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Attachments

Technical Services TECH Note RILEM Tube Test Procedures Product Data literature for all products evaluated



Submitted Information

For: Matt Henderson Cc: Paul Tessier

Subject: Yankee Hill Brick & Tile

Lincoln, NE

Date: January 24, 2007

Project: 0612-02 PTP

Samples Submitted: 5 types of clay brick

Name	Color	Finish/Coating	Size
"Creighton Gray"	Gray	Velour	7 ½" x 2 ¼" x 3 ½"
"G-I"	Brown	Velour	7 ½" x 2 ¼" x 3 ½"
"Med-Red"	Red	Velour	7 ½" x 2 ¼" x 3 ½"
"Beige"	Beige	Velour	7 ½" x 2 ¼" x 3 ½"
"Pink"	Pink	Velour	7 ½" x 2 ¼" x 3 ½"

Submitted by: Matt Henderson

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

Five types of clay brick were submitted to AMT Laboratories by PROSOCO, Inc. with a request to determine the optimal cleaning/cure time combination to most efficiently remove Type N mortar from the submitted clay brick while limiting surface alterations to the decorative finish. Additionally, the effectiveness of water repellents and graffiti control products suitable for clay brick were evaluated.

New Construction Cleaning – Enviro Klean[®] Safety Klean, Sure Klean[®] Vana Trol[®] and Sure Klean[®] 600 Detergent were tested at various dilutions to determine the optimal cleaning/cure time combination to most efficiently remove Type N mortar from the submitted clay brick while limiting surface alterations to the decorative finish. The surface alteration evaluation was visually determined based upon perceived discoloration or erosion/etching of the clay 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 brick and filled with a wet mixture of Type N cementitious mortar. The wet mortar-filled cylinder was allowed to remain in contact with the brick for 10 minutes before removal. Soiled brick were allowed to dry before test cleaning.

Heavy deposits of mortar were removed with dry scraping after 24 hours. Prepared cleaning solutions were then evaluated for their effectiveness in removing any residual Type N mortar after 7, 14 and 21 days of curing. A visual examination was also made to determine if the tested cleaners caused any surface alterations to the submitted clay brick based on the following:

<u>Surface Finish Removal</u> is the visual examination of the brick comparing the surface finish of the untreated control surface to the surface finish cleaned with selected product(s) at given dilutions.

<u>Substrate Deterioration</u> is the visual examination of the brick comparing the surface of the untreated control to surfaces cleaned with selected product(s) at given dilutions looking for any potential erosion/digestion of the brick.

<u>Color Change</u> is the visual examination comparing the color of the untreated control surface to color of surfaces cleaned with selected products at given dilutions.

<u>Staining</u> is the visual examination for changes that are the result of a chemical reaction that leaves a staining precipitate.

Protective Water Repellents – Sure Klean[®] Weather Seal Blok-Guard[®] & Graffiti Control, Sure Klean[®] Weather Seal Blok-Guard[®] & Graffiti Control II, Sure Klean[®] Weather Seal Siloxane WB Concentrate (1:9) and Sure Klean[®] Weather Seal Siloxane PD were evaluated on the submitted samples for their ability to provide water repellency.

Graffiti Control – Sure Klean[®] Weather Seal Blok-Guard[®] & Graffiti Control and Sure Klean[®] Weather Seal Blok-Guard[®] & Graffiti Control II were evaluated for their ability to provide graffiti control. Sure Klean[®] Fast Acting Stripper and Defacer Eraser[®] Graffiti Wipe were evaluated for their ability to remove graffiti.

