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 Technical Services TECH Note RILEM Tube Test Procedures

 Product Data literature for all products evaluated

Submitted Information

For: Joe Talecki
cc: John Bourne

Subject: Nitterhouse Masonry Products, LLC.
 Chambersburg, PA

Date:

Project: 0601-13 PTP

Samples Submitted: 1 type of ground-face CMU, 1 type of smooth-face CMU, and 6 types of concrete brick

Sample	Name	Color	Integral Water Repellent	Size
Ground-face CMU	"LS1 – Terrazzo"	Dark Red	None	12" x 12" x 2"
Smooth-face CMU	"LS1 – Texture"	Dark Red	None	12" x 12" x 2"
Concrete Brick	"Beige Matte"	Beige	None	4" x 8" x 3"
Concrete Brick	"Chamber Rose Matte"	Light Red	None	4" x 8" x 3"
Concrete Brick	"Colonial Burgundy Matte"	Dark Brown	None	4" x 8" x 3 ½"
Concrete Brick	"Cranberry Matte"	Dark Red	None	4" x 8" x 3 ½"
Concrete Brick	"Georgetown Matte"	Orange	None	4" x 8" x 3"
Concrete Brick	"Rustic Buff Matte"	Tan	None	4" x 8" x 3"

Submitted by: Joe Talecki

Introduction

Architectural Materials Testing (AMT) Laboratories is a Boyer Industries company that provides laboratory testing and consulting services for the construction industry. Laboratory testing includes evaluating chemical cleaning products and protective treatments for a variety of new and existing architectural materials.

This report includes descriptions of the PROSOCO, Inc. products and test methods that were used. Following test results and conclusions, the report provides recommendations for the most effective products and procedures.

Purpose of Testing

One type of ground-face integrally colored concrete masonry unit (CMU), one type of smooth-face CMU, and six types of concrete brick, all with large, small and fine aggregate were submitted for testing to AMT Laboratories by PROSOCO, Inc. to determine the optimum cleaning/cure time combination for complete removal of mortar and related new construction soiling. The effectiveness of protective water repellents and graffiti control suitable for CMU's and concrete brick was also evaluated.

New Construction Cleaning – Sure Klean® Custom Masonry Cleaner, Sure Klean® Burnished Custom Masonry Cleaner and Sure Klean® Concrete Brick Cleaner were evaluated to determine the optimal concentration of cleaner for removal of laboratory applied mortar which also leaves the external surface looking most like the natural through-body color of the CMU and the untreated surface of the concrete brick.

To simulate new construction soiling all samples were placed on a bench with finished surface facing upward. Hollow cylinders measuring 50 mm in diameter and 75 mm tall were positioned on top of each sample and filled with a wet mixture of Type S mortar. The wet, mortar-filled cylinder was allowed to remain in contact with the samples for 10 minutes before removal.

Heavy deposits of mortar were removed with dry scraping after 24 hours. Prepared cleaning solutions were then evaluated for their effectiveness in removing residual Type S mortar staining after 3 days, 7 days, and 14 days of curing.

Concrete Masonry Units (CMU's) – Color uniformity was evaluated by comparing aggregate exposure and surface pigment alteration/removal of each cleaned surface compared to the natural through-body color of the CMU.

Aggregate Exposure is the visual examination comparing aggregate exposure of the interior, through-body section of the CMU to surfaces cleaned with selected product(s) at given dilutions.

Surface Pigment Alteration/Removal is the visual examination comparing the pigmentation of the interior, through-body section of the CMU to surfaces cleaned with selected product(s) at given dilutions.

The following is the scale used for reporting results of both categories:

0 – Worst match to through-body	3 – Good match to through-body
1 – Poor match to through-body	4 – Best match to through-body
2 – Fair match to through-body	

NOTE: When cleaning integrally colored CMU's.

Integrally colored concrete masonry units (CMU's) frequently have high amounts of pigments concentrated on the surface of the cured concrete unit. Variation of surface pigment concentrations from one CMU to the next creates a blotchy appearance in the completed wall. Allowed to remain on the surface of the CMU, the weakly bound pigment will weather and streak, further detracting from the appearance of the completed CMU wall.

In addition to removing excess mortar and construction related soiling, the goal of any cleaning operation undertaken on an integrally colored CMU should include removal of unnaturally high concentrations of surface pigment. By revealing the natural through-body color on the integrally colored unit, the overall color uniformity and weathering resistance of the completed CMU wall is improved.

Concrete Brick – Color uniformity was evaluated by comparing aggregate exposure and surface pigment alteration/removal of each cleaned surface with the untreated surface of the submitted concrete brick.

Aggregate Exposure is the visual examination comparing aggregate exposure of the untreated surface of the concrete brick to surfaces cleaned with the selected product(s) at given dilutions.

Surface Pigment Alteration/Removal is the visual examination comparing the surface pigmentation of the untreated surface of the concrete brick to surfaces cleaned with the selected product(s) at given dilutions.

