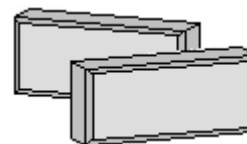




PALLET TAG PROGRAM LABORATORY REPORT



PROSOCO, Inc.

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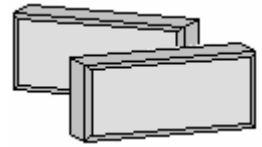
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Attachments

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



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Submitted Information

For: Dennis Bruce, Edwards Cast Stone Company
cc: Kevin Gwinn
Matt Henderson
John Bourne

Subject: Edwards Cast Stone Company
Dubuque, IA

Date:

Project: 0507-18 PTP

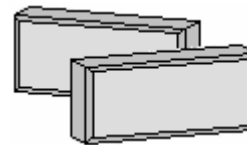
Samples Submitted: 6 types of cast stone

Sample	Color	Size
"DC19"	Beige	6" x 6" x 1/2"
"DC31"	Beige	6" x 6" x 1/2"
"WC1090"	Tan	6" x 6" x 1/2"
"WC32"	Light Gray	6" x 6" x 1/2"
"WC7219"	Beige	6" x 6" x 1/2"
"DC23"	Light Gray	6" x 6" x 1/2"

Submitted by: Kevin Gwinn



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Purpose of Testing

Six types of cast stone were submitted to PROSOCO, Inc.'s Testing Laboratory with a request to determine if application of the products evaluated will produce any surface alteration during new construction cleaning operations. Additionally, the effectiveness of water repellents, graffiti control products and stain repellents suitable for precast concrete were evaluated. Removal of staining caused by markers used for in-plant labeling was also evaluated.

New Construction Cleaning – Sure Klean® Vana Trol®, Sure Klean® 600 Detergent and Sure Klean® Burnished Custom Masonry Cleaner were evaluated for removal of laboratory applied mortar while limiting surface alterations to the decorative finish. The surface alteration evaluation was visually determined based upon perceived discoloration or erosion/etching of the samples.

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 after 14 days of curing. A visual examination was also made to determine if the tested cleaners caused any surface alterations to the submitted samples based on the following:

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

Substrate Deterioration is the visual examination of the sample 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 sample.

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

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

Water Repellent Evaluation – Sure Klean® Weather Seal Blok-Guard® & Graffiti Control, Sure Klean® Weather Seal Siloxane WB Concentrate and Stand Off® SLX100 Water & Oil Repellent were evaluated on the submitted samples for their ability to provide water repellency.

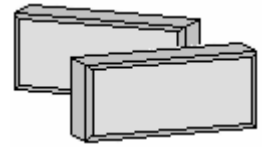
Graffiti Control – Sure Klean® Weather Seal Blok-Guard® & Graffiti Control was evaluated for its ability to repel graffiti from the submitted samples. Sure Klean® Fast Acting Stripper and Defacer Eraser® Graffiti Wipe were evaluated for their ability to remove graffiti from the submitted samples.

Stain Repellency – Stand Off® SLX100 Water & Oil Repellent was evaluated for its ability to repel stains from the submitted samples.

In-Plant Marker Removal – Defacer Eraser® Graffiti Wipe was evaluated for its ability to successfully remove the markers chosen for in-plant labeling of the submitted "DC23" sample.



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PROSOCO, Inc.

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Products Evaluated

Products Evaluated for New Construction Cleaning and/or Limiting Surface Alterations

Sample	Product	Dilution
"DC19" "DC31" "WC1090" "WC32" "WC7219"	Sure Klean® Vana Trol®	1:6, 1:8
	Sure Klean® 600 Detergent	1:6, 1:8
	Sure Klean® Burnished Custom Masonry Cleaner	1:2, 1:3

Water Repellent Products Evaluated

Sample	Product	Dilution
"DC19" "DC31" "WC1090" "WC32" "WC7219"	Sure Klean® Weather Seal Blok-Guard® & Graffiti Control	Concentrate
	Sure Klean® Weather Seal Siloxane WB Concentrate	1:9, 1:14
	Stand Off® SLX100 Water & Oil Repellent	Concentrate