Products Evaluated

Products Evaluated for New Construction Cleaning

Sample	Product	Dilution
"Creighton Gray", "G-I", "Beige" and "Pink"	Sure Klean [®] Vana Trol [®]	1:6, 1:8
	Enviro Klean [®] Safety Klean	1:2, 1:3
"Med-Red"	Sure Klean [®] 600 Detergent	1:6, 1:8
ivieu-Red	Enviro Klean [®] Safety Klean	1:2, 1:3

Protective Water Repellent Products Evaluated

Sample	Product	Dilution		
	Sure Klean [®] Weather Seal Blok-Guard [®] & Graffiti Control	Concentrate		
All Submitted Clay Brick	Sure Klean® Weather Seal Blok-Guard® & Graffiti Control II			
All Submitted Glay Brick	Sure Klean [®] Weather Seal Siloxane PD	Concentrate		
	Sure Klean [®] Weather Seal Siloxane WB Concentrate	(1:9)		

Graffiti Repellents Evaluated

Sample	Product	Dilution
All Submitted Clay Brick	Sure Klean [®] Weather Seal Blok-Guard [®] & Graffiti Control	Concentrate
All Submitted Glay Blick	Sure Klean [®] Weather Seal Blok-Guard [®] & Graffiti Control II	Concentrate

Graffiti Cleaners Evaluated

Sample Product		Dilution
All Submitted Clay Brick	Sure Klean [®] Fast Acting Stripper	Concentrate
All Submitted Clay Blick	Defacer Eraser® Graffiti Wipe	Concentrate

Dilution ratios refer to mixtures of concentrated product : fresh water

New Construction Cleaning

These cleaning trials were conducted to determine the optimal cleaning/cure time combination to most efficiently remove Type N mortar from the submitted clay brick while limiting surface alterations to the decorative finish.

Type N mortar was prepared in compliance with the manufacturer's instructions, applied to the brick surface and allowed to cure for 7, 14 and 21 days. Mortar removal was accomplished using chemical assistance and a high-pressure water rinse with pressure rinsing equipment. The removal of Type N masonry mortar was visually evaluated after 7, 14 and 21 days of curing. A visual examination was also made to determine if the tested cleaners caused any surface alterations to the submitted clay brick.

<u>Description of Products Evaluated</u> – New Construction Cleaning

Sure Klean® 600 Detergent – A general purpose, concentrated acidic cleaner for brick, tile and concrete surfaces. 600 Detergent dissolves mortar smears and construction dirt quickly, leaving the masonry clean and uniform with no acid burning or streaking.

Sure Klean® Vana Trol® – A concentrated acidic cleaner for new masonry surfaces that are subject to vanadium, manganese and other metallic stains. Use on: gray, brown, white, and most light-colored brick; natural stone; cast stone. Dissolves mortar smears and construction dirt quickly, leaving the masonry clean and uniform with no acid burning or streaking. Liquid concentrate for dilution with 4-10 parts water. Apply by brush or low-pressure spray.

Enviro Klean® Safety Klean – An effective, safe, alternative to acidic compounds for cleaning brick, tile, and concrete surfaces. Safety Klean rids new masonry construction of excess mortar, dirt and other common job site soiling. It's ideal for projects where traditional acidic cleaners are not allowed. Non-fuming Safety Klean contains no hydrochloric or other traditional inorganic acids and is safe for use on and around most metal surfaces. Always test. Additionally, it is up to 70 percent more effective than citric and glycolic acids, and 50 percent more effective than phosphoric acid.

Test Method – New Construction Cleaning

New construction cleaners were evaluated using the following procedure:

- 1. Pre-wet the surface with water.
- 2. Apply the cleaner.
- 4. Pressure rinse thoroughly.*

^{*}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 N Mortar Removal)