The following is the scale used for reporting results of both categories:

- | | |
|---|--|
| 0 – Worst match to untreated surface | 3 – Good match to untreated surface |
| 1 – Poor match to untreated surface | 4 – Best match to untreated surface |
| 2 – Fair match to untreated surface | |

Protective Water Repellents – Sure Klean® Weather Seal Blok-Guard® & Graffiti Control II and Sure Klean® Weather Seal Siloxane WB Concentrate were evaluated for their ability to provide water repellency to the submitted samples.

Graffiti Control – Sure Klean® Weather Seal Blok-Guard® & Graffiti Control II was evaluated for its ability to control graffiti on the submitted samples. Sure Klean® Fast Acting Stripper and Defacer Eraser® Graffiti Wipe were evaluated for their ability to remove graffiti from the submitted samples.

Products Evaluated

New Construction Cleaning Products Evaluated

Sample	Product	Dilution
“LS1 – Terrazzo” Ground-face CMU	Sure Klean® Burnished Custom Masonry Cleaner	1:2, 1:3
“LS1 – Textured” Smooth-face CMU	Sure Klean® Custom Masonry Cleaner	1:2, 1:4, 1:6
	Sure Klean® Burnished Custom Masonry Cleaner	1:2, 1:3
All Submitted Concrete Brick	Sure Klean® Concrete Brick Cleaner	1:2, 1:3
	Sure Klean® Custom Masonry Cleaner	1:6

Protective Water Repellent Products Evaluated

Sample	Product	Dilution
All Submitted CMU's and Concrete Brick	Sure Klean® Weather Seal Blok-Guard® & Graffiti Control II	Concentrate
	Sure Klean® Weather Seal Siloxane WB Concentrate	1:9

Graffiti Control Products Evaluated

Sample	Product	Dilution
All Submitted CMU's and Concrete Brick	Sure Klean® Weather Seal Blok-Guard® & Graffiti Control II	Concentrate

Graffiti Removal Products Evaluated

Sample	Product	Dilution
All Submitted CMU's and Concrete Brick	Sure Klean® Fast Acting Stripper	Concentrate
	Defacer Eraser® Graffiti Wipe	Concentrate

New Construction Cleaning

These cleaning trials were conducted to determine the optimal cleaning/cure time combination to most efficiently remove Type S mortar from the submitted samples while providing the best color uniformity when compared to the through-body color of the submitted CMU's and the untreated surface of the submitted concrete brick.

Description of Products Evaluated – New Construction Cleaning

Sure Klean® Custom Masonry Cleaner – A general purpose, concentrated acidic cleaner for most custom masonry and colored concrete. Removes concrete splashes, excess mortar, mud, heavy efflorescence and surface soiling, leaving the masonry clean and uniform with no acid burning or streaking. Liquid concentrate for dilution with 2-6 parts water. Apply by brush or low-pressure spray.

Sure Klean® Burnished Custom Masonry Cleaner – Removes common construction and atmospheric staining from custom masonry and other architectural concrete surfaces. This general-purpose, non-etching, acidic cleaner removes rust, mud, oil, atmospheric dirt, mortar smears and other stains without altering the surface texture. Burnished Custom Masonry Cleaner adds depth to colors and brightens white matrices and exposed aggregate.

Sure Klean® Concrete Brick Cleaner – Removes common construction and atmospheric staining from concrete brick and other architectural concrete surfaces. This general-purpose, non-etching, acidic cleaner removes rust, mud, oil, atmospheric dirt, mortar smears and other stains without altering the surface texture. Concrete Brick Cleaner adds depth to colors and brightens white matrices and exposed aggregate.

Sample Preparation – New Construction Cleaning

Type S mortar was prepared in compliance with the manufacturer's instructions, applied to the samples' surfaces and allowed to cure for 3, 7, and 14 days. Mortar removal was accomplished using chemical assistance and a high-pressure water rinse with pressure rinsing equipment. The removal of Type S masonry mortar was visually evaluated after 3, 7, and 14 days of curing. A visual examination was also made to determine the optimal dilution of the tested cleaners that provide the best color uniformity when compared to the through-body color of the CMU's and the untreated surface of the submitted concrete brick.

Test Method – New Construction Cleaning

Chemical cleaners were evaluated using the following procedure:

1. Pre-wet the surface with water.
2. Apply at the appropriate dilutions.
3. Allow appropriate dwell time, as specified.

Sure Klean® Custom Masonry Cleaner	3 minutes
Sure Klean® Burnished Custom Masonry Cleaner	3-5 minutes
Sure Klean® Concrete Brick Cleaner	3-5 minutes
4. Reapply the product and moderately agitate with a brush.
5. Pressure rinse thoroughly.*
6. Allow the sample to dry for at least 18 hours and visually examine.
7. Break the sample in half and compare the through-body surfaces to the cleaned surfaces for the best match.
8. Visually compare the color of the cleaned surfaces of the concrete brick to an untreated surface for the best match.