Graffiti Repellent Products Evaluated

Sample	Product	Dilution
"DC19" "DC31" "WC1090" "WC32" "WC7219"	Sure Klean® Weather Seal Blok-Guard® & Graffiti Control	Concentrate

Graffiti Removal Products Evaluated

Sample	Product	Dilution
"DC19" "DC31" "WC1090" "WC32" "WC7219"	Sure Klean® Fast Acting Stripper	Concentrate
	Defacer Eraser® Graffiti Wipe	Concentrate

Stain Repellent Products Evaluated

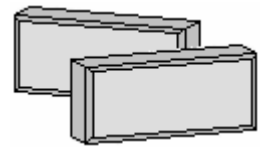
Sample	Product	Dilution
"DC19" "DC31" "WC1090" "WC32" "WC7219"	Stand Off® SLX100 Water & Oil Repellent	Concentrate

In-Plant Marker Removal Products Evaluated

Sample	Product	Dilution
"DC23"	Defacer Eraser® Graffiti Wipe	Concentrate



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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 limiting surface alterations to the decorative finish.

Type S cementitious mortar was prepared in compliance with the manufacturer's instructions, applied to the precast concrete surface and allowed to cure for 14 days. 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 14 days of curing.

Description of Products Evaluated – New Construction Cleaning

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.

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

Test Method – New Construction Cleaning

Dilution ratios refer to mixtures of concentrated cleaner : fresh water. Chemical cleaners were evaluated using the following procedure:

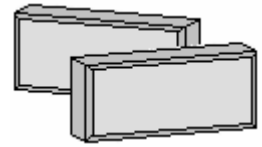
1. Pre-wet the surface with water.
2. Apply the cleaner.
3. Allow the appropriate dwell time, as specified.

Vana Trol®	3-5 minutes
600 Detergent	3-5 minutes
Burnished Custom Masonry 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.



PALLET TAG PROGRAM LABORATORY REPORT



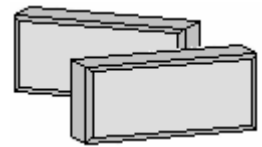
Test Results – New Construction Cleaning

% removal

“DC19”		
Product	Dilution	14 day
Sure Klean® Vana Trol®	1:6	98%
Sure Klean® Vana Trol®	1:8	98%
Sure Klean® 600 Detergent	1:6	95%
Sure Klean® 600 Detergent	1:8	90%
Sure Klean® Burnished Custom Masonry Cleaner	1:2	70%
Sure Klean® Burnished Custom Masonry Cleaner	1:3	60%
“DC31”		
Product	Dilution	14 day
Sure Klean® Vana Trol®	1:6	100%
Sure Klean® Vana Trol®	1:8	100%
Sure Klean® 600 Detergent	1:6	98%
Sure Klean® 600 Detergent	1:8	98%
Sure Klean® Burnished Custom Masonry Cleaner	1:2	80%
Sure Klean® Burnished Custom Masonry Cleaner	1:3	80%
“WC1090”		
Product	Dilution	14 day
Sure Klean® Vana Trol®	1:6	100%
Sure Klean® Vana Trol®	1:8	100%
Sure Klean® 600 Detergent	1:6	100%
Sure Klean® 600 Detergent	1:8	100%
Sure Klean® Burnished Custom Masonry Cleaner	1:2	99%
Sure Klean® Burnished Custom Masonry Cleaner	1:3	95%
“WC32”		
Product	Dilution	14 day
Sure Klean® Vana Trol®	1:6	100%
Sure Klean® Vana Trol®	1:8	98%
Sure Klean® 600 Detergent	1:6	90%
Sure Klean® 600 Detergent	1:8	80%
Sure Klean® Burnished Custom Masonry Cleaner	1:2	80%
Sure Klean® Burnished Custom Masonry Cleaner	1:3	80%
“WC7219”		
Product	Dilution	14 day
Sure Klean® Vana Trol®	1:6	95%
Sure Klean® Vana Trol®	1:8	95%
Sure Klean® 600 Detergent	1:6	95%
Sure Klean® 600 Detergent	1:8	95%
Sure Klean® Burnished Custom Masonry Cleaner	1:2	70%
Sure Klean® Burnished Custom Masonry Cleaner	1:3	60%



