

Submitted Information

For: Peter Boogren, Advanced Cast Stone, Inc.

Subject: Advanced Cast Stone, Inc.
Everman, TX

Date: March 11, 2010

Project: 1002-01 PTP

Samples Submitted: six types of cast stone

Name	Color	Samples	Size
"Natural Limestone"	Light yellow	1	12" x 12" x 1"
"Custom Buff"	Buff	1	12" x 12" x 1"
"Classic White"	White	1	12" x 12" x 1"
"Sand Drift"	Brown	1	12" x 12" x 1"
"Dove Grey"	Grey	1	12" x 12" x 1"
"Sand Stone"	Tan	1	12" x 12" x 1"

Submitted by: Peter Boogren
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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

Six types of cast stone were submitted to AMT Laboratories by PROSOCO, Inc. with a request to determine which new construction cleaners will provide the best color uniformity. Additionally, the effectiveness of water repellent and graffiti control products suitable for cast stone was evaluated.

New Construction Cleaning – Enviro Klean® Safety Klean, Sure Klean® Vana Trol®, and Sure Klean® Light Duty Concrete Cleaner were tested at various dilutions to determine the optimum cleaner/cure time combination for complete removal of laboratory applied Type S mortar from the submitted cast stone while providing good color uniformity. The color uniformity evaluation was visually determined based upon comparison to the uncleaned surface.

To simulate new construction soiling, the 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 the samples and filled with a wet mixture of Type S cementitious 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 7 days.

Color uniformity was evaluated by comparing aggregate exposure and surface pigment alternation/removal of each cleaned surface compared to the uncleaned surface of the cast stone.

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

Surface Pigment Alteration/Removal is the visual examination comparing the pigmentation of the exterior, uncleaned surface of the cast stone 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 uncleaned surface | 3 – Good match to uncleaned surface |
| 1 – Poor match to uncleaned surface | 4 – Best match to uncleaned surface |
| 2 – Fair match to uncleaned surface | |

Protective Water Repellents – Sure Klean® Weather Seal Siloxane PD, Sure Klean® Weather Seal Blok-Guard® & Graffiti Control, Sure Klean® Weather Seal Blok-Guard® & Graffiti Control II, and Sure Klean® Weather Seal GP were evaluated for their ability to provide water repellency to the submitted cast stone.

Graffiti Control - Sure Klean® Weather Seal Blok-Guard® & Graffiti Control and Sure Klean® Weather Seal Blok-Guard® & Graffiti Control II were evaluated for graffiti resistance on the submitted cast stone. Enviro Klean® SafStrip® 8 and Defacer Eraser® Graffiti Wipe were evaluated for their ability to remove graffiti from the submitted cast stone.

Products Evaluated**New Construction Cleaning Products Evaluated**

Sample	Product	Dilution
All Submitted Cast Stone	Enviro Klean® Safety Klean	1:2; 1:3
	Sure Klean® Vana Trol®	1:6, 1:8
	Sure Klean® Light Duty Concrete Cleaner	1:2; 1:3

Protective Water Repellency Products Evaluated

Sample	Product	Dilution
All Submitted Cast Stone	Sure Klean® Weather Seal Siloxane PD	Concentrate
	Sure Klean® Weather Seal GP	Concentrate
	Sure Klean® Weather Seal Blok-Guard® & Graffiti Control	Concentrate
	Sure Klean® Weather Seal Blok-Guard® & Graffiti Control II	Concentrate

Graffiti Repellency Products Evaluated

Sample	Product	Dilution
All Submitted Cast Stone	Sure Klean® Weather Seal Blok-Guard® & Graffiti Control	Concentrate
	Sure Klean® Weather Seal Blok-Guard® & Graffiti Control II	Concentrate

Graffiti Removal Products Evaluated

Sample	Product	Dilution
All Submitted Cast Stone	Enviro Klean® SafStrip® 8	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 leaving the external surface looking most like the uncleaned surface of the cast stone during new construction operations.

Type S cementitious mortar was prepared in compliance with the manufacturer's instructions, applied to the cast stone and allowed to cure. Mortar removal was accomplished using chemical assistance and a high-pressure water rinse with pressure rinsing equipment. The removal of Type S cementitious mortar was visually evaluated after 7 days of curing.

Description of Products Evaluated – New Construction Cleaning

From the Product Data Sheets:

Enviro Klean® Safety Klean is 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, indoors or out. It is up to 70 percent more effective than citric and glycolic acids, and 50 percent more effective than phosphoric acid.

Sure Klean® Vana Trol® is a concentrated acidic cleaner for new masonry surfaces that are subject to vanadium, manganese and other metallic stains. Vana Trol® is designed to simplify rinsing and reduces potential for efflorescence.

Sure Klean® Light Duty Concrete 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. Light Duty Concrete 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 and allowed to cure. 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 7 days of curing. A visual examination was also made to the cast stone to determine if the products tested caused any change to the surface of the cast stone.