***Pressure Rinsing Equipment** – Masonry washing equipment generating approximately 700-800 psi with a water flow rate of 8 gallons per minute delivered through a 45 degree fan spray tip was used for rinsing.

Test Results – New Construction Cleaning**Cleaning Effectiveness (% Type S Mortar Removal)**

“LS1 – Terrazzo” Ground-face CMU				
Product	Dilution	3 day	7 day	14 day
Sure Klean® Burnished Custom Masonry Cleaner	1:2	100%	100%	100%
Sure Klean® Burnished Custom Masonry Cleaner	1:3	100%	100%	100%
“LS1 – Textured” Smooth-face CMU				
Product	Dilution	3 day	7 day	14 day
Sure Klean® Custom Masonry Cleaner	1:2	100%	100%	100%
Sure Klean® Custom Masonry Cleaner	1:4	100%	100%	100%
Sure Klean® Custom Masonry Cleaner	1:6	100%	100%	100%
Sure Klean® Burnished Custom Masonry Cleaner	1:2	100%	100%	100%
Sure Klean® Burnished Custom Masonry Cleaner	1:3	100%	98%	98%
“Beige Matte” Concrete Brick				
Product	Dilution	3 day	7 day	14 day
Sure Klean® Concrete Brick Cleaner	1:2	98%	98%	98%
Sure Klean® Concrete Brick Cleaner	1:3	98%	98%	98%
Sure Klean® Custom Masonry Cleaner	1:6	99%	98%	98%
“Chamber Rose Matte” Concrete Brick				
Product	Dilution	3 day	7 day	14 day
Sure Klean® Concrete Brick Cleaner	1:2	100%	100%	100%
Sure Klean® Concrete Brick Cleaner	1:3	100%	100%	100%
Sure Klean® Custom Masonry Cleaner	1:6	100%	100%	100%
“Colonial Burgundy Matte” Concrete Brick				
Product	Dilution	3 day	7 day	14 day
Sure Klean® Concrete Brick Cleaner	1:2	100%	100%	100%
Sure Klean® Concrete Brick Cleaner	1:3	100%	100%	100%
Sure Klean® Custom Masonry Cleaner	1:6	100%	100%	100%
“Cranberry Matte” Concrete Brick				
Product	Dilution	3 day	7 day	14 day
Sure Klean® Concrete Brick Cleaner	1:2	100%	100%	95%
Sure Klean® Concrete Brick Cleaner	1:3	100%	100%	95%
Sure Klean® Custom Masonry Cleaner	1:6	100%	100%	100%
“Georgetown Matte” Concrete Brick				
Product	Dilution	3 day	7 day	14 day
Sure Klean® Concrete Brick Cleaner	1:2	100%	100%	100%
Sure Klean® Concrete Brick Cleaner	1:3	100%	100%	100%
Sure Klean® Custom Masonry Cleaner	1:6	100%	100%	100%
“Rustic Buff Matte” Concrete Brick				
Product	Dilution	3 day	7 day	14 day
Sure Klean® Concrete Brick Cleaner	1:2	100%	100%	100%
Sure Klean® Concrete Brick Cleaner	1:3	100%	100%	98%
Sure Klean® Custom Masonry Cleaner	1:6	100%	100%	100%

Test Results – Color Uniformity

Substrate: Ground-face CMU		Pigment Color: “LS1 – Terrazzo”		
Product	Dilution	Aggregate Exposure	Surface Pigment Alteration/Removal	
Sure Klean® Burnished Custom Masonry Cleaner	1:2	4	4	
Sure Klean® Burnished Custom Masonry Cleaner	1:3	4	4	
Substrate: Smooth-face CMU		Pigment Color: “LS1 – Textured”		
Product	Dilution	Aggregate Exposure	Surface Pigment Alteration/Removal	
Sure Klean® Custom Masonry Cleaner	1:2	4	4	
Sure Klean® Custom Masonry Cleaner	1:4	4	4	
Sure Klean® Custom Masonry Cleaner	1:6	4	4	
Sure Klean® Burnished Custom Masonry Cleaner	1:2	3	3	
Sure Klean® Burnished Custom Masonry Cleaner	1:3	3	3	

Scale used for reporting results of both categories

- 0 – **Worst** match to through-body 3 – **Good** match to through-body
 1 – **Poor** match to through-body 4 – **Best** match to through-body
 2 – **Fair** match to through-body