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Test Results – Limiting Surface Alterations

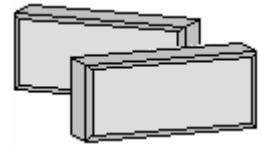
Substrate: Cast Stone		Pigment Color: "DC19"			
Product	Dilution	Surface Finish Removal	Substrate Deterioration	Color Change	Staining
Sure Klean® Vana Trol®	1:6	0	0	0	0
Sure Klean® Vana Trol®	1:8	0	0	0	0
Sure Klean® 600 Detergent	1:6	0	0	0	0
Sure Klean® 600 Detergent	1:8	0	0	0	0
Sure Klean® Burnished Custom Masonry Cleaner	1:2	0	0	0	0
Sure Klean® Burnished Custom Masonry Cleaner	1:3	0	0	0	0
Substrate: Cast Stone		Pigment Color: "DC31"			
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
Sure Klean® 600 Detergent	1:6	0	0	0	0
Sure Klean® 600 Detergent	1:8	0	0	0	0
Sure Klean® Burnished Custom Masonry Cleaner	1:2	0	0	0	0
Sure Klean® Burnished Custom Masonry Cleaner	1:3	0	0	0	0
Substrate: Cast Stone		Pigment Color: "WC1090"			
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
Sure Klean® 600 Detergent	1:6	0	0	0	0
Sure Klean® 600 Detergent	1:8	0	0	0	0
Sure Klean® Burnished Custom Masonry Cleaner	1:2	0	0	0	0
Sure Klean® Burnished Custom Masonry Cleaner	1:3	0	0	0	0

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

- | | |
|----------------------|----------------------|
| 0 – no change | 3 – heavy |
| 1 – slight | 4 – excessive |
| 2 – moderate | |



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Test Results – Limiting Surface Alterations

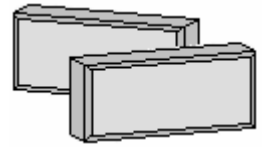
Substrate: Cast Stone		Pigment Color: "WC32"			
Product	Dilution	Surface Finish Removal	Substrate Deterioration	Color Change	Staining
Sure Klean® Vana Trol®	1:6	0	0	0	0
Sure Klean® Vana Trol®	1:8	0	0	0	0
Sure Klean® 600 Detergent	1:6	0	0	0	0
Sure Klean® 600 Detergent	1:8	0	0	0	0
Sure Klean® Burnished Custom Masonry Cleaner	1:2	0	0	0	0
Sure Klean® Burnished Custom Masonry Cleaner	1:3	0	0	0	0
Substrate: Cast Stone		Pigment Color: "WC7219"			
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
Sure Klean® 600 Detergent	1:6	0	0	0	0
Sure Klean® 600 Detergent	1:8	0	0	0	0
Sure Klean® Burnished Custom Masonry Cleaner	1:2	0	0	0	0
Sure Klean® Burnished Custom Masonry Cleaner	1:3	0	0	0	0

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

- | | |
|----------------------|----------------------|
| 0 – no change | 3 – heavy |
| 1 – slight | 4 – excessive |
| 2 – moderate | |