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.
3. Allow the appropriate dwell time, as specified:

Safety Klean	3-5 minutes
Vana Trol®	3-5 minutes
Light Duty Concrete Cleaner	3-5 minutes
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 S Mortar Removal)**

“Natural Limestone”		
Product	Dilution	7 day
Enviro Klean® Safety Klean	1:2	100 %
	1:3	100 %
Sure Klean® Vana Trol®	1:6	100 %
	1:8	100 %
Sure Klean® Light Duty Concrete Cleaner	1:2	100 %
	1:3	100 %

“Custom Buff”		
Product	Dilution	7 day
Enviro Klean® Safety Klean	1:2	100 %
	1:3	100 %
Sure Klean® Vana Trol®	1:6	100 %
	1:8	100 %
Sure Klean® Light Duty Concrete Cleaner	1:2	100 %
	1:3	100 %

“Classic White”		
Product	Dilution	7 day
Enviro Klean® Safety Klean	1:2	100 %
	1:3	100 %
Sure Klean® Vana Trol®	1:6	100 %
	1:8	100 %
Sure Klean® Light Duty Concrete Cleaner	1:2	100 %
	1:3	100 %

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

“Sand Drift”		
Product	Dilution	7 day
Enviro Klean® Safety Klean	1:2	100 %
	1:3	100 %
Sure Klean® Vana Trol®	1:6	100 %
	1:8	100 %
Sure Klean® Light Duty Concrete Cleaner	1:2	100 %
	1:3	100 %

“Dove Grey”		
Product	Dilution	7 day
Enviro Klean® Safety Klean	1:2	100 %
	1:3	100 %
Sure Klean® Vana Trol®	1:6	100 %
	1:8	100 %
Sure Klean® Light Duty Concrete Cleaner	1:2	100 %
	1:3	100 %

“Sand Stone”		
Product	Dilution	7 day
Enviro Klean® Safety Klean	1:2	100 %
	1:3	100 %
Sure Klean® Vana Trol®	1:6	100 %
	1:8	100 %
Sure Klean® Light Duty Concrete Cleaner	1:2	100 %
	1:3	100 %

Test Results – Color Uniformity

Substrate: Cast Stone		Pigment Color: "Natural Limestone"	
Product	Dilution	Aggregate Exposure	Surface Pigment Alteration/Removal
Safety Klean	1:2	3	3
Safety Klean	1:3	3	3
Vana Trol®	1:6	4	4
Vana Trol®	1:8	4	4
Light Duty Concrete Cleaner	1:2	4	4
Light Duty Concrete Cleaner	1:3	4	4
Substrate: Cast Stone		Pigment Color: "Custom Buff"	
Product	Dilution	Aggregate Exposure	Surface Pigment Alteration/Removal
Safety Klean	1:2	3	3
Safety Klean	1:3	3	3
Vana Trol®	1:6	4	4
Vana Trol®	1:8	4	4
Light Duty Concrete Cleaner	1:2	4	4
Light Duty Concrete Cleaner	1:3	4	4
Substrate: Cast Stone		Pigment Color: "Classic White"	
Product	Dilution	Aggregate Exposure	Surface Pigment Alteration/Removal
Safety Klean	1:2	3	3
Safety Klean	1:3	3	3
Vana Trol®	1:6	4	4
Vana Trol®	1:8	4	4
Light Duty Concrete Cleaner	1:2	4	4
Light Duty Concrete Cleaner	1:3	4	4

Scale used for reporting results of both categories:

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

Test Results – Color Uniformity

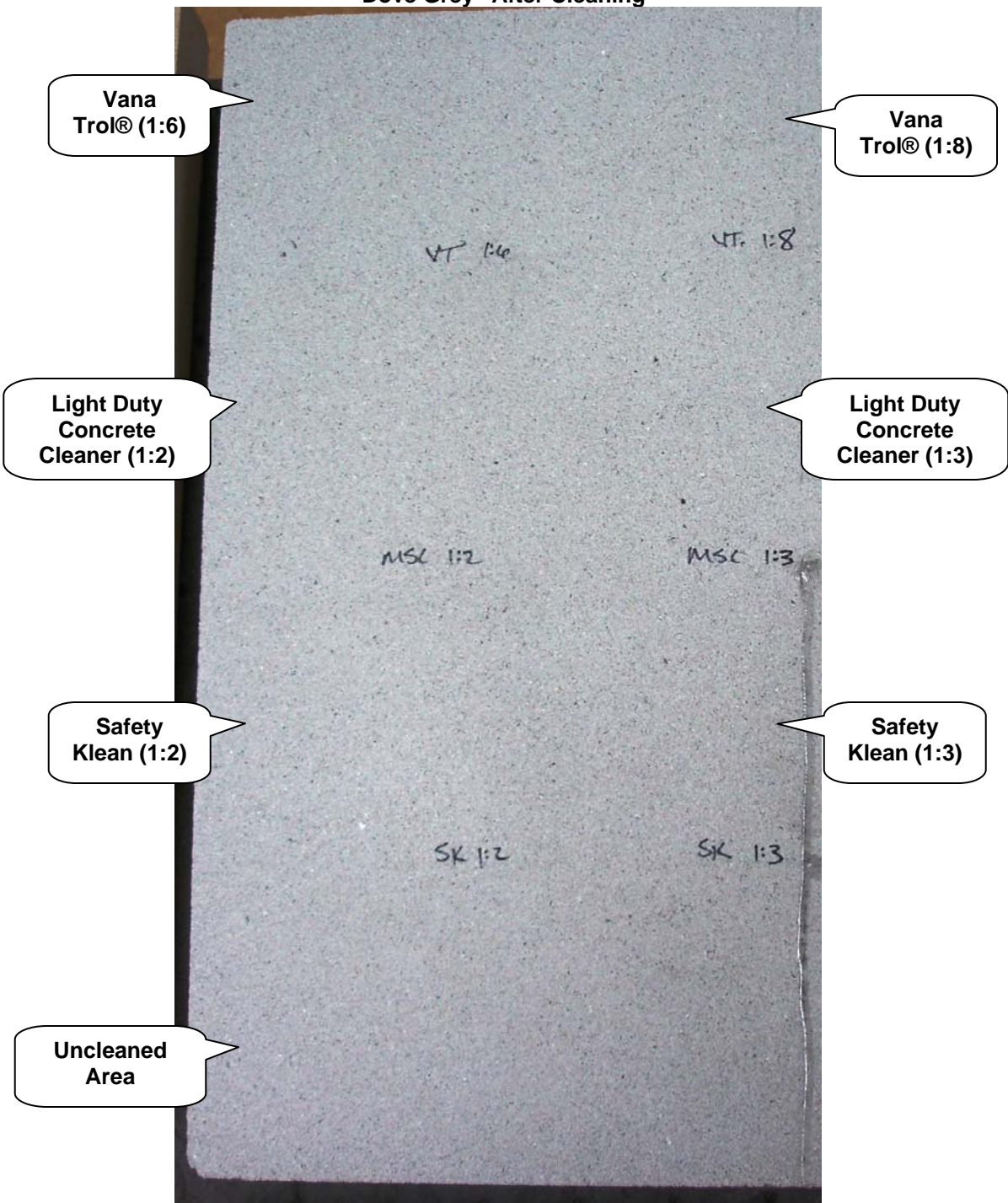
Substrate: Cast Stone		Pigment Color: "Sand Drift"	
Product	Dilution	Aggregate Exposure	Surface Pigment Alteration/Removal
Safety Klean	1:2	3	3
Safety Klean	1:3	3	3
Vana Trol®	1:6	4	4
Vana Trol®	1:8	4	4
Light Duty Concrete Cleaner	1:2	4	4
Light Duty Concrete Cleaner	1:3	4	4
Substrate: Cast Stone		Pigment Color: "Dove Grey"	
Product	Dilution	Aggregate Exposure	Surface Pigment Alteration/Removal
Safety Klean	1:2	3	3
Safety Klean	1:3	3	3
Vana Trol®	1:6	4	4
Vana Trol®	1:8	4	4
Light Duty Concrete Cleaner	1:2	4	4
Light Duty Concrete Cleaner	1:3	4	4
Substrate: Cast Stone		Pigment Color: "Sand Stone"	
Product	Dilution	Aggregate Exposure	Surface Pigment Alteration/Removal
Safety Klean	1:2	3	3
Safety Klean	1:3	3	3
Vana Trol®	1:6	4	4
Vana Trol®	1:8	4	4
Light Duty Concrete Cleaner	1:2	4	4
Light Duty Concrete Cleaner	1:3	4	4

Scale used for reporting results of both categories:

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

Photographs – New Construction Cleaning

“Dove Grey” After Cleaning



Conclusions – New Construction Cleaning

Based on the test results, all of the PROSOCO, Inc. products tested performed well in removing excess Type S mortar from the submitted samples. Enviro Klean® Safety Klean removed slightly more surface pigment and exposed slightly more fine aggregate than Sure Klean® Vana Trol® and Sure Klean® Light Duty Concrete Cleaner.

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 the cast stone submitted by Advanced Cast Stone, Inc., Everman, TX are provided in the chart below. Recommendation is based on the optimum dilution for complete removal of mortar while providing the best match for color uniformity when compared to the uncleaned surface of the cast stone.

Sample	New Construction Cleaning (Type S Mortar)
All Submitted Cast Stone	Sure Klean® Vana Trol® (1:8) OR Sure Klean® Light Duty Concrete Cleaner (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

From the Product Data Sheets:

Sure Klean® Weather Seal Siloxane PD (predilute) is a ready-to-use, water-based silane/siloxane water repellent for concrete and most masonry and stucco surfaces. Siloxane PD will not impair the natural breathing characteristics of treated surfaces. 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 GP is an economical, ready-to-use, water-based silane/siloxane water repellent for concrete, stucco, and most masonry surfaces. Weather Seal GP helps masonry resist cracking, spalling, staining and other damage related to water intrusion. Low odor and alkaline stable, Weather Seal GP is ideal for many field applications.