Substrate: Concrete Brick		Pigment Color: “Beige Matte”		
Product	Dilution	Aggregate Exposure	Surface Pigment Alteration/Removal	
Sure Klean® Concrete Brick Cleaner	1:2	4	4	
Sure Klean® Concrete Brick Cleaner	1:3	4	4	
Sure Klean® Custom Masonry Cleaner	1:6	4	4	
Substrate: Concrete Brick		Pigment Color: “Chamber Rose Matte”		
Product	Dilution	Aggregate Exposure	Surface Pigment Alteration/Removal	
Sure Klean® Concrete Brick Cleaner	1:2	3	3	
Sure Klean® Concrete Brick Cleaner	1:3	4	4	
Sure Klean® Custom Masonry Cleaner	1:6	2	2	
Substrate: Concrete Brick		Pigment Color: “Colonial Burgundy Matte”		
Product	Dilution	Aggregate Exposure	Surface Pigment Alteration/Removal	
Sure Klean® Concrete Brick Cleaner	1:2	3	3	
Sure Klean® Concrete Brick Cleaner	1:3	4	4	
Sure Klean® Custom Masonry Cleaner	1:6	2	2	
Substrate: Concrete Brick		Pigment Color: “Cranberry Matte”		
Product	Dilution	Aggregate Exposure	Surface Pigment Alteration/Removal	
Sure Klean® Concrete Brick Cleaner	1:2	3	3	
Sure Klean® Concrete Brick Cleaner	1:3	4	4	
Sure Klean® Custom Masonry Cleaner	1:6	2	2	

Scale used for reporting results of both categories:

- 0 – **Worst** match to untreated surface 3 – **Good** match to untreated surface
 1 – **Poor** match to untreated surface 4 – **Best** match to untreated surface
 2 – **Fair** match to untreated surface

Test Results – Color Uniformity

Substrate: Concrete Brick	Pigment Color: “Georgetown Matte”		
Product	Dilution	Aggregate Exposure	Surface Pigment Alteration/Removal
Sure Klean® Concrete Brick Cleaner	1:2	3	3
Sure Klean® Concrete Brick Cleaner	1:3	4	4
Sure Klean® Custom Masonry Cleaner	1:6	2	2
Substrate: Concrete Brick	Pigment Color: “Rustic Buff Matte”		
Product	Dilution	Aggregate Exposure	Surface Pigment Alteration/Removal
Sure Klean® Concrete Brick Cleaner	1:2	4	4
Sure Klean® Concrete Brick Cleaner	1:3	4	4
Sure Klean® Custom Masonry Cleaner	1:6	2	2

Scale used for reporting results of both categories:

- | | |
|---|--|
| 0 – Worst match to untreated surface | 3 – Good match to untreated surface |
| 1 – Poor match to untreated surface | 4 – Best match to untreated surface |
| 2 – Fair match to untreated surface | |

Photographs – New Construction Cleaning

“LS1 – Terrazzo” Ground-face CMU; 3 Day Cleaning

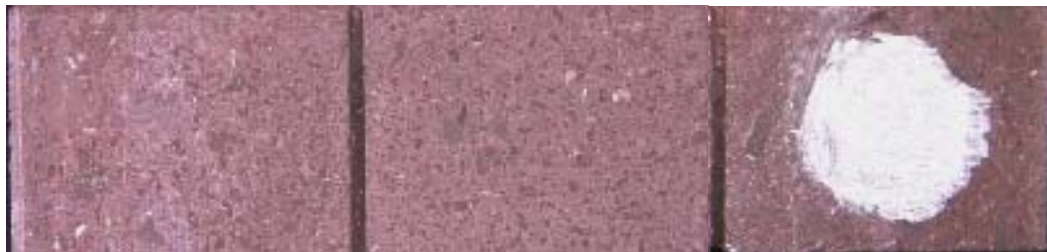


**Sure Klean® Burnished
Custom Masonry
Cleaner (1:2)**

**Sure Klean® Burnished
Custom Masonry
Cleaner (1:3)**

Untreated Control

“LS1 – Terrazzo” Ground-face CMU; 7 Day Cleaning



**Sure Klean® Burnished
Custom Masonry
Cleaner (1:2)**

**Sure Klean® Burnished
Custom Masonry
Cleaner (1:3)**

Untreated Control

“LS1 – Terrazzo” Ground-face CMU; 14 Day Cleaning



**Sure Klean® Burnished
Custom Masonry
Cleaner (1:2)**

**Sure Klean® Burnished
Custom Masonry
Cleaner (1:3)**

Untreated Control

Photographs – New Construction Cleaning

“LS1 – Textured” Smooth-face CMU; 3 Day Cleaning



“LS1 – Textured” Smooth-face CMU; 7 Day Cleaning



Photographs – New Construction Cleaning

“LS1 – Textured” Smooth-face CMU; 14 Day Cleaning



“Colonial Burgundy” Concrete Brick; 3 Day Cleaning



Photographs – New Construction Cleaning

“Colonial Burgundy” Concrete Brick; 7 Day Cleaning



“Colonial Burgundy” Concrete Brick; 14 Day Cleaning



Photographs – Color Uniformity

“LS1 – Terrazzo” Ground-face CMU; Color Uniformity



Photographs – Color Uniformity

“LS1 – Textured” Smooth-face CMU; Color Uniformity



“Colonial Burgundy” Concrete Brick; Color Uniformity



Conclusions – New Construction Cleaning

Based on the test data, all of the submitted CMU's were efficiently cleaned with at least one dilution of Sure Klean® Custom Masonry Cleaner, Sure Klean® Burnished Custom Masonry Cleaner or Sure Klean® Concrete Brick Cleaner.