"Creighton Gray"					
Product	Dilution	3 day	7 day	14 day	
Sure Klean [®] Vana Trol [®]	1:6	100%	100%	100%	
Sure Klean [®] Vana Trol [®]	1:8	100%	100%	100%	
Enviro Klean [®] Safety Klean	1:2	100%	100%	100%	
Enviro Klean [®] Safety Klean	1:3	98%	100%	98%	
	"G-I"				
Product	Dilution	3 day	7 day	14 day	
Sure Klean [®] Vana Trol [®]	1:6	100%	100%	100%	
Sure Klean [®] Vana Trol [®]	1:8	100%	100%	100%	
Enviro Klean [®] Safety Klean	1:2	100%	100%	100%	
Enviro Klean [®] Safety Klean	1:3	100%	100%	100%	
	"Med-Re	d"			
Product	Dilution	3 day	7 day	14 day	
Enviro Klean [®] Safety Klean	1:2	100%	100%	100%	
Enviro Klean [®] Safety Klean	1:3	100%	95%	100%	
Sure Klean [®] 600 Detergent	1:6	100%	100%	100%	
Sure Klean [®] 600 Detergent	1:8	100%	100%	100%	
	"Beige'	,			
Product	Dilution	3 day	7 day	14 day	
Sure Klean [®] Vana Trol [®]	1:6	100%	100%	100%	
Sure Klean [®] Vana Trol [®]	1:8	100%	98%	100%	
Enviro Klean® Safety Klean	1:2	100%	100%	100%	
Enviro Klean [®] Safety Klean	1:3	100%	98%	100%	
"Pink"					
Product	Dilution	3 day	7 day	14 day	
Sure Klean [®] Vana Trol [®]	1:6	100%	100%	100%	
Sure Klean [®] Vana Trol [®]	1:8	100%	100%	100%	
Enviro Klean [®] Safety Klean	1:2	100%	100%	100%	
Enviro Klean [®] Safety Klean	1:3	100%	100%	100%	

<u>Test Results</u> – Limiting Surface Alterations

Substrate: Clay Brick Pigment Color: "Creighton Gray"					
Product	Dilution	Surface Finish Removal	Substrate Deterioration	Color Change	Staining
Sure Klean [®] Vana Trol [®]	1:6	0	0	0	0
Sure Klean [®] Vana Trol [®]	1:8	0	0	0	0
Enviro Klean® Safety Klean	1:2	0	0	0	0
Enviro Klean® Safety Klean	1:3	0	0	0	0
Substrate: Clay Brick	Pigment Co	olor: "G-l"			
Product	Dilution	Surface Finish Removal	Substrate Deterioration	Color Change	Staining
Sure Klean [®] Vana Trol [®]	1:6	0	0	0	0
Sure Klean [®] Vana Trol [®]	1:8	0	0	0	0
Enviro Klean [®] Safety Klean	1:2	0	0	0	0
Enviro Klean [®] Safety Klean	1:3	0	0	0	0
Substrate: Clay Brick	Pigment Co	olor: "Med-Red"			
Product	Dilution	Surface Finish Removal	Substrate Deterioration	Color Change	Staining
Enviro Klean [®] Safety Klean	1:2	0	0	0	0
Enviro Klean® Safety Klean	1:3	0	0	0	0
Sure Klean® 600 Detergent	1:6	0	0	0	0
Sure Klean® 600 Detergent	1:8	0	0	0	0
Substrate: Clay Brick	Pigment Co	olor: "Beige"			
Product	Dilution	Surface Finish Removal	Substrate Deterioration	Color Change	Staining
Sure Klean [®] Vana Trol [®]	1:6	0	0	0	0
Sure Klean [®] Vana Trol [®]	1:8	0	0	0	0
Enviro Klean® Safety Klean	1:2	0	0	0	0
Enviro Klean [®] Safety Klean	1:3	0	0	0	0
Substrate: Clay Brick	Pigment Co	olor: "Pink"			
Product	Dilution	Surface Finish Removal	Substrate Deterioration	Color Change	Staining
Sure Klean [®] Vana Trol [®]	1:6 0 0		0		
Sure Klean [®] Vana Trol [®]	1:8	0	0	0	0
Enviro Klean [®] Safety Klean	1:2	0	0	0	0
Enviro Klean [®] Safety Klean	1:3	0	0	0	0

^{0 -} No change

^{3 -} change - heavy

^{1 -} change - slight

^{4 -} change - excessive

^{2 –} change – moderate

Photographs - New Construction Cleaning

"G-I" Clay Brick; 7 Day Cleaning



"G-I" Clay Brick; 14 Day Cleaning



"G-I" Clay Brick; 21 Day Cleaning



Photographs – Limiting Surface Alterations

"G-I" Clay Brick; Limiting Surface Alterations



Conclusions - New Construction Cleaning

Based on the test results, all PROSOCO, Inc. products tested performed well in removing excess mortar from the submitted clay brick even after allowing the mortar to remain on the surface of the brick for 21 days. In addition, test results indicate that the evaluated cleaners caused no noticeable surface alterations to any of the submitted clay brick.

