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Attachments

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

Submitted Information

For: Tom Lane cc: Brian Koenings

Subject: Santerra Stonecraft

Windsor, Ontario

Date: October 28, 2008

Project: 0809-06 PTP

Samples Submitted: 10 types of Split-face CMU's

Name	Color	Туре	Size
"Auburn Blend"	Dark Buff/ Gray	Split-face CMU	15" x 7 ½" x 3 ¾"
"Auburn Red SR2"	Red/ Gray	Split-face CMU	15" x 7 ½" x 5"
"Cedar"	Dark Buff	Split-face CMU	15" x 7 ½" x 7 ½"
"Charcoal"	Dark Gray	Split-face CMU	15" x 7 ½" x 7 ½"
"Diamond White SR2"	White	Split-face CMU	15" x 7 ½" x 7 ½"
"Natural"	Light Gray	Split-face CMU	15" x 7 ½" x 5"
"Red SR2"	Red	Split-face CMU	15" x 7 ½" x 7 ½"
"Red Ash"	Dark Red/ Dark Gray	Split-face CMU	15" x 7 ½" x 5"
"Salmon"	Light Red	Split-face CMU	15" x 7 ½" x 5"
"Tan"	Buff	Split-face CMU	15" x 7 ½" x 3 ¾"

Submitted by: Tom Lane

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

Ten types of integrally colored split-face CMU's, 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 products suitable for CMU's were also evaluated.

New Construction Cleaning – Sure Klean[®] Custom Masonry Cleaner was 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.

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.

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.

<u>Aggregate Exposure</u> 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.

<u>Surface Pigment Alteration/Removal</u> 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

1 – **Poor** match to through-body

2 – **Fair** match to through-body

3 – **Good** match to through-body

4 – **Best** 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.

Protective Water Repellents – Sure Klean[®] Weather Seal Blok-Guard[®] & Graffiti Control II, Sure Klean[®] Weather Seal Blok-Guard[®] & Graffiti Control 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 and Sure Klean[®] Weather Seal Blok-Guard[®] & Graffiti Control II were evaluated for their ability to control graffiti on the submitted samples. Sure Klean[®] Fast Acting Stripper, Defacer Eraser[®] Graffiti Wipe, and Enviro Klean[®] SafStrip[®] 8 were evaluated for their ability to remove graffiti from the submitted samples.

Products Evaluated

New Construction Cleaning Products Evaluated

Sample	Product	Dilution
All Submitted CMU's	Sure Klean [®] Custom Masonry Cleaner	1:2, 1:4, 1:6

Protective Water Repellent Products Evaluated

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

Graffiti Control Products Evaluated

Sample	Product	Dilution
All Submitted CMU's	Sure Klean [®] Weather Seal Blok-Guard [®] & Graffiti Control	Concentrate
All Submitted Civio's	Sure Klean [®] Weather Seal Blok-Guard [®] & Graffiti Control II	Concentrate

Graffiti Removal Products Evaluated

Sample	Product	Dilution
	Sure Klean [®] Fast Acting Stripper	Concentrate
All Submitted CMU's	Defacer Eraser® Graffiti Wipe	Concentrate
	Enviro Klean [®] SafStrip [®] 8	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.

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.

<u>Sample Preparation</u> – New Construction Cleaning

Type S mortar was prepared in compliance with the manufacturer's instructions, applied to the samples 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 provides the best color uniformity when compared to the throughbody color of the CMU's.

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.
- 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.
- *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)

",	Auburn Blend	"				
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 %		
"Aı	uburn Red SR	2"				
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 %		
	"Cedar"					
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 %		
	"Charcoal"					
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 %		
"Diamond White SR2"						
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 %		

Test Results – New Construction Cleaning

Cleaning Effectiveness (% Type S Mortar Removal)

	"Natural"					
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 %		
	"Red SR2"					
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 %		
	"Red Ash"					
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 %		
	"Salmon"					
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 %		
"Tan"						
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 %		