Sure Klean® Custom Masonry Cleaner diluted with six parts water removed significant amounts of surface pigment from the submitted concrete brick and is therefore not recommended for new construction cleaning.

Use higher concentrations and surface agitation to maximize aggregate exposure. Use low concentration and surface agitation to minimize aggregate exposure.

Recommendations – New Construction Cleaning

Recommendations for cleaning for each type of CMU and concrete brick submitted by Nitterhouse Masonry Products, LLC., Chambersburg, PA are provided in the chart below. Recommendations are based on the optimum dilution for complete removal of mortar while providing the best match to the through-body color of the CMU's or the untreated surface of the concrete brick.

Sample	New Construction Cleaning (Type S mortar, 14 day cleaning)
"LS1 – Terrazzo" Ground-face CMU	Sure Klean® Burnished Custom Masonry Cleaner (1:2) OR (1:3)
"LS1 – Textured" Smooth-face CMU	Sure Klean® Custom Masonry Cleaner (1:2) OR (1:4) OR (1:6)
All Submitted Concrete Brick	Sure Klean® Concrete Brick Cleaner (1:3)

The most appropriate cleaner and dilution should be determined on the specific job-site, and will be dependent primarily on the nature and severity of soiling present at that location.

Apply all products in accordance with the manufacturer's recommendation provided on container labels and product data sheets. On-site testing should be conducted to determine the most appropriate cleaning product and procedures for a particular project. See product literature for additional application and product information.

Protective Water Repellents

The testing described below evaluates the suitability of water repellent treatments.

The surface treatments evaluated were selected for their suitability for application based on the following selection criteria:

1. Weatherproofing properties
 2. Color change
 3. Ease of application
-

Description of Products Evaluated – Protective Water Repellents

Sure Klean® Weather Seal Blok-Guard® & Graffiti Control II – A clear-drying, water-based silicone emulsion for weatherproofing concrete block and other porous masonry materials. Blok-Guard® & Graffiti Control II also protects masonry surfaces from graffiti attacks without altering the natural appearance. Blok-Guard® & Graffiti Control II protects exterior walls exposed to normal weathering. Graffiti removal from treated surfaces is fast and easy using Defacer Eraser® Graffiti Wipe. Blok-Guard® & Graffiti Control II is easy to apply with low-pressure spray, brush or roller.

Sure Klean® Weather Seal Siloxane WB Concentrate – A self-emulsifying water repellent concentrate designed for dilution with fresh water at the job site. This solvent-free blend of silanes and oligomeric alkoxysiloxanes mixes easily with water to produce a penetrating water repellent ideal for application to dense or porous masonry surfaces.

Sample Preparation – Protective Water Repellents

The submitted samples were scored and allowed to dry for 24 hours prior to treatment. Both Sure Klean® Weather Seal Blok-Guard® & Graffiti Control II and Sure Klean® Weather Seal Siloxane WB Concentrate were applied by brush in accordance with the current PROSOCO, Inc. Product Data Sheet application instructions. All treatments were allowed to cure for at least 72 hours prior to testing.