Sure Klean® Weather Seal Blok-Guard® & Graffiti Control is 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 is a clear-drying, water-based silicone emulsion for weatherproofing concrete block and other porous masonry materials. Blok-Guard® & Graffiti Control II protects interior and exterior masonry surfaces from graffiti attacks without altering the natural appearance. Blok-Guard® & Graffiti Control II also 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.

Sample Preparation – Protective Water Repellents

All treatments 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, 5.0 milliliters, 20 minutes**

The water absorption tube test simulating wind driven and windblown 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 5.0 mL of water or more, then:

A rating of **AA** *Above Average* water repellent performance would be reported for treatments which result in a loss of no more than:

$$5.0 \text{ mL} \times 20\% = \mathbf{1.0 \text{ mL}}$$

A rating of **A** *Average* water repellent performance would be reported for treatments which result in a loss of no more than:

$$5.0 \text{ mL} \times 50\% = \mathbf{2.5 \text{ mL}}$$

A rating of **BA** *Below Average* water repellent performance would be reported for treatments which result in a loss of more than:

$$5.0 \text{ mL} \times 50\% = \mathbf{2.5 \text{ mL}}$$

Test Results – Protective Water Repellents**Water Absorption Tube Test: RILEM II.4, 5.0 milliliters, 20 minutes****AA = Above Average****A = Average****BA = Below Average**

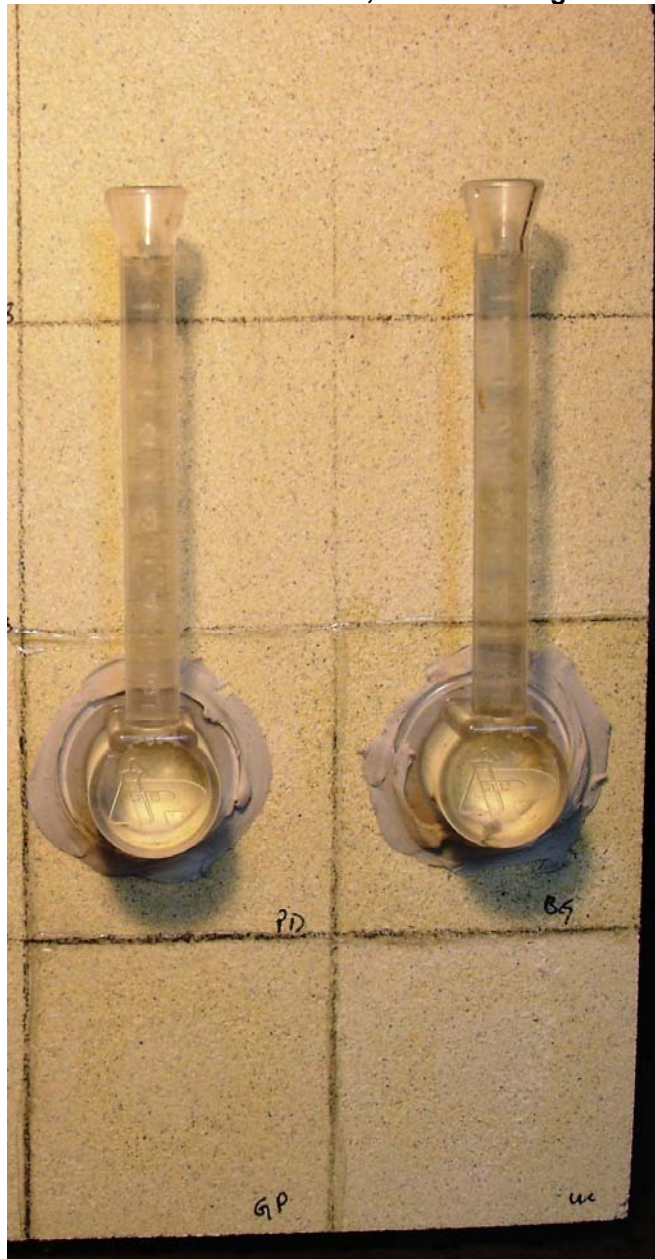
“Natural Limestone”		
	Results in mL loss	Ranking
Untreated Control	- 0.1	--
Sure Klean® Weather Seal Siloxane PD	- 0.0	<u>AA</u>
Sure Klean® Weather Seal GP	- 0.0	<u>AA</u>
Sure Klean® Weather Seal Blok-Guard® & Graffiti Control	- 0.0	<u>AA</u>
Sure Klean® Weather Seal Blok-Guard® & Graffiti Control II	- 0.0	<u>AA</u>
“Custom Buff”		
	Results in mL loss	Ranking
Untreated Control	- 0.4	--
Sure Klean® Weather Seal Siloxane PD	- 0.0	<u>AA</u>
Sure Klean® Weather Seal GP	- 0.0	<u>AA</u>
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>
“Classic White”		
	Results in mL loss	Ranking
Untreated Control	- 0.3	--
Sure Klean® Weather Seal Siloxane PD	- 0.1	<u>A</u>
Sure Klean® Weather Seal GP	- 0.3	<u>BA</u>
Sure Klean® Weather Seal Blok-Guard® & Graffiti Control	- 0.1	<u>A</u>
Sure Klean® Weather Seal Blok-Guard® & Graffiti Control II	- 0.1	<u>A</u>