<u>Test Results</u> – Color Uniformity

"Auburn Blend"					
Product	Dilution	Aggregate Exposure	Surface Pigment Alteration/Removal		
Sure Klean [®] Custom Masonry Cleaner	1:2	3	3		
Sure Klean [®] Custom Masonry Cleaner	1:4	3	3		
Sure Klean [®] Custom Masonry Cleaner	1:6	4	4		
	"Auburn	Red SR2"			
Product	Dilution	Aggregate Exposure	Surface Pigment Alteration/Removal		
Sure Klean [®] Custom Masonry Cleaner	1:2	2	3		
Sure Klean [®] Custom Masonry Cleaner	1:4	2	3		
Sure Klean [®] Custom Masonry Cleaner	1:6	3	3		
	"Ce	dar"			
Product	Dilution	Aggregate Exposure	Surface Pigment Alteration/Removal		
Sure Klean® Custom Masonry Cleaner	1:2	1	3		
Sure Klean® Custom Masonry Cleaner	1:4	2	3		
Sure Klean [®] Custom Masonry Cleaner	1:6	3	3		
	"Cha	rcoal"			
Product	Dilution	Aggregate Exposure	Surface Pigment Alteration/Removal		
Sure Klean® Custom Masonry Cleaner	1:2	0	0		
Sure Klean® Custom Masonry Cleaner	1:4	1	1		
Sure Klean® Custom Masonry Cleaner	1:6	1	1		
"Diamond White SR2"					
Product	Dilution	Aggregate Exposure	Surface Pigment Alteration/Removal		
Sure Klean® Custom Masonry Cleaner	1:2	2	3		
Sure Klean® Custom Masonry Cleaner	1:4	2	3		
Sure Klean® Custom Masonry Cleaner	1:6	4	4		

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

Test Results – Color Uniformity

"Natural"					
Product	Dilution	Aggregate Exposure	Surface Pigment Alteration/Removal		
Sure Klean [®] Custom Masonry Cleaner	1:2	1	1		
Sure Klean [®] Custom Masonry Cleaner	1:4	1	2		
Sure Klean [®] Custom Masonry Cleaner	1:6	1	2		
	"Red	SR2"			
Product	Dilution	Aggregate Exposure	Surface Pigment Alteration/Removal		
Sure Klean [®] Custom Masonry Cleaner	1:2	0	1		
Sure Klean [®] Custom Masonry Cleaner	1:4	3	2		
Sure Klean [®] Custom Masonry Cleaner	1:6	2	3		
	"Red	Ash"			
Product	Dilution	Aggregate Exposure	Surface Pigment Alteration/Removal		
Sure Klean [®] Custom Masonry Cleaner	1:2	0	1		
Sure Klean [®] Custom Masonry Cleaner	1:4	1	2		
Sure Klean [®] Custom Masonry Cleaner	1:6	1	2		
	"Sal	mon"			
Product	Dilution	Aggregate Exposure	Surface Pigment Alteration/Removal		
Sure Klean® Custom Masonry Cleaner	1:2	2	2		
Sure Klean® Custom Masonry Cleaner	1:4	3	3		
Sure Klean® Custom Masonry Cleaner	1:6	3	3		
"Tan"					
Product	Dilution	Aggregate Exposure	Surface Pigment Alteration/Removal		
Sure Klean® Custom Masonry Cleaner	1:2	1	1		
Sure Klean [®] Custom Masonry Cleaner	1:4	2	2		
Sure Klean® Custom Masonry Cleaner	1:6	3	3		

Scale used for reporting results of both categories

0 - Worst match to through-body

3 – **Good** match to through-body

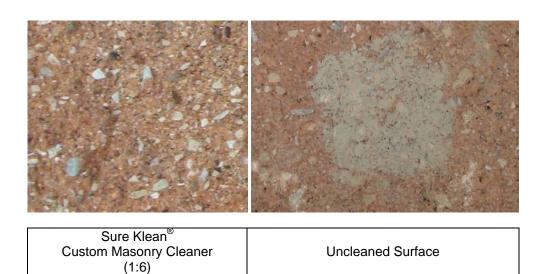
1 – **Poor** match to through-body

4 – **Best** match to through-body

2 – **Fair** match to through-body

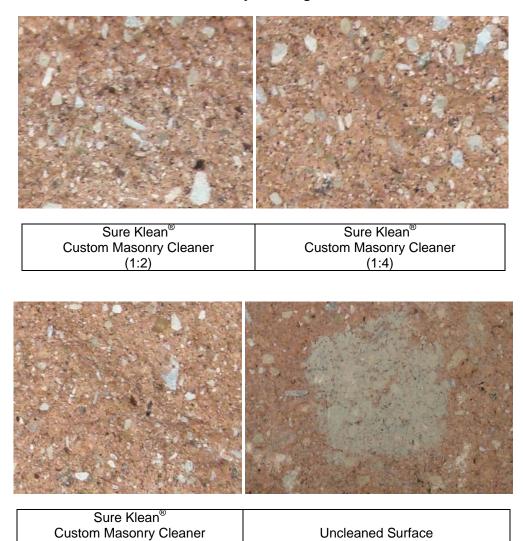
"Salmon"; Type S Mortar 3 Day Cleaning





(1:6)