Test Methods – Protective Water Repellents

Water Absorption Tube Test: RILEM II.4, 60 mph, 20 Minutes

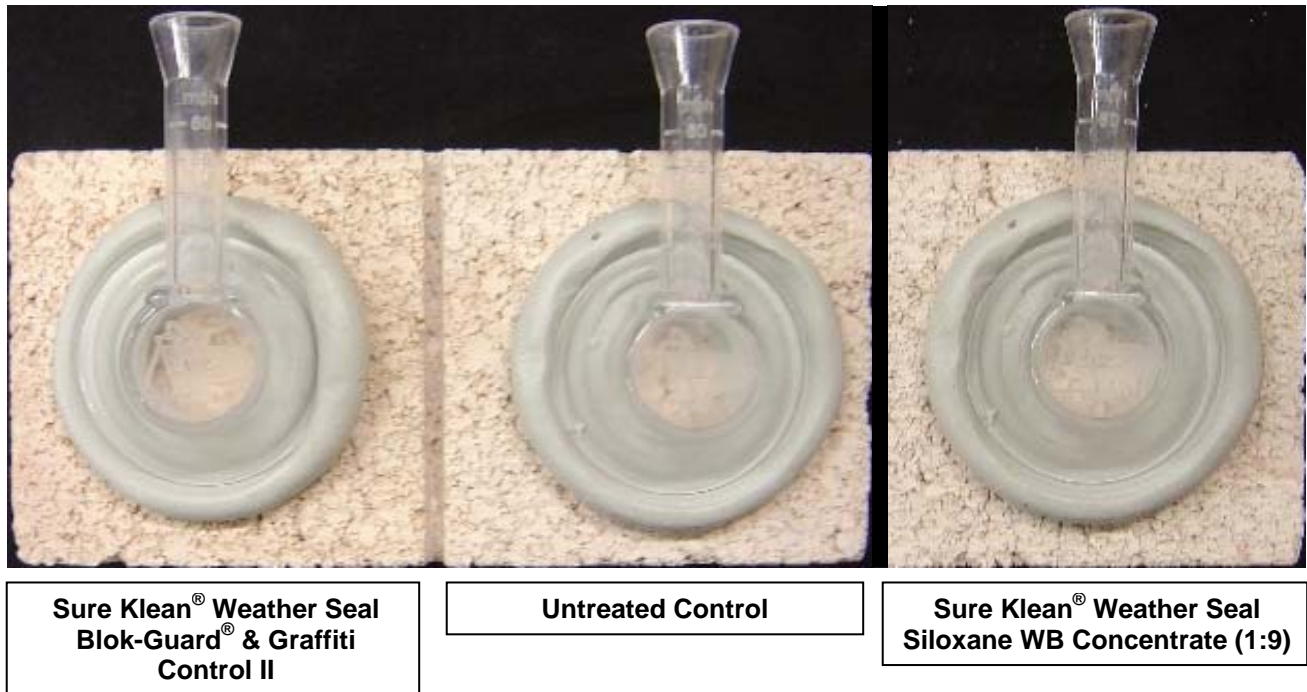
The water absorption tube test simulating wind driven rain conditions was performed. This test simulates 60 mile per hour wind driven rain conditions for a period of 20 minutes. See Technical Services TECH Note RILEM Tube Test Procedures.

Test Results – Protective Water Repellents**Water Absorption Tube Test: RILEM II.4, 60 mph, 20 Minutes****RESULTS**

“LS1 – Terrazzo” Ground-face CMU	
Untreated Control	59 mph
Sure Klean® Weather Seal Blok-Guard® & Graffiti Control II	60 mph
Sure Klean® Weather Seal Siloxane WB (1:9)	60 mph
“LS1 – Textured” Smooth-face CMU	
Untreated Control	59 mph
Sure Klean® Weather Seal Blok-Guard® & Graffiti Control II	60 mph
Sure Klean® Weather Seal Siloxane WB (1:9)	60 mph
“Beige Matte” Concrete Brick	
Untreated Control	<40 mph
Sure Klean® Weather Seal Blok-Guard® & Graffiti Control II	60 mph
Sure Klean® Weather Seal Siloxane WB (1:9)	60 mph
“Chamber Rose Matte” Concrete Brick	
Untreated Control	<40 mph
Sure Klean® Weather Seal Blok-Guard® & Graffiti Control II	60 mph
Sure Klean® Weather Seal Siloxane WB (1:9)	60 mph
“Colonial Burgundy Matte” Concrete Brick	
Untreated Control	<40 mph
Sure Klean® Weather Seal Blok-Guard® & Graffiti Control II	60 mph
Sure Klean® Weather Seal Siloxane WB (1:9)	60 mph
“Cranberry Matte” Concrete Brick	
Untreated Control	<40 mph
Sure Klean® Weather Seal Blok-Guard® & Graffiti Control II	60 mph
Sure Klean® Weather Seal Siloxane WB (1:9)	60 mph
“Georgetown Matte” Concrete Brick	
Untreated Control	<40 mph
Sure Klean® Weather Seal Blok-Guard® & Graffiti Control II	60 mph
Sure Klean® Weather Seal Siloxane WB (1:9)	60 mph
“Rustic Buff” Concrete Brick	
Untreated Control	<40 mph
Sure Klean® Weather Seal Blok-Guard® & Graffiti Control II	60 mph
Sure Klean® Weather Seal Siloxane WB (1:9)	60 mph

Photographs – Protective Water Repellents

“Beige Matte” Concrete Brick; RILEM II.4, 60 mph, 20 Minutes



Conclusions – Protective Water Repellents

Based upon laboratory evaluations, both of the PROSOCO, Inc. products tested provided excellent water repellency to each of the submitted samples. In addition, Sure Klean® Weather Seal Blok-Guard® & Graffiti Control II provided a slight color enhancement to the submitted samples. Sure Klean® Weather Seal Siloxane WB Concentrate diluted with nine parts water did not alter the appearance of the samples in any way.

Recommendations – Protective Water Repellents

Recommendations for water repellency for each type of CMU and concrete brick submitted by Nitterhouse Masonry Products, LLC., Chambersburg, PA are provided in the chart below. Recommendations are based on the treatment that proved most effective and can provide water repellency on all types submitted.