It is recommended that the selected cleaners always be used in the lowest possible concentration. They should be rinsed with the lowest pressure of water as practical to minimize removal of the decorative finish. Excessive pressure and water volume may combine to damage or remove decorative finishes. To facilitate easier removal of excess mortar while minimizing any potential surface alterations to the decorative finish, clean within 7 days of construction.

Recommendations - New Construction Cleaning

Recommendations for cleaning for each type of clay brick submitted by Yankee Hill Brick & Tile, Lincoln, NE are provided in the chart below. Recommendations are based on the optimum dilution for complete removal of mortar while limiting surface alterations.

Sample	New Construction Cleaning (Type N mortar, 21 day cleaning)
"Creighton Gray", "G-I", "Biege" and "Pink"	Sure Klean [®] Vana Trol [®] (1:6) OR (1:8) OR Enviro Klean [®] Safety Klean (1:2) OR (1:3)
"Med-Red"	Sure Klean [®] 600 Detergent (1:6) OR (1:8) OR Enviro Klean [®] Safety Klean (1:2) OR (1:3)

Apply all products in accordance with the manufacturer's recommendation provided on container labels and product data sheets. On-site testing should always 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 – A clear, solvent-based silicone elastomer formulated to weatherproof concrete block and other porous masonry materials. Blok-Guard® & Graffiti Control protects masonry surfaces from repeated graffiti attacks without altering the natural appearance. Blok-Guard® & Graffiti Control penetrates and fills pores to prevent water penetration through exterior walls exposed to normal weathering. Graffiti removal is fast and easy using Defacer Eraser® Graffiti Wipe. Blok-Guard® & Graffiti Control is easy to apply with low-pressure spray, brush or roller.

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 PD – A ready-to-use, water-based silane/siloxane water repellent for concrete, GFRC, and most masonry and stucco surfaces. Siloxane PD penetrates more deeply than conventional water repellents. It helps masonry resist cracking, spalling, staining and other damage related to water intrusion. Low odor and alkaline stable, Siloxane PD is ideal for field and in-plant application.

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 brick were cut and allowed to dry for at least 24 hours prior to treatment. All treatments were applied by brush in accordance with the current PROSOCO, Inc. Product Data Sheets and were allowed to cure for at least 72 hours prior to testing.

Test Methods - Protective Water Repellents

Water Absorption Tube Test: Vertical RILEM II.4, 5.0 milliliters, 20 minutes

The water absorption tube test simulating wind driven and wind blown rain conditions was performed. Tests were run with vertical 5.0-milliliter head pressures. Filled to 5.0 milliliters, a water absorption tube produces a 98 mph dynamic wind pressure. See RILEM II.4 Tech Note for additional information.

The ranking system used to evaluate the effectiveness of the products applied to each submitted sample is as follows:

AA = "Above Average" correlates to less than or equal to 20% of the maximum untreated absorption.

A = "Average" correlates to less than or equal to 50% of the maximum untreated absorption.

BA = "Below Average" correlates to greater than 50% of the maximum untreated absorption.

EXAMPLE: If RILEM tubes applied to an untreated sample result in loss of 5 ml of water or more, then:

A rating of AA Above Average water repellent performance would require loss of less than or equal to:

$$5.0 \text{ mL } \text{X } 20\% = 1.0 \text{ mL}$$

A rating of <u>A</u> Average water repellent performance would require loss of less than or equal to:

A rating of **BA** Below Average water repellent performance would require loss of more than:

$$5.0 \text{ mL } X 50\% = 2.5 \text{ mL}$$

Test Results - Protective Water Repellents

Water Absorption Tube Test: Vertical RILEM II.4, 5.0 milliliters, 20 minutes

AA = Above Average

A = Average

BA = Below Average

"Creighton Gray"	Results in mL loss	Ranking
Untreated Control	0.4	1
Sure Klean® Weather Seal Blok-Guard® & Graffiti Control	0.0	<u>AA</u>
Sure Klean® Weather Seal Blok-Guard® & Graffiti Control II	0.0	<u>AA</u>
Sure Klean® Weather Seal Siloxane PD	0.0	<u>AA</u>
Sure Klean® Weather Seal Siloxane WB Concentrate (1:9)	0.0	<u>AA</u>
"G-I"	Results in mL loss	Ranking
Untreated Control	0.1	_
Sure Klean® Weather Seal Blok-Guard® & Graffiti Control	0.0	<u>AA</u>
Sure Klean® Weather Seal Blok-Guard® & Graffiti Control II	0.0	<u>AA</u>
Sure Klean® Weather Seal Siloxane PD	0.0	<u>AA</u>
Sure Klean [®] Weather Seal Siloxane WB Concentrate (1:9)	0.0	<u>AA</u>
"Med-Red"	Results in mL loss	Ranking
Untreated Control	0.1	1
Sure Klean® Weather Seal Blok-Guard® & Graffiti Control	0.0	<u>AA</u>
Sure Klean [®] Weather Seal Blok-Guard [®] & Graffiti Control II	0.0	<u>AA</u>
Sure Klean® Weather Seal Siloxane PD	0.0	<u>AA</u>
Sure Klean® Weather Seal Siloxane WB Concentrate (1:9)	0.0	<u>AA</u>
"Beige"	Results in mL loss	Ranking
Untreated Control	0.1	1
Sure Klean® Weather Seal Blok-Guard® & Graffiti Control	0.0	<u>AA</u>
Sure Klean [®] Weather Seal Blok-Guard [®] & Graffiti Control II	0.0	<u>AA</u>
Sure Klean® Weather Seal Siloxane PD	0.0	<u>AA</u>
Sure Klean® Weather Seal Siloxane WB Concentrate (1:9)	0.0	<u>AA</u>
"Pink"	Results in mL loss	Ranking
Untreated Control	0.5	1
Sure Klean [®] Weather Seal Blok-Guard [®] & Graffiti Control	0.0	<u>AA</u>
Sure Klean® Weather Seal Blok-Guard® & Graffiti Control II	0.0	<u>AA</u>
Sure Klean® Weather Seal Siloxane PD	0.0	<u>AA</u>
Sure Klean [®] Weather Seal Siloxane WB Concentrate (1:9)	0.0	<u>AA</u>

Photographs – Protective Water Repellents

"Creighton Gray" Clay Brick; Vertical RILEM II.4, 5.0 milliliters, 20 minutes



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

Sure Klean[®] Weather Seal Siloxane PD Sure Klean[®] Weather Seal Siloxane WB Concentrate Untreated Control

Conclusions – Protective Water Repellents

Test results indicate that all of the treatments evaluated exhibited above average water repellency on all of the submitted clay brick. In addition, Sure Klean[®] Weather Seal Blok-Guard[®] & Graffiti Control and Sure Klean[®] Weather Seal Blok-Guard[®] & Graffiti Control II exhibited a slight color enhancement to the appearance of the brick. Sure Klean[®] Weather Seal Siloxane PD and Sure Klean[®] Weather Seal Siloxane WB Concentrate did not alter the appearance of any of the brick in any way.

Recommendations - Protective Water Repellents

Recommendations for water repellent treatments for each type of clay brick submitted by Yankee Hill Brick & Tile, Lincoln, NE are provided in the chart below. Recommendations are based on the treatments that proved most effective and can provide water repellency on all types indicated.

Sample	Protective Water Repellents
All Submitted Clay Brick	*Sure Klean [®] Weather Seal Blok-Guard [®] & Graffiti Control OR Sure Klean [®] Weather Seal Blok-Guard [®] & Graffiti Control II OR Sure Klean [®] Weather Seal Siloxane PD OR Sure Klean [®] Weather Seal Siloxane WB Concentrate (1:9)

*NOTE: Sure Klean® Weather Seal Blok-Guard® & Graffiti Control is manufactured and marketed in compliance with USEPA AIM VOC regulations (40 CFR 59.403). This product may not be suitable for sale in states and districts with more restrictive AIM VOC regulations.