"Salmon"; Type S Mortar 7 Day Cleaning



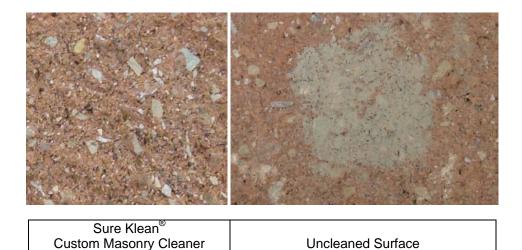
"Salmon"; Type S Mortar 14 Day Cleaning



(1:2)

(1:6)

(1:4)

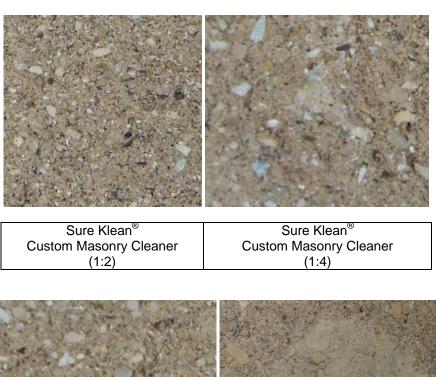


"Cedar"; Type S Mortar 3 Day Cleaning



(1:6)

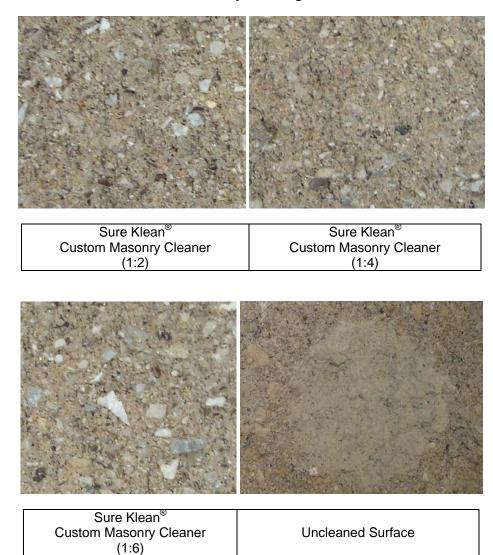
"Cedar"; Type S Mortar 7 Day Cleaning





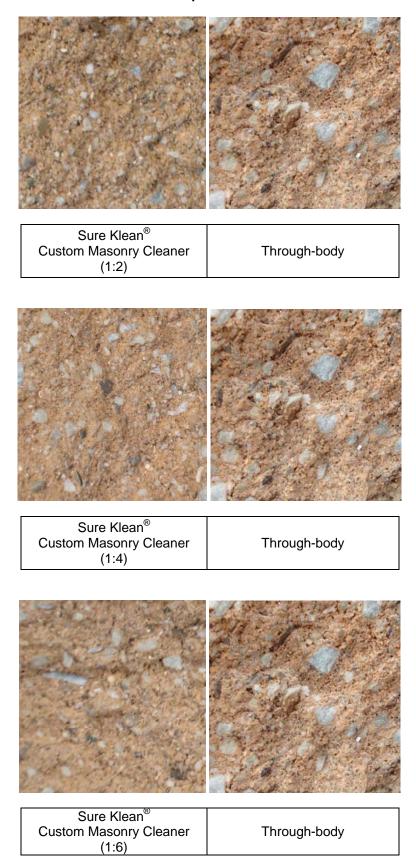
Uncleaned Surface

"Cedar"; Type S Mortar 14 Day Cleaning



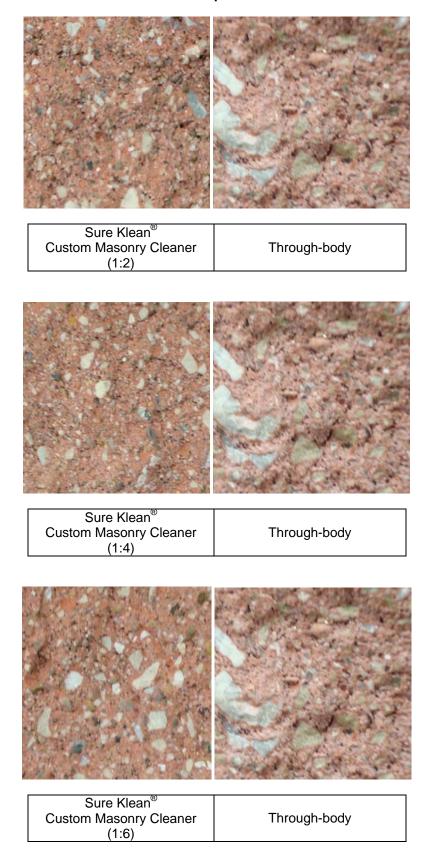
Photographs – Color Uniformity

"Tan" Split-face CMU



Photographs – Color Uniformity

"Red SR2" Split-face CMU



Conclusions - New Construction Cleaning

Based on the test results, all dilutions of Sure Klean[®] Custom Masonry Cleaner successfully removed all of the Type S mortar from the submitted split-face CMU samples even after the mortar remained on the surface of the sample for 14 days.

All dilutions of Sure Klean[®] Custom Masonry Cleaner removed moderate to significant amounts of surface pigment from the surface of the split-face CMU's, exposing aggregate and exposing a slightly darker pigment when compared to the through-body.

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 submitted by Santerra Stonecraft, Windsor, Ontario 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.

Sample	New Construction Cleaning (Type S mortar, 7 day cleaning)
All Submitted CMU's	Sure Klean [®] Custom Masonry Cleaner (1:6)

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 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 Siloxane WB Concentrate – A concentrated water repellent 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. An effective alternative to conventional solvent-based silanes or siloxanes, Siloxane WB penetrates and chemically bonds deep within the masonry substrate to provide long-lasting protection against water-related staining or deterioration. Will not darken, produce a surface film or impair the natural breathing characteristics of treated surfaces.