Test Results – Protective Water Repellents**Water Absorption Tube Test: RILEM II.4, 5.0 milliliters, 20 minutes****AA = Above Average****A = Average****BA = Below Average**

“Sand Drift”		
	Results in mL loss	Ranking
Untreated Control	- 0.1	--
Sure Klean® Weather Seal Siloxane PD	- 0.0	<u>AA</u>
Sure Klean® Weather Seal GP	- 0.0	<u>AA</u>
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>
“Dove Grey”		
	Results in mL loss	Ranking
Untreated Control	- 0.1	--
Sure Klean® Weather Seal Siloxane PD	- 0.0	<u>AA</u>
Sure Klean® Weather Seal GP	- 0.0	<u>AA</u>
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>
“Sand Stone”		
	Results in mL loss	Ranking
Untreated Control	- 5.0	--
Sure Klean® Weather Seal Siloxane PD	- 0.0	<u>AA</u>
Sure Klean® Weather Seal GP	- 0.0	<u>AA</u>
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>

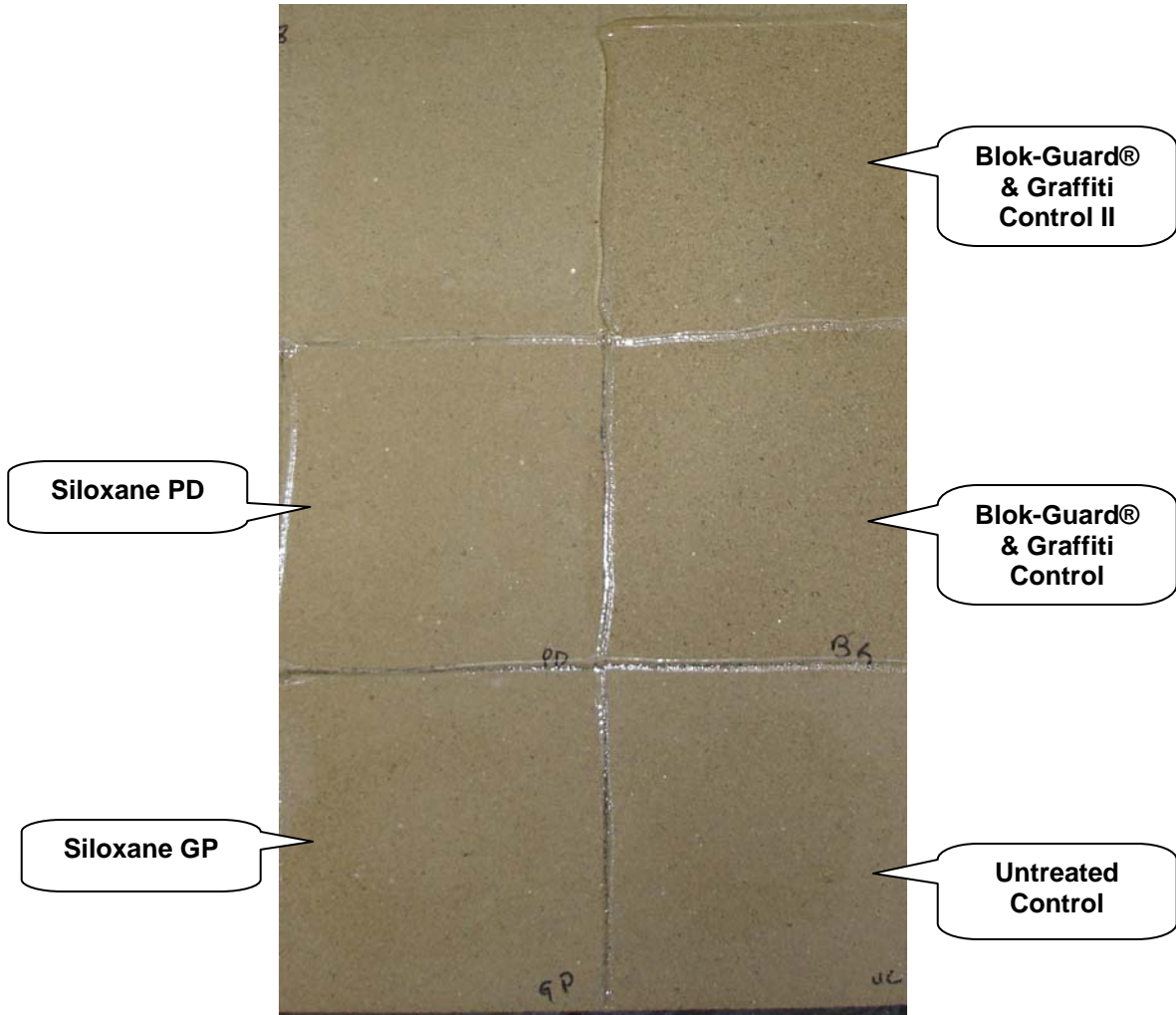
Photographs – Protective Water Repellents

