUATION OF MORTAR

SAMPLE:	**Spec Mix** Type N Mortar (1:1:6) REF#SB13873

NOTES

1. The 'Laboratory Consistency' sample represented in this report was prepared per ASTM C270, Standard Specification for Mortar for Unit Masonry. This specification allows mortar to be specified by Proportions or by Properties. Mortar that is specified by Proportions should meet, but is not required to meet, the nominal strength values give in C270. ASTM C270 is intended to evaluate the mortar under controlled laboratory conditions.

2. The 'Field Consistency' sample represented in this report was prepared to simulate samples obtained per ASTM C780, Preconstruction and Construction Evaluation of Mortars for Plain and Reinforced Unit Masonry. Samples obtained from field-mixed mortar are not expected to attain strengths equal to those tested in the lab per C270. Factors affecting the strength of the field test samples, as well as the actual in-place strength of the mortar, include the following.

a. Mixing water quantity and quality, mixer type and mixing methods may affect the mortar.

b. Sampling time may affect test strength. Mortar may be used up to 2-1/2 hours after mixing.

c. Mortar may be re-tempered by adding water to maintain consistency, at any time during the 2-1/2 hour placement time after mixing.

d. Other mix properties such as entrained air content may also affect the compressive strength of test samples.

e. The in-place strength of the mortar is typically higher that the strength of field-sampled test specimens, due to absorption of mixing water by the masonry units, decreasing the water/cementitious material ratio of the mortar.

Report prepared by:

Emily J. Rodriguez

Emily J. Rodriguez
Laboratory Manager

Advance Testing

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Client:	Package Pavement Co. Inc	**Project:**	Quality Control
Material:	Type N Mortar (1: 1: 6); Ref #: SB13873	**Project Number:**	070702
Source:	Package Pavement Co. Inc	**Lab Number:**	16-0066G-1
Date Sampled:	1/20/2016	**Sampled By:**	Client
Date Tested:	3/23/2016	**Tested By:**	Anthony Giannone

EFFLORESCENCE TESTING

Test Method: ASTM C67

Sample Preparation: Two sets of 2x2 inch cube specimens were cast from mortar mixed in the laboratory. The cylinders were moist-cured for 7 days, then air-dried for 21 days. Each set was then divided into two groups, 'control' and 'test,' and the 'test' specimens were subjected to the C67 treatment procedure for the standard 7 day period. These samples were then air-dried and compared to the control specimens.
Mix was prepared to Standard Flow (115)

Test Result: Not Effloresced.

Emily J. Rodriguez

Report Reviewed By:

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42 Day Farm Road, West Stockbridge, MA 01266

Client:	Package Pavement Co. Inc.	**Project:**	Quality Control
Item:	Type N Mortar (1:1:6)	**Project #**	070702
Source:	Package Pavement Co. Inc.	**Lab #**	16-0190-1
Date Sampled:	3/4/2016	**Sampled By:**	Client
Date Tested:	3/10/2016	**Tested By:**	Anthony Giannone

Water Retention of Hydraulic Cement Mortar or Plaster

Test Method: ASTM C1506

MIX NUMBER: **REF#SB13873**
MIX TYPE: Type N Mortar - Standard Flow

INITIAL FLOW:	105
FINAL FLOW:	81
WATER RETENTION:	**77.1 %**
SPECIFICATION (ASTM C270):	75% min.

Summary: The sample is mixed to normal consistency, and the flow is tested. The mortar is then subjected to a partial vacuum, to simulate the absorption of water by masonry units. The flow is measured again, and the water retention is expressed in percent of the final flow divided by the initial flow.

Report Reviewed By: Emily J. Rodriguez

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Client:	Package Pavement Co. Inc.	**Project:**	Quality Control
Item:	Type N Mortar (1:1:6)	**Project #**	070702
Source:	Package Pavement Co. Inc.	**Lab #**	16-0190-2
Date Sampled:	3/4/2016	**Sampled By:**	Client
Date Tested:	3/10/2016	**Tested By:**	Anthony Giannone

Water Retention of Hydraulic Cement Mortar or Plaster

Test Method: ASTM C1506

MIX NUMBER: **REF#SB13873**
MIX TYPE: Type N Mortar - High Flow

INITIAL FLOW: 137
FINAL FLOW: 97

WATER RETENTION: 70.8 %
SPECIFICATION (ASTM C270): 75% min.

Summary: The sample was mixed to approximately field consistency, and the flow was tested. The mortar is then subjected to a partial vacuum, to simulate the absorption of water by masonry units. The flow is measured again, and the water retention is expressed in percent of the final flow divided by the initial flow.

Report Reviewed By: Emily J. Rodriguez