<u>Sample Preparation</u> – Protective Water Repellents

The submitted samples were allowed to dry for 24 hours prior to treatment. All of the products 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

	Nesuits
"Auburn Blend"	
Untreated Control	<40
Sure Klean [®] Weather Seal Blok-Guard [®] & Graffiti Control II	60
Sure Klean [®] Weather Seal Blok-Guard [®] & Graffiti Control	60
Sure Klean® Weather Seal Siloxane WB Concentrate	50
"Auburn Red SR2"	
Untreated Control	:<40
Sure Klean [®] Weather Seal Blok-Guard [®] & Graffiti Control II	60
Sure Klean [®] Weather Seal Blok-Guard [®] & Graffiti Control	60
Sure Klean® Weather Seal Siloxane WB Concentrate	48
"Cedar"	
Untreated Control	<40
Sure Klean® Weather Seal Blok-Guard® & Graffiti Control II	59
Sure Klean [®] Weather Seal Blok-Guard [®] & Graffiti Control	59
Sure Klean [®] Weather Seal Siloxane WB Concentrate	58
"Charcoal"	
Untreated Control	:<40
Sure Klean® Weather Seal Blok-Guard® & Graffiti Control II	57
Sure Klean [®] Weather Seal Blok-Guard [®] & Graffiti Control	60
Sure Klean® Weather Seal Siloxane WB Concentrate	57
"Diamond White SR2"	
Untreated Control	:<40
Sure Klean [®] Weather Seal Blok-Guard [®] & Graffiti Control II	60
Sure Klean [®] Weather Seal Blok-Guard [®] & Graffiti Control	59
Sure Klean [®] Weather Seal Siloxane WB Concentrate	57
"Natural"	
Untreated Control	:<40
Sure Klean [®] Weather Seal Blok-Guard [®] & Graffiti Control II	60
Sure Klean [®] Weather Seal Blok-Guard [®] & Graffiti Control	59
Sure Klean [®] Weather Seal Siloxane WB Concentrate	58
"Red SR2"	
Untreated Control	:<40
Sure Klean [®] Weather Seal Blok-Guard [®] & Graffiti Control II	58
Sure Klean [®] Weather Seal Blok-Guard [®] & Graffiti Control	60
Sure Klean [®] Weather Seal Siloxane WB Concentrate	59
"Red Ash"	
Untreated Control	:<40
Sure Klean [®] Weather Seal Blok-Guard [®] & Graffiti Control II	59
Sure Klean [®] Weather Seal Blok-Guard [®] & Graffiti Control	60
Sure Klean [®] Weather Seal Siloxane WB Concentrate	60