“Natural Limestone”, RILEM Testing



Photographs – Protective Water Repellents

“Sand Stone” With Treatments



Conclusions – Protective Water Repellents

In the RILEM tests, all of the treatments evaluated provided above average water repellent protection to the submitted cast stone with the exception of “Classic White”.

Sure Klean® Weather Seal Siloxane PD and Sure Klean® Weather Seal GP provided slight color enhancement to “Sand Stone” but caused no visual change to the other samples.

Sure Klean® Weather Seal Blok-Guard® & Graffiti Control and Sure Klean® Weather Seal Blok-Guard® & Graffiti Control II provided slight color enhancement to all of the submitted samples except “Custom Buff”.

Recommendations – Protective Water Repellents

Recommendations for water repellent treatments for the cast stone submitted by Advanced Cast Stone, Inc., Everman, TX are provided in the chart below. Recommendations are based on the treatments that proved most effective at providing water repellency on the submitted samples.

Sample	Protective Water Repellents
<p>“Classic White”</p>	<p>Sure Klean® Weather Seal Siloxane PD OR *Sure Klean® Weather Seal Blok-Guard® & Graffiti Control OR Sure Klean® Weather Seal Blok-Guard® & Graffiti Control II</p>
<p>All Other Submitted Cast Stone</p>	<p>Sure Klean® Weather Seal Siloxane PD OR Sure Klean® Weather Seal GP OR *Sure Klean® Weather Seal Blok-Guard® & Graffiti Control OR Sure Klean® Weather Seal Blok-Guard® & Graffiti Control II</p>

*** 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.

The ability of a water repellent treatment to prevent the ingress of water is affected by a variety of 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.

Description of Products Evaluated – Graffiti Control

Graffiti Control Treatments

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

Enviro Klean® SafStrip® 8 – 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.

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 (Blue)

Permanent Marker (Red)

Permanent Marker (Black)

Sample Preparation – Graffiti Control

Sections of the cast stone 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 the treatments. Removal of the graffiti agents was attempted 24 hours after application of the graffiti agents, using Enviro Klean® SafStrip® 8 and Defacer Eraser® Graffiti Wipe.

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:

Enviro Klean® SafStrip® 8	30 minutes
Defacer Eraser® Graffiti Wipe	5 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

“Natural Limestone”					
Untreated Control	Red Paint	Black Marker	Blue Marker	Red Marker	% Avg. Removal
Enviro Klean® SafStrip® 8	30 %	10 %	10 %	10 %	15 %
Defacer Eraser® Graffiti Wipe	70 %	10 %	10 %	10 %	25 %
Blok-Guard® & Graffiti Control	Red Paint	Black Marker	Blue Marker	Red Marker	% Avg. Removal
Enviro Klean® SafStrip® 8	90 %	90 %	90 %	90 %	90 %
Defacer Eraser® Graffiti Wipe	95 %	90 %	90 %	90 %	91 %
Blok-Guard® & Graffiti Control II	Red Paint	Black Marker	Blue Marker	Red Marker	% Avg. Removal
Enviro Klean® SafStrip® 8	80 %	60 %	70 %	60 %	68 %
Defacer Eraser® Graffiti Wipe	75 %	50 %	60 %	50 %	59 %

“Custom Buff”					
Untreated Control	Red Paint	Black Marker	Blue Marker	Red Marker	% Avg. Removal
Enviro Klean® SafStrip® 8	40 %	50 %	50 %	50 %	48 %
Defacer Eraser® Graffiti Wipe	40 %	40 %	40 %	40 %	40 %
Blok-Guard® & Graffiti Control	Red Paint	Black Marker	Blue Marker	Red Marker	% Avg. Removal
Enviro Klean® SafStrip® 8	90 %	90 %	90 %	90 %	90 %
Defacer Eraser® Graffiti Wipe	90 %	80 %	90 %	90 %	88 %
Blok-Guard® & Graffiti Control II	Red Paint	Black Marker	Blue Marker	Red Marker	% Avg. Removal
Enviro Klean® SafStrip® 8	80 %	75 %	75 %	75 %	76 %
Defacer Eraser® Graffiti Wipe	80 %	70 %	70 %	70 %	73 %