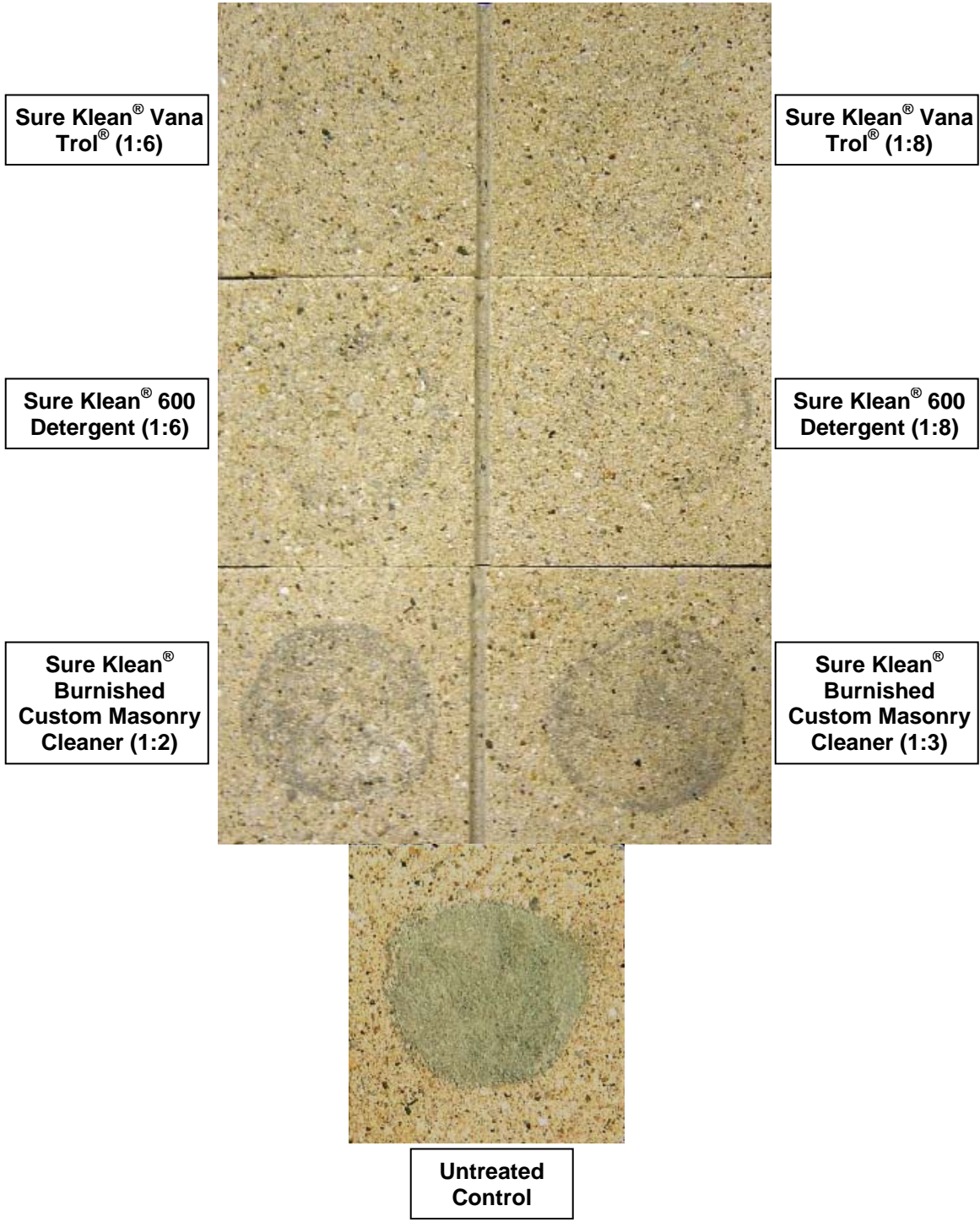


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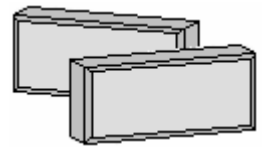
Photographs – New Construction Cleaning