Test Results - Protective Water Repellents

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

Results

"Salmon"	
Untreated Control	:<40
Sure Klean® Weather Seal Blok-Guard® & Graffiti Control II	58
Sure Klean® Weather Seal Blok-Guard® & Graffiti Control	60
Sure Klean® Weather Seal Siloxane WB Concentrate	59
"Tan"	
Untreated Control	<40
Sure Klean® Weather Seal Blok-Guard® & Graffiti Control II	60
Sure Klean® Weather Seal Blok-Guard® & Graffiti Control	59
Sure Klean® Weather Seal Siloxane WB Concentrate	58

Photographs - Protective Water Repellents

"Red Ash"; RILEM II.4, 60 mph, 20 Minutes









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

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

Sure Klean® Weather Seal Siloxane WB Concentrate (1:9)

Untreated Control

Conclusions - Protective Water Repellents

Based upon laboratory evaluations, at least two of the products tested provided excellent water repellency to the submitted samples. In addition, Sure Klean[®] Weather Seal Siloxane WB Concentrate and Sure Klean[®] Weather Seal Blok-Guard[®] & Graffiti Control provided a slight to moderate color enhancement to the submitted samples.

Recommendations - Protective Water Repellents

Recommendations for water repellency for each CMU submitted by Santerra Stonecraft, Windsor, Ontario 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
"Auburn Blend" "Auburn Red SR2"	Sure Klean [®] Weather Seal Blok-Guard [®] & Graffiti Control II or *Sure Klean [®] Weather Seal Blok-Guard [®] & Graffiti Control
"Cedar"	
"Charcoal"	Sure Klean [®] Weather Seal Blok-Guard [®] & Graffiti Control II
"Diamond White SR2"	or
"Natural"	*Sure Klean [®] Weather Seal Blok-Guard [®] & Graffiti Control
"Red SR2"	or
"Red Ash"	Sure Klean [®] Weather Seal Siloxane WB Concentrate
"Salmon"	(1:9)
"Tan"	

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

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 – 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

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.

Enviro Klean® SafStrip® 8 – Enviro Klean® SafStrip® 8 is a neutral-pH stripping compound for nearly any hard surface – masonry, concrete, wood or metal. It bears the Enviro Klean® brand because it removes most high-strength paints and clear coats without the methylene chloride or methanol found in traditional solvent paint strippers. Use SafStrip 8 to break the bond of the toughest oil-based "alkyd" paints, acrylics, lacquers and clear sealers. It also removes graffiti media such as spray paint and "magic" marker. SafStrip 8's gel-like consistency makes it hard to spill and easy to apply. It immediately emulsifies in water.

Graffiti Agents

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

Sample Preparation - Graffiti Control

Sections of the CMU's 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 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 and 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, Sure Klean[®] Fast Acting Stripper, and Enviro Klean[®] SafStrip[®] 8.

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.

Test Results - Graffiti Control

"Auburn Blend"					
Untreated Control	Red Paint	Black Marker	Green Marker	Red Marker	% Avg. Removal
Sure Klean [®] Fast Acting Stripper	70	70	50	50	60
Defacer Eraser® Graffiti Wipe	40	60	40	40	45
Enviro Klean [®] SafStrip [®] 8	65	60	50	50	56
Sure Klean [®] Weather Seal Blok-Guard [®] & Graffiti Control	Red Paint	Black Marker	Green Marker	Red Marker	% Avg. Removal
Sure Klean [®] Fast Acting Stripper	75	70	55	65	66
Defacer Eraser® Graffiti Wipe	60	40	40	40	45
Enviro Klean [®] SafStrip [®] 8	60	60	55	55	58
Sure Klean [®] Weather Seal Blok-Guard [®] & Graffiti Control II	Red Paint	Black Marker	Green Marker	Red Marker	% Avg. Removal
Sure Klean [®] Fast Acting Stripper	65	100	95	95	89
Defacer Eraser® Graffiti Wipe	55	100	95	95	86
Enviro Klean [®] SafStrip [®] 8	70	95	100	95	90
		"Auburn Red S	R2"		
Untreated Control	Red Paint	Black Marker	Green Marker	Red Marker	% Avg. Removal
Sure Klean [®] Fast Acting Stripper	90	80	70	65	76
Defacer Eraser® Graffiti Wipe	40	50	60	50	50
Enviro Klean [®] SafStrip [®] 8	60	50	90	50	62
Sure Klean [®] Weather Seal Blok-Guard [®] & Graffiti Control	Red Paint	Black Marker	Green Marker	Red Marker	% Avg. Removal
Sure Klean [®] Fast Acting Stripper	80	95	100	100	93
Defacer Eraser® Graffiti Wipe	60	95	100	100	89
Enviro Klean [®] SafStrip [®] 8	60	90	100	100	88
Sure Klean [®] Weather Seal Blok-Guard [®] & Graffiti Control II	Red Paint	Black Marker	Green Marker	Red Marker	% Avg. Removal
Sure Klean [®] Fast Acting Stripper	95	80	85	95	89
Defacer Eraser® Graffiti Wipe	40	50	80	70	60
Enviro Klean [®] SafStrip [®] 8	60	75	90	85	78