“Classic White”					
Untreated Control	Red Paint	Black Marker	Blue Marker	Red Marker	% Avg. Removal
Enviro Klean® SafStrip® 8	40 %	10 %	10 %	10 %	18 %
Defacer Eraser® Graffiti Wipe	40 %	10 %	10 %	10 %	18 %
Blok-Guard® & Graffiti Control	Red Paint	Black Marker	Blue Marker	Red Marker	% Avg. Removal
Enviro Klean® SafStrip® 8	80 %	85 %	85 %	85 %	84 %
Defacer Eraser® Graffiti Wipe	80 %	75 %	80 %	75 %	78 %
Blok-Guard® & Graffiti Control II	Red Paint	Black Marker	Blue Marker	Red Marker	% Avg. Removal
Enviro Klean® SafStrip® 8	75 %	70 %	70 %	70 %	71 %
Defacer Eraser® Graffiti Wipe	75 %	50 %	50 %	50 %	56 %

Test Results – Graffiti Control

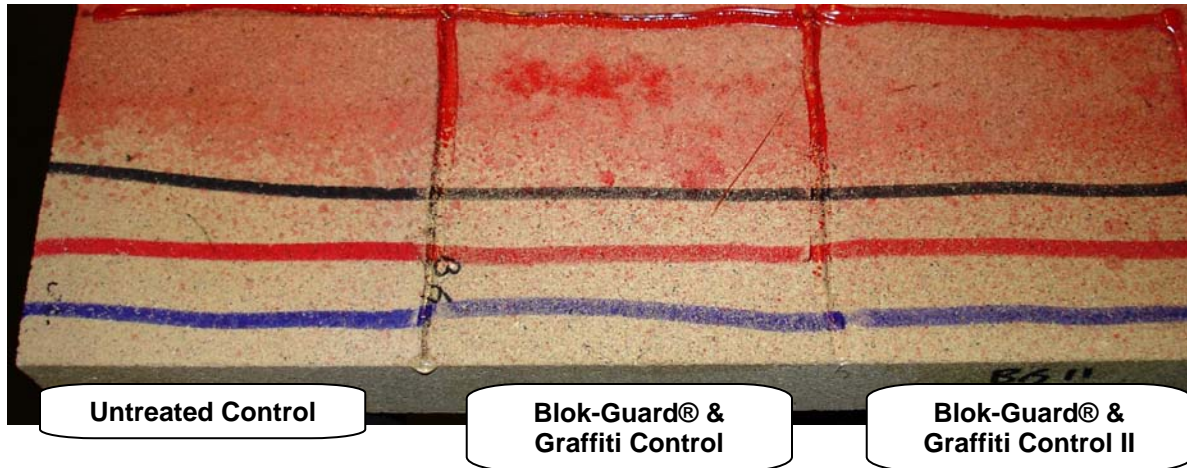
“Sand Drift”					
Untreated Control	Red Paint	Black Marker	Blue Marker	Red Marker	% Avg. Removal
Enviro Klean® SafStrip® 8	70 %	60 %	60 %	60 %	63 %
Defacer Eraser® Graffiti Wipe	70 %	60 %	60 %	60 %	63 %
Blok-Guard® & Graffiti Control	Red Paint	Black Marker	Blue Marker	Red Marker	% Avg. Removal
Enviro Klean® SafStrip® 8	98 %	85 %	95 %	85 %	91 %
Defacer Eraser® Graffiti Wipe	90 %	75 %	90 %	75 %	83 %
Blok-Guard® & Graffiti Control II	Red Paint	Black Marker	Blue Marker	Red Marker	% Avg. Removal
Enviro Klean® SafStrip® 8	90 %	75 %	75 %	75 %	79 %
Defacer Eraser® Graffiti Wipe	85 %	60 %	60 %	60 %	66 %

“Dove Grey”					
Untreated Control	Red Paint	Black Marker	Blue Marker	Red Marker	% Avg. Removal
Enviro Klean® SafStrip® 8	40 %	10 %	10 %	10 %	18 %
Defacer Eraser® Graffiti Wipe	40 %	10 %	10 %	10 %	18 %
Blok-Guard® & Graffiti Control	Red Paint	Black Marker	Blue Marker	Red Marker	% Avg. Removal
Enviro Klean® SafStrip® 8	80 %	95 %	90 %	90 %	89 %
Defacer Eraser® Graffiti Wipe	80 %	85 %	90 %	85 %	85 %
Blok-Guard® & Graffiti Control II	Red Paint	Black Marker	Blue Marker	Red Marker	% Avg. Removal
Enviro Klean® SafStrip® 8	75 %	80 %	85 %	80 %	80 %
Defacer Eraser® Graffiti Wipe	75 %	75 %	80 %	75 %	76 %