It must be pointed out that in any installation; the brick are a single component of the masonry facade. The ability of a water repellent treatment to prevent the ingress of water is affected by a variety of other factors. Therefore, on-site testing should be carried out for all installations with the recommended systems to ensure job site workmanship yields equivalent results.

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.

<u>Description of Products Evaluated</u> – Graffiti Control

Graffiti Control Treatments

Sure Klean® Weather Seal Blok-Guard® & Graffiti Control – A clear, solvent-based silicone elastomer formulated to weatherproof concrete block and other porous masonry materials. Blok-Guard® & Graffiti Control protects masonry surfaces from repeated graffiti attacks without altering the natural appearance. Blok-Guard® & Graffiti Control penetrates and fills pores to prevent water penetration through exterior walls exposed to normal weathering. Graffiti removal is fast and easy using Defacer Eraser® Graffiti Wipe. Blok-Guard® & Graffiti Control is easy to apply with low-pressure spray, brush or roller.

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

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.

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.

Graffiti Agents

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

Sample Preparation - Graffiti Control

Sections of the clay brick samples were treated with Sure Klean® Weather Seal Blok-Guard® & Graffiti Control and Sure Klean® Weather Seal Blok-Guard® & Graffiti Control II in accordance with the current PROSOCO, Inc. Product Data Sheet application instructions and then allowed to cure for at least one day. At the end of the one-day 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:

- 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.

<u>Test Results</u> – Graffiti Control

	66	Creighton Gra	y"		
Untreated Control		Black Marker		Red Marker	% Avg. Removal
Fast Acting Stripper	95%	90%	70%	80%	84%
Graffiti Wipe	90%	70%	80%	80%	80%
Blok-Guard [®] & Graffiti Control	Red Paint	Black Marker	Green Marker	Red Marker	% Avg. Removal
Fast Acting Stripper	95%	98%	95%	98%	97%
Graffiti Wipe	98%	95%	98%	95%	97%
Blok-Guard [®] & Graffiti Control II	Red Paint	Black Marker	Green Marker	Red Marker	% Avg. Removal
Fast Acting Stripper	95%	90%	85%	90%	90%
Graffiti Wipe	98%	85%	90%	90%	91%
·		"G-I"		<u>I</u>	I
Untreated Control	Red Paint	Black Marker	Green Marker	Red Marker	% Avg. Removal
Fast Acting Stripper	98%	95%	80%	80%	88%
Graffiti Wipe	95%	80%	80%	80%	84%
Blok-Guard [®] & Graffiti Control	Red Paint	Black Marker	Green Marker	Red Marker	% Avg. Removal
Fast Acting Stripper	98%	100%	100%	100%	100%
Graffiti Wipe	99%	100%	100%	99%	100%
Blok-Guard [®] & Graffiti Control II			Green Marker	Red Marker	% Avg. Removal
Fast Acting Stripper	98%	99%	90%	98%	96%
Graffiti Wipe	99%	100%	95%	95%	97%
- Cra 111po	0070	"Med-Red"	00,0	0070	0170
Untreated Control	Red Paint	Black Marker	Green Marker	Red Marker	% Avg. Removal
Fast Acting Stripper	98%	100%	95%	98%	97%
Graffiti Wipe	98%	98%	95%	98%	97%
Blok-Guard [®] & Graffiti Control	Red Paint		Green Marker	Red Marker	% Avg. Removal
Fast Acting Stripper	100%	100%	100%	100%	100%
Graffiti Wipe	100%	100%	100%	100%	100%
Blok-Guard [®] & Graffiti Control II			Green Marker	Red Marker	% Avg. Removal
Fast Acting Stripper	100%	100%	99%	100%	100%
Graffiti Wipe	100%	100%	99%	100%	100%
	100,0	"Beige"		10070	10070
Untreated Control	Red Paint		Green Marker	Red Marker	% Avg. Removal
Fast Acting Stripper	98%	90%	90%	90%	92%
Graffiti Wipe	98%	85%	90%	90%	91%
Blok-Guard [®] & Graffiti Control	Red Paint		Green Marker	Red Marker	% Avg. Removal
Fast Acting Stripper	98%	98%	98%	100%	99%
Graffiti Wipe	98%	99%	99%	98%	99%
Blok-Guard [®] & Graffiti Control II			Green Marker	Red Marker	% Avg. Removal
Fast Acting Stripper	98%	98%	95%	98%	97%
Graffiti Wipe	98%	98%	98%	98%	98%
Grama Tripo	0070	"Pink"	0070	0070	0070
Untreated Control	Red Paint		Green Marker	Red Marker	% Avg. Removal
Fast Acting Stripper	95%	90%	80%	95%	90%
Graffiti Wipe	95%	80%	80%	85%	85%
Blok-Guard [®] & Graffiti Control	Red Paint		Green Marker	Red Marker	% Avg. Removal
Fast Acting Stripper	98%	98%	98%	99%	98%
Graffiti Wipe	98%	95%	98%	98%	97%
Blok-Guard [®] & Graffiti Control II			Green Marker	Red Marker	% Avg. Removal
Fast Acting Stripper	99%	95%	95%	99%	97%
Graffiti Wipe	99%	95%	95%	99%	97%
Gramu wipe	3370	3070	3070	3370	J1 70