^{*}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

"Cedar"					
Untreated Control	Red Paint	Black Marker	Green Marker	Red Marker	% Avg. Removal
Sure Klean [®] Fast Acting Stripper	90	55	50	55	63
Defacer Eraser® Graffiti Wipe	50	40	40	40	43
Enviro Klean [®] SafStrip [®] 8	60	50	50	50	53
Sure Klean [®] Weather Seal Blok-Guard [®] & Graffiti Control	Red Paint	Black Marker	Green Marker	Red Marker	% Avg. Removal
Sure Klean [®] Fast Acting Stripper	90	90	85	85	88
Defacer Eraser® Graffiti Wipe	75	85	75	75	78
Enviro Klean [®] SafStrip [®] 8	80	70	80	70	75
Sure Klean [®] Weather Seal Blok-Guard [®] & Graffiti Control II	Red Paint	Black Marker	Green Marker	Red Marker	% Avg. Removal
Sure Klean [®] Fast Acting Stripper	85	60	50	70	66
Defacer Eraser® Graffiti Wipe	75	40	40	40	49
Enviro Klean [®] SafStrip [®] 8	55	60	50	50	54
		"Charcoal"			
Untreated Control	Red Paint	Black Marker	Green Marker	Red Marker	% Avg. Removal
Sure Klean [®] Fast Acting Stripper	75	100	50	50	69
Defacer Eraser® Graffiti Wipe	40	70	50	50	53
Enviro Klean [®] SafStrip [®] 8	60	100	50	50	65
Sure Klean [®] Weather Seal Blok-Guard [®] & Graffiti Control	Red Paint	Black Marker	Green Marker	Red Marker	% Avg. Removal
Sure Klean [®] Fast Acting Stripper	85	100	60	75	80
Defacer Eraser® Graffiti Wipe	70	100	60	70	75
Enviro Klean [®] SafStrip [®] 8	85	100	60	70	78
Sure Klean [®] Weather Seal Blok-Guard [®] & Graffiti Control II	Red Paint	Black Marker	Green Marker	Red Marker	% Avg. Removal
Sure Klean [®] Fast Acting Stripper	55	80	75	80	73
Defacer Eraser® Graffiti Wipe	60	60	60	60	60
Enviro Klean [®] SafStrip [®] 8	75	80	65	75	78
	41	Diamond White	SR2"		
Untreated Control	Red Paint	Black Marker	Green Marker	Red Marker	% Avg. Removal
Sure Klean [®] Fast Acting Stripper	70	65	50	50	59
Defacer Eraser® Graffiti Wipe	50	30	30	30	43
Enviro Klean [®] SafStrip [®] 8	55	40	40	40	44
Sure Klean [®] Weather Seal Blok-Guard [®] & Graffiti Control	Red Paint	Black Marker	Green Marker	Red Marker	% Avg. Removal
Sure Klean® Fast Acting Stripper	70	80	80	80	78
Defacer Eraser® Graffiti Wipe	65	70	70	70	69
Enviro Klean [®] SafStrip [®] 8	60	65	65	65	64
Sure Klean [®] Weather Seal Blok-Guard [®] & Graffiti Control II	Red Paint	Black Marker	Green Marker	Red Marker	% Avg. Removal
Sure Klean® Fast Acting Stripper	70	50	45	45	53
Defacer Eraser® Graffiti Wipe	50	40	40	40	43
Enviro Klean [®] SafStrip® 8	60	40	40	40	45