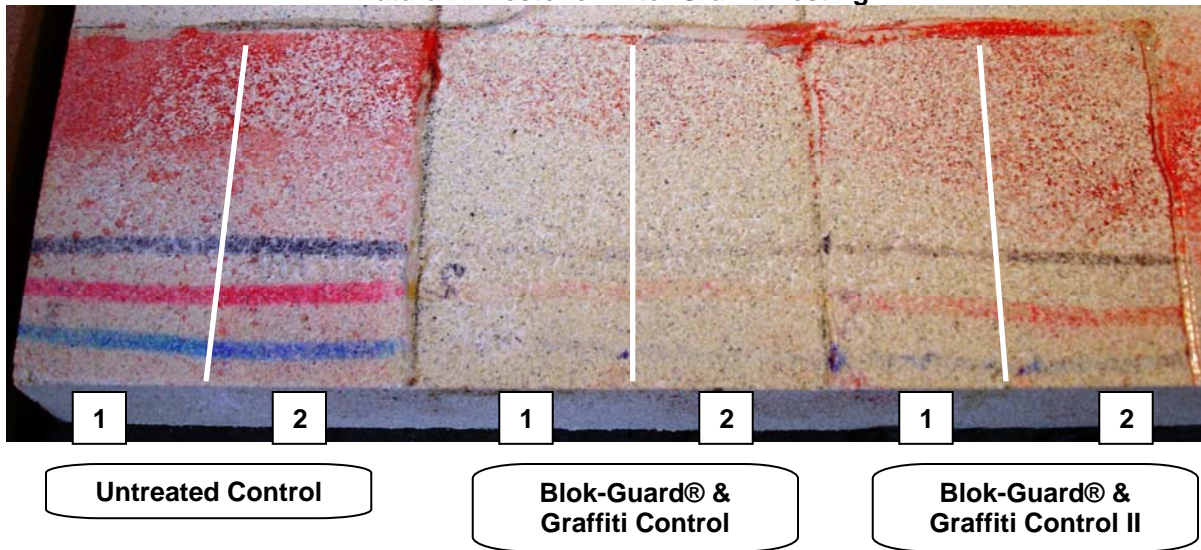
“Sand Stone”					
Untreated Control	Red Paint	Black Marker	Blue Marker	Red Marker	% Avg. Removal
Enviro Klean® SafStrip® 8	40 %	10 %	10 %	10 %	18 %
Defacer Eraser® Graffiti Wipe	40 %	10 %	10 %	10 %	18 %
Blok-Guard® & Graffiti Control	Red Paint	Black Marker	Blue Marker	Red Marker	% Avg. Removal
Enviro Klean® SafStrip® 8	85 %	90 %	90 %	90 %	89 %
Defacer Eraser® Graffiti Wipe	80 %	85 %	90 %	90 %	86 %
Blok-Guard® & Graffiti Control II	Red Paint	Black Marker	Blue Marker	Red Marker	% Avg. Removal
Enviro Klean® SafStrip® 8	80 %	80 %	85 %	80 %	81 %
Defacer Eraser® Graffiti Wipe	75 %	70 %	85 %	80 %	78 %

Photographs - Graffiti Control

“Natural Limestone” With Graffiti



“Natural Limestone” After Graffiti Testing



KEY

- 1 – Enviro Klean® SafStrip® 8
- 2 – Defacer Eraser® Graffiti Wipe

Conclusions – Graffiti Control

Based upon laboratory evaluations, graffiti removal was improved when the submitted samples were treated with both Sure Klean® Weather Seal Blok-Guard® & Graffiti Control and Sure Klean® Weather Seal Blok-Guard® & Graffiti Control II prior to graffiti application.

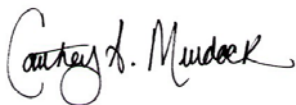
Recommendations – Graffiti Control

Recommendations for graffiti control treatment for the cast stone submitted by Advanced Cast Stone in Everman, TX 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 Cast Stone	*Sure Klean® Weather Seal Blok-Guard® & Graffiti Control OR Sure Klean® Weather Seal Blok-Guard® & Graffiti Control II	Enviro Klean® SafStrip® 8 OR Defacer Eraser® Graffiti Wipe

* **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



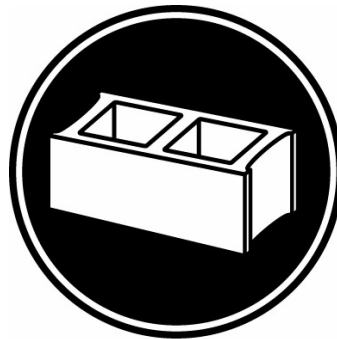
Courtney A. Murdock, CDT
Project Testing Director

CAM/



PALLET TAG PROGRAM
Laboratory Report

Advanced Cast Stone, Inc.
115 Lee Street
Everman, TX 76140



Project No. 1002-01

Prepared For:
PROSOCO
SINCE 1939

Prepared By:
AMT Laboratories
March 2010