“DC19”; Type S Mortar; 14 Day Cleaning



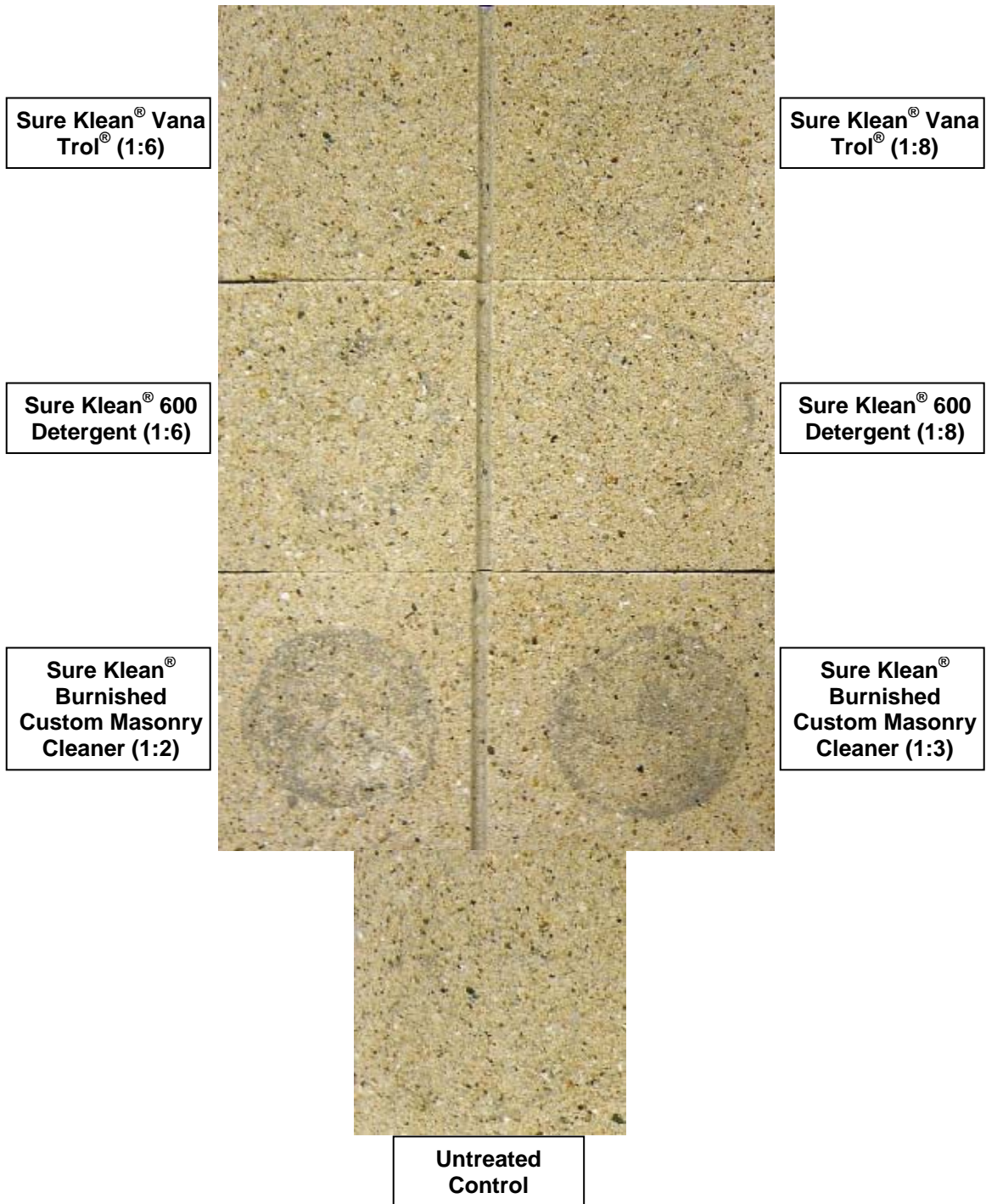


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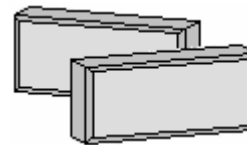
Photographs – Limiting Surface Alterations

“DC19” Limiting Surface Alterations





PALLET TAG PROGRAM LABORATORY REPORT



Conclusions – New Construction Cleaning

Based on the test results, Sure Klean® Vana Trol® and Sure Klean® 600 Detergent performed well in removing excess Type S mortar from each of the submitted samples, even after allowing the mortar to remain on the surface of the samples for 14 days under ideal curing conditions. All three cleaners evaluated performed well in removing excess Type S mortar from the submitted “WC1090” samples.