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

"Natural"					
Untreated Control	Red Paint	Black Marker	Green Marker	Red Marker	% Avg. Removal
Sure Klean [®] Fast Acting Stripper	90	40	40	40	53
Defacer Eraser® Graffiti Wipe	65	45	40	40	48
Enviro Klean [®] SafStrip [®] 8	75	40	40	40	49
Sure Klean [®] Weather Seal Blok-Guard [®] & Graffiti Control	Red Paint	Black Marker	Green Marker	Red Marker	% Avg. Removal
Sure Klean [®] Fast Acting Stripper	85	70	85	80	80
Defacer Eraser® Graffiti Wipe	85	50	40	50	57
Enviro Klean [®] SafStrip [®] 8	85	70	65	70	73
Sure Klean [®] Weather Seal Blok-Guard [®] & Graffiti Control II	Red Paint	Black Marker	Green Marker	Red Marker	% Avg. Removal
Sure Klean [®] Fast Acting Stripper	90	85	40	60	69
Defacer Eraser® Graffiti Wipe	65	40	40	40	46
Enviro Klean [®] SafStrip [®] 8	60	40	40	40	45
		"Red SR2"			
Untreated Control	Red Paint	Black Marker	Green Marker	Red Marker	% Avg. Removal
Sure Klean [®] Fast Acting Stripper	90	80	70	65	76
Defacer Eraser® Graffiti Wipe	40	50	60	50	50
Enviro Klean [®] SafStrip [®] 8	60	50	90	50	63
Sure Klean [®] Weather Seal Blok-Guard [®] & Graffiti Control	Red Paint	Black Marker	Green Marker	Red Marker	% Avg. Removal
Sure Klean [®] Fast Acting Stripper	80	95	100	100	94
Defacer Eraser® Graffiti Wipe	60	95	100	100	89
Enviro Klean [®] SafStrip [®] 8	60	90	100	100	88
Sure Klean [®] Weather Seal Blok-Guard [®] & Graffiti Control II	Red Paint	Black Marker	Green Marker	Red Marker	% Avg. Removal
Sure Klean [®] Fast Acting Stripper	95	80	85	95	89
Defacer Eraser® Graffiti Wipe	40	50	80	70	60
Enviro Klean [®] SafStrip [®] 8	60	75	90	85	78
		"Red Ash"			
Untreated Control	Red Paint	Black Marker	Green Marker	Red Marker	% Avg. Removal
Sure Klean [®] Fast Acting Stripper	70	65	55	55	61
Defacer Eraser® Graffiti Wipe	50	40	40	40	43
Enviro Klean [®] SafStrip [®] 8	55	50	40	40	46
Sure Klean [®] Weather Seal Blok-Guard [®] & Graffiti Control	Red Paint	Black Marker	Green Marker	Red Marker	% Avg. Removal
Sure Klean® Fast Acting Stripper	70	65	90	90	79
Defacer Eraser® Graffiti Wipe	65	65	90	70	73
Enviro Klean [®] SafStrip [®] 8	60	65	85	70	70
Sure Klean [®] Weather Seal Blok-Guard [®] & Graffiti Control II	Red Paint	Black Marker	Green Marker	Red Marker	% Avg. Removal
Sure Klean® Fast Acting Stripper	60	65	70	80	69
Defacer Eraser® Graffiti Wipe	40	50	60	60	53
Enviro Klean [®] SafStrip [®] 8	50	65	55	60	58

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

		"Salmon"			
Untreated Control	Red Paint	Black Marker	Green Marker	Red Marker	% Avg. Removal
Sure Klean [®] Fast Acting Stripper	70	80	60	65	69
Defacer Eraser® Graffiti Wipe	45	65	60	65	59
Enviro Klean [®] SafStrip [®] 8	60	60	60	55	61
Sure Klean [®] Weather Seal Blok-Guard [®] & Graffiti Control	Red Paint	Black Marker	Green Marker	Red Marker	% Avg. Removal
Sure Klean [®] Fast Acting Stripper	85	95	100	85	91
Defacer Eraser® Graffiti Wipe	80	95	95	95	90
Enviro Klean [®] SafStrip [®] 8	80	80	95	80	84
Sure Klean [®] Weather Seal Blok-Guard [®] & Graffiti Control II	Red Paint	Black Marker	Green Marker	Red Marker	% Avg. Removal
Sure Klean [®] Fast Acting Stripper	80	70	60	65	69
Defacer Eraser® Graffiti Wipe	50	55	60	60	56
Enviro Klean [®] SafStrip [®] 8	60	65	55	60	60
		"Tan"			
Untreated Control	Red Paint	Black Marker	Green Marker	Red Marker	% Avg. Removal
Sure Klean [®] Fast Acting Stripper	70	75	55	60	65
Defacer Eraser® Graffiti Wipe	60	40	40	40	45
Enviro Klean [®] SafStrip [®] 8	60	55	50	40	51
Sure Klean [®] Weather Seal Blok-Guard [®] & Graffiti Control	Red Paint	Black Marker	Green Marker	Red Marker	% Avg. Removal
Sure Klean [®] Fast Acting Stripper	85	70	60	80	74
Defacer Eraser® Graffiti Wipe	90	60	50	60	65
Enviro Klean [®] SafStrip [®] 8	90	70	60	70	73
Sure Klean [®] Weather Seal Blok-Guard [®] & Graffiti Control II	Red Paint	Black Marker	Green Marker	Red Marker	% Avg. Removal
Sure Klean® Fast Acting Stripper	60	80	55	70	66
Defacer Eraser® Graffiti Wipe	50	50	40	50	48
Enviro Klean [®] SafStrip [®] 8	55	60	40	55	53