Photographs - Graffiti Control

"G-I"; Graffiti Applied



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

Untreated Control

"Creighton Gray"; Graffiti Removed



Sure Klean[®]
Fast Acting
Stripper

Defacer Eraser[®] Graffiti Wipe

er[®] Fast Acting Wipe Stripper

Sure Klean® Defacer
Fast Acting Eraser®
Stripper Graffiti Wipe

Sure Klean[®] Weather Seal Blok-Guard[®] & Graffiti Control II Sure Klean[®]
Fast Acting
Stripper

Defacer Eraser[®] Graffiti Wipe

Sure Klean[®] Weather Seal Blok-Guard[®] & Graffiti Control

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 and Sure Klean® Weather Seal Blok-Guard® & Graffiti Control II prior to graffiti application. In addition, both Sure Klean® Weather Seal Blok-Guard® & Graffiti Control and Sure Klean® Weather Seal Blok-Guard® & Graffiti Control II exhibited a slight color enhancement to the appearance of the submitted clay brick.

Recommendations - Graffiti Control

Recommendations for graffiti control treatment for each type of clay brick submitted by Yankee Hill Brick & Tile, Lincoln, NE 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 of clay brick submitted.

Sample	Graffiti Repellents	Graffiti Removers
"G-I", "Med-Red", "Beige" and "Pink"	*Sure Klean [®] Weather Seal Blok-Guard [®] & Graffiti Control OR Sure Klean [®] Weather Seal Blok-Guard [®] & Graffiti Control II	Sure Klean [®] Fast Acting Stripper OR Defacer Eraser [®] Graffiti Wipe
"Creighton Grey"	*Sure Klean [®] Weather Seal Blok-Guard [®] & Graffiti Control	Sure Klean [®] Fast Acting Stripper OR Defacer Eraser [®] Graffiti Wipe

*NOTE: Sure Klean[®] Weather Seal Blok-Guard[®] & Graffiti Control is manufactured and marketed in compliance with USEPA AIM VOC regulations (40 CFR 59.403). This product may not be suitable for sale in states and districts with more restrictive AIM VOC regulations.

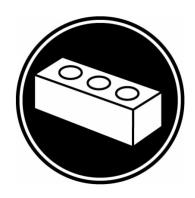
Apply all products in accordance with the manufacturer's recommendation provided on container labels and product data sheets. Because the severity of graffiti varies from location to location, on-site testing should be conducted to determine the most appropriate graffiti control product and procedure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

John Lancaster

Project Testing Laboratory Technician

Yankee Hill Brick & Tile

3705 S. Coddington Ave. Lincoln, NE 68522



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