None of the dilutions of the cleaners evaluated caused any surface alterations to any of the submitted samples.

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 and construction dirt while minimizing any potential surface alterations to the decorative finish, clean within 14 days of construction.

Recommendations – New Construction Cleaning

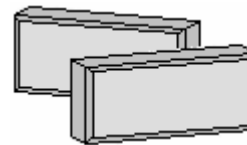
Recommendations for cleaning for the cast stone submitted by Edwards Cast Stone Company, Dubuque, IA are provided in the chart below. Recommendations are based on the optimum dilution for complete removal of mortar while limiting surface alterations.

Sample	New Construction Cleaning (Type S mortar, 14 day cleaning)
“WC1090”	Sure Klean® Vana Trol® (1:6) OR (1:8) OR Sure Klean® 600 Detergent (1:6) OR (1:8) OR Sure Klean® Burnished Custom Masonry Cleaner (1:2) OR (1:3)
“DC19” “DC31” “WC7219”	Sure Klean® Vana Trol® (1:6) OR (1:8) OR Sure Klean® 600 Detergent (1:6) OR (1:8)
“WC32”	Sure Klean® Vana Trol® (1:6) OR (1:8) OR Sure Klean® 600 Detergent (1:6)

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.



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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

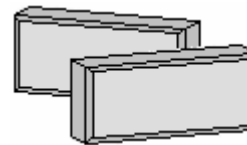
Sure Klean® Weather Seal Blok-Guard® & Graffiti Control – A clear, solvent-based silicone elastomer formulated to weatherproof concrete block and other porous masonry materials. Blok-Guard® & Graffiti Control protects masonry surfaces from repeated graffiti attacks without altering the natural appearance. 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 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 alkoxy siloxanes mixes easily with water to produce a penetrating water repellent ideal for application to dense or porous masonry surfaces.

Stand Off® SLX100 Water & Oil Repellent – Combines water and oil repellency on most substrates to prevent staining by waterborne and oily substances. This modified “neat” silane system offers invisible protection and low volatility. The small molecular structure of SLX100 allows for maximum penetration at coverage rates higher than that of conventional silanes. Depth of penetration is controlled by the application rate (loading rate). This makes SLX100 ideal for protecting granite and other dense, color-sensitive surfaces.



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Sample Preparation – Protective Water Repellents

The submitted samples were scored 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 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: Horizontal 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 horizontal 5.0-milliliter head pressures. Filled to 5 milliliters, a water absorption tube produces a 103 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:

$$5 \text{ ml} \times 20\% = 1 \text{ ml}$$

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

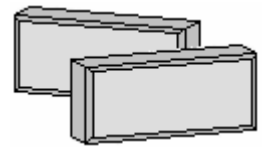
$$5 \text{ ml} \times 50\% = 2.5 \text{ ml}$$