Photographs – Graffiti Control

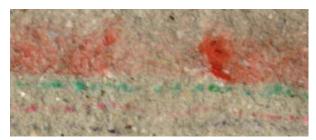
"Natural" Split-Face CMU

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



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

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



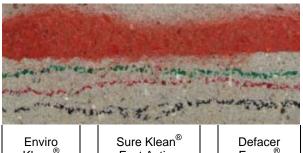
Sure Klean[®] Weather Seal Blok-Guard[®] & Graffiti Control



Untreated Control



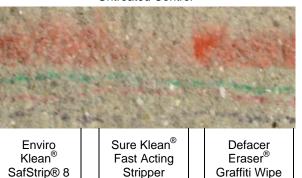
Untreated Control



Enviro
Klean®
SafStrip® 8

Sure Klean®
Fast Acting
Stripper





Photographs – Graffiti Control

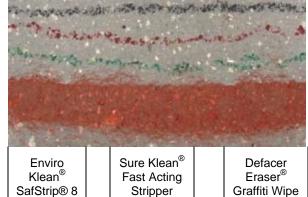
"Charcoal" Split-Face CMU

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

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



Untreated Control



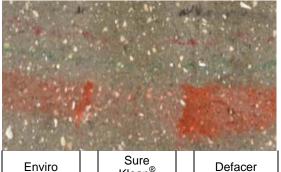
Sure Klean[®] Weather Seal Blok-Guard[®] & Graffiti Control II



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



Untreated Control



Enviro
Klean®
SafStrip® 8

Sure
Klean®
Fast Acting
Stripper

Defacer Eraser[®] Graffiti Wipe

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/or Sure Klean[®] Weather Seal Blok-Guard[®] & Graffiti Control II prior to graffiti application. Both graffiti repellents were effective in preventing the staining and penetration of the red enamel spray paint and permanent markers.

Recommendations - Graffiti Control

Recommendations for graffiti control treatment for each CMU submitted by Santerra Stonecraft, Windsor, Ontario 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
"Auburn Blend"	Sure Klean [®] Weather Seal Blok-Guard [®] & Graffiti Control II	Sure Klean [®] Fast Acting Stripper or Defacer Eraser [®] Graffiti Wipe or Enviro Klean [®] SafStrip [®] 8
"Auburn Red SR2"	Sure Klean [®] Weather Seal Blok-Guard [®] & Graffiti Control II or *Sure Klean [®] Weather Seal Blok-Guard [®] & Graffiti Control	Sure Klean [®] Fast Acting Stripper or Defacer Eraser [®] Graffiti Wipe or Enviro Klean [®] SafStrip [®] 8
"Cedar" "Charcoal" "Diamond White SR2" "Natural" "Red Ash" "Salmon"	*Sure Klean [®] Weather Seal Blok-Guard [®] & Graffiti Control	Sure Klean [®] Fast Acting Stripper

Recommendations - Graffiti Control

Sample	Graffiti Repellents	Graffiti Removers
	*Sure Klean [®] Weather Seal Blok-Guard [®] & Graffiti Control	Sure Klean [®] Fast Acting Stripper or Defacer Eraser [®] Graffiti Wipe or Enviro Klean [®] SafStrip [®] 8
"Red SR2"		
	Or	Or
	Sure Klean [®] Weather Seal Blok-Guard [®] & Graffiti Control II	Sure Klean [®] Fast Acting Stripper
"Tan"	*Sure Klean [®] Weather Seal Blok-Guard [®] & Graffiti Control	Sure Klean [®] Fast Acting Stripper or
	Biolic Guarda di Granial Gorialo	Enviro Klean [®] SafStrip [®] 8

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

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Project No. 0809-06 PTP

Prepared For: PROSOCO SINCE 1939

Prepared By:AMT Laboratories
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