Sample	Protective Water Repellents
All Submitted CMU's and Concrete Brick	Sure Klean® Weather Seal Blok-Guard® & Graffiti Control II OR Sure Klean® Weather Seal Siloxane WB Concentrate (1:9)

Apply all products in accordance with the manufacturer's recommendation provided on container labels and product data sheets. On-site testing should be conducted to determine the most appropriate water repellent product and procedures for a particular project. See product literature for additional application and product information.

Graffiti Control

This evaluation compares the effectiveness of graffiti control treatments in preventing staining of enamel spray paint and permanent markers.

Description of Products Evaluated – Graffiti Control

Graffiti Control Treatments

Sure Klean® Weather Seal Blok-Guard® & Graffiti Control II – A clear-drying, water-based silicone emulsion for weatherproofing concrete block and other porous masonry materials. Blok-Guard® & Graffiti Control II also protects masonry surfaces from graffiti attacks without altering the natural appearance. Blok-Guard® & Graffiti Control II protects exterior walls exposed to normal weathering. Graffiti removal from treated surfaces is fast and easy using Defacer Eraser® Graffiti Wipe. Blok-Guard® & Graffiti Control II is easy to apply with low-pressure spray, brush or roller.

Products Evaluated for Graffiti Removal

Defacer Eraser® Graffiti Wipe – An easy-to-use graffiti remover that does not contain methanol, methylene chloride or other halogenated solvents prohibited on many projects. Graffiti Wipe removes a variety of graffiti stains from most smooth masonry, split-face concrete block, wood and metal surfaces.

Sure Klean® Fast Acting Stripper – A thixotropic stripping compound formulated specifically for removal of high strength paints and coatings such as epoxies, polyurethanes, and floor enamels. Additionally, Fast Acting Stripper dissolves most spray paints, marking pens, lacquers and other graffiti.

Graffiti Agents

Interior/Exterior Spray Paint (Red)
Permanent Marker (Green)
Permanent Marker (Red)
Permanent Marker (Black)

Sample Preparation – Graffiti Control

Sections of the concrete block samples were treated with Sure Klean® Weather Seal Blok-Guard® & Graffiti Control II, in accordance with the current PROSOCO, Inc. Product Data Sheet application instructions and were then allowed to cure for at least one day. At the end of the cure period, a visual adverse effects evaluation was made and then the graffiti agents were applied to the substrates.

Spray paint and markers were applied as graffiti agents to all treated surfaces no sooner than one day following application of Sure Klean® Weather Seal Blok-Guard® & Graffiti Control II. Removal of the graffiti agents was attempted 24 hours after application of the graffiti agents, using Defacer Eraser® Graffiti Wipe and Sure Klean® Fast Acting Stripper.

Test Method – Graffiti Control

Chemical cleaners were evaluated using the following procedure:

1. Apply the product to a dry surface, soiled with graffiti.
2. Allow appropriate dwell time:

Graffiti Wipe	5 minutes
Fast Acting Stripper	20 minutes
3. Pressure rinse thoroughly until water runs clear. *
4. Allow the surface to dry thoroughly and visually examine to determine effectiveness.

***Pressure Rinsing Equipment** – Masonry washing equipment generating approximately 700-800 psi with a water flow rate of 8 gallons per minute delivered through a 45 degree fan spray tip was used for rinsing.

Test Results – Graffiti Control

“LS1 – Terrazzo” Ground-face CMU					
Untreated Control	Red Paint	Black Marker	Green Marker	Red Marker	% Avg. Removal
Fast Acting Stripper	95%	99%	90%	95%	95%
Graffiti Wipe	50%	10%	90%	95%	61%
Blok-Guard® & Graffiti Control II	Red Paint	Black Marker	Green Marker	Red Marker	% Avg. Removal
Fast Acting Stripper	100%	100%	100%	100%	100%
Graffiti Wipe	100%	100%	100%	100%	100%
“LS1 – Textured” Smooth-face CMU					
Untreated Control	Red Paint	Black Marker	Green Marker	Red Marker	% Avg. Removal
Fast Acting Stripper	95%	95%	50%	90%	83%
Graffiti Wipe	30%	20%	40%	70%	40%
Blok-Guard® & Graffiti Control II	Red Paint	Black Marker	Green Marker	Red Marker	% Avg. Removal
Fast Acting Stripper	100%	100%	95%	100%	99%
Graffiti Wipe	100%	100%	95%	100%	99%
“Beige Matte” Concrete Brick					
Untreated Control	Red Paint	Black Marker	Green Marker	Red Marker	% Avg. Removal
Fast Acting Stripper	70%	80%	40%	70%	65%
Graffiti Wipe	70%	10%	20%	20%	30%
Blok-Guard® & Graffiti Control II	Red Paint	Black Marker	Green Marker	Red Marker	% Avg. Removal
Fast Acting Stripper	95%	98%	50%	80%	81%
Graffiti Wipe	99%	70%	40%	40%	62%
“Chamber Rose Matte” Concrete Brick					
Untreated Control	Red Paint	Black Marker	Green Marker	Red Marker	% Avg. Removal
Fast Acting Stripper	98%	80%	70%	90%	85%
Graffiti Wipe	90%	10%	70%	70%	60%
Blok-Guard® & Graffiti Control II	Red Paint	Black Marker	Green Marker	Red Marker	% Avg. Removal
Fast Acting Stripper	99%	100%	80%	100%	95%
Graffiti Wipe	100%	95%	80%	95%	93%
“Colonial Burgundy Matte” Concrete Brick					
Untreated Control	Red Paint	Black Marker	Green Marker	Red Marker	% Avg. Removal
Fast Acting Stripper	85%	90%	90%	80%	86%
Graffiti Wipe	75%	30%	60%	80%	61%
Blok-Guard® & Graffiti Control II	Red Paint	Black Marker	Green Marker	Red Marker	% Avg. Removal
Fast Acting Stripper	98%	100%	95%	100%	98%
Graffiti Wipe	100%	95%	80%	90%	91%
“Cranberry Matte” Concrete Brick					
Untreated Control	Red Paint	Black Marker	Green Marker	Red Marker	% Avg. Removal
Fast Acting Stripper	85%	80%	80%	90%	84%
Graffiti Wipe	75%	10%	50%	80%	54%
Blok-Guard® & Graffiti Control II	Red Paint	Black Marker	Green Marker	Red Marker	% Avg. Removal
Fast Acting Stripper	99%	100%	85%	100%	96%
Graffiti Wipe	100%	95%	85%	95%	94%