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

$$5 \text{ ml} \times 50\% = 2.5 \text{ ml}$$



PALLET TAG PROGRAM LABORATORY REPORT



Test Results – Protective Water Repellents

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

AA = Above Average

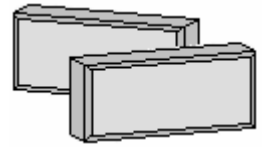
A = Average

BA = Below Average

“DC19”	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 Siloxane WB Concentrate (1:9)	-0.0	<u>AA</u>
Sure Klean® Weather Seal Siloxane WB Concentrate (1:14)	-0.0	<u>AA</u>
Stand Off® SLX100 Water & Oil Repellent	-0.0	<u>AA</u>
“DC31”	Results in mL loss	Ranking
Untreated Control	-0.0	--
Sure Klean® Weather Seal Blok-Guard® & Graffiti Control	-0.0	<u>AA</u>
Sure Klean® Weather Seal Siloxane WB Concentrate (1:9)	-0.0	<u>AA</u>
Sure Klean® Weather Seal Siloxane WB Concentrate (1:14)	-0.0	<u>AA</u>
Stand Off® SLX100 Water & Oil Repellent	-0.0	<u>AA</u>
“WC1090”	Results in mL loss	Ranking
Untreated Control	-0.0	--
Sure Klean® Weather Seal Blok-Guard® & Graffiti Control	-0.0	<u>AA</u>
Sure Klean® Weather Seal Siloxane WB Concentrate (1:9)	-0.0	<u>AA</u>
Sure Klean® Weather Seal Siloxane WB Concentrate (1:14)	-0.0	<u>AA</u>
Stand Off® SLX100 Water & Oil Repellent	-0.0	<u>AA</u>
“WC32”	Results in mL loss	Ranking
Untreated Control	-0.0	--
Sure Klean® Weather Seal Blok-Guard® & Graffiti Control	-0.0	<u>AA</u>
Sure Klean® Weather Seal Siloxane WB Concentrate (1:9)	-0.0	<u>AA</u>
Sure Klean® Weather Seal Siloxane WB Concentrate (1:14)	-0.0	<u>AA</u>
Stand Off® SLX100 Water & Oil Repellent	-0.0	<u>AA</u>
“WC7219”	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 Siloxane WB Concentrate (1:9)	-0.0	<u>AA</u>
Sure Klean® Weather Seal Siloxane WB Concentrate (1:14)	-0.0	<u>AA</u>
Stand Off® SLX100 Water & Oil Repellent	-0.0	<u>AA</u>