Test Results – Graffiti Control

“Georgetown Matte” Concrete Brick					
Untreated Control	Red Paint	Black Marker	Green Marker	Red Marker	% Avg. Removal
Fast Acting Stripper	90%	95%	80%	80%	86%
Graffiti Wipe	50%	10%	60%	75%	49%
Blok-Guard® & Graffiti Control II	Red Paint	Black Marker	Green Marker	Red Marker	% Avg. Removal
Fast Acting Stripper	99%	100%	80%	95%	94%
Graffiti Wipe	100%	95%	80%	80%	89%
“Rustic Buff Matte” Concrete Brick					
Untreated Control	Red Paint	Black Marker	Green Marker	Red Marker	% Avg. Removal
Fast Acting Stripper	98%	95%	75%	75%	86%
Graffiti Wipe	80%	10%	20%	50%	40%
Blok-Guard® & Graffiti Control II	Red Paint	Black Marker	Green Marker	Red Marker	% Avg. Removal
Fast Acting Stripper	99%	100%	80%	80%	90%
Graffiti Wipe	100%	100%	80%	80%	90%

Photographs – Graffiti Control

“Georgetown Matte” Concrete Brick; Before Graffiti Removal



Sure Klean® Weather Seal Blok-Guard® & Graffiti Control II

Untreated Control

“Georgetown Matte” Concrete Brick; After Graffiti Removal



Sure Klean® Fast Acting Stripper

Defacer Eraser® Graffiti Wipe

Sure Klean® Fast Acting Stripper

Defacer Eraser® Graffiti Wipe

Sure Klean® Weather Seal Blok-Guard® & Graffiti Control II

Untreated Control

Conclusions – Graffiti Control

Based upon laboratory evaluations, graffiti removal was improved when the submitted samples were treated with Sure Klean® Weather Seal Blok-Guard® & Graffiti Control II prior to graffiti application. In addition, Sure Klean® Weather Seal Blok-Guard® & Graffiti Control II provided a slight color enhancement to the submitted samples.

Recommendations – Graffiti Control

Recommendations for graffiti control treatment for each type of CMU and concrete brick submitted by Nitterhouse Masonry Products, LLC., Chambersburg, PA are provided in the chart below. Recommendations are based on the treatment that proved most effective for providing graffiti repellency and the product that was most effective at removing the graffiti on all types submitted.

Sample	Graffiti Repellents	Graffiti Removers
All Submitted CMU's and Concrete Brick	Sure Klean® Weather Seal Blok-Guard® & Graffiti Control II	Defacer Eraser® Graffiti Wipe OR Sure Klean® Fast Acting Stripper

Apply all products in accordance with the manufacturer's recommendation provided on container labels and product data sheets. Because the severity of graffiti varies from location to location, on-site testing should be conducted to determine the most appropriate graffiti control product and procedure for a particular project.

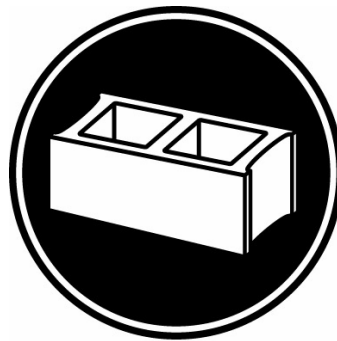


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CAM



PALLET TAG PROGRAM
Laboratory Report

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Project No. 0601-13 PTP

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