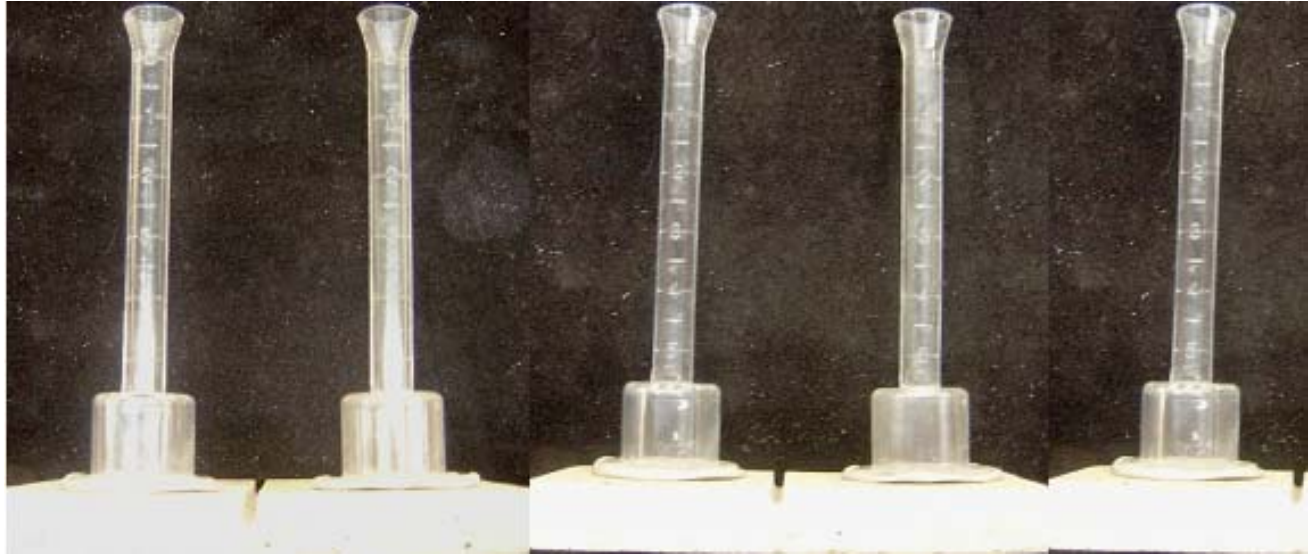


PALLET TAG PROGRAM LABORATORY REPORT



Photographs – Protective Water Repellents

“DC19”; RILEM Testing



**Stand Off[®]
SLX100 Water &
Oil Repellent**

Untreated Control

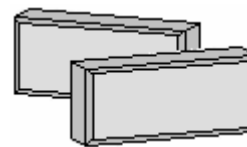
**Sure Klean[®]
Weather Seal
Siloxane WB
Concentrate (1:9)**

**Sure Klean[®]
Weather Seal
Siloxane WB
Concentrate (1:14)**

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



PALLET TAG PROGRAM LABORATORY REPORT



Conclusions – Protective Water Repellents

Test results indicate that Sure Klean® Weather Seal Blok-Guard® & Graffiti Control, Stand Off® SLX100 Water & Oil Repellent, and Sure Klean® Weather Seal Siloxane WB Concentrate diluted with nine and fourteen parts water exhibited above average water repellency on the submitted samples. In addition, Sure Klean® Weather Seal Blok-Guard® & Graffiti Control provided a slight to moderate color enhancement to all types submitted. Stand Off® SLX100 Water & Oil Repellent and Sure Klean® Weather Seal Siloxane WB Concentrate diluted with nine and fourteen parts water did not alter the natural appearance of the submitted samples in any way.

Recommendations – Protective Water Repellents

Recommendations for water repellent treatments for the cast stone submitted by Edwards Cast Stone Company, Dubuque, IA are provided in the chart below. Recommendations are based on the treatments that proved most effective at providing water repellency on the submitted samples.

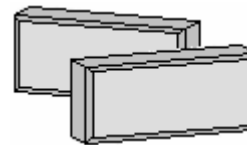
Sample	Water Repellents
"DC19" "DC31" "WC1090" "WC32" "WC7219"	Sure Klean® Weather Seal Blok-Guard® & Graffiti Control OR Sure Klean® Weather Seal Siloxane WB Concentrate (1:9) OR (1:14) OR Stand Off® SLX100 Water & Oil Repellent

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.



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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

Products Evaluated for Graffiti Repellency

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.

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, wood and metal surfaces.

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

Graffiti Agents

Interior/Exterior Spray Paint (Red)

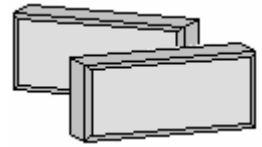
Permanent Marker (Green)

Permanent Marker (Red)

Permanent Marker (Black)



PALLET TAG PROGRAM LABORATORY REPORT



Sample Preparation – Graffiti Control

Sure Klean® Weather Seal Blok-Guard® & Graffiti Control was applied by brush to sections of the precast concrete samples, in accordance with the current PROSOCO, Inc. Product Data Sheet application instructions and allowed to cure for at least one day. 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. 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 Methods – Graffiti Control

Chemical cleaners were evaluated using the following procedure:

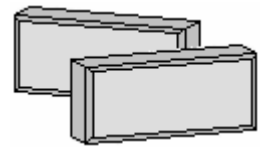
1. Apply the graffiti removal product to a dry surface, soiled with graffiti.
2. Allow appropriate dwell time:

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

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



PALLET TAG PROGRAM LABORATORY REPORT

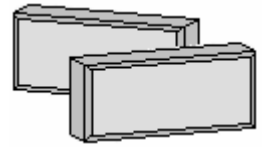


Test Results – Graffiti Control

“DC19”					
Untreated Control	Red Paint	Black Marker	Green Marker	Red Marker	% Avg. Removal
Fast Acting Stripper	70%	40%	40%	40%	48%
Graffiti Wipe	80%	30%	40%	40%	48%
Blok-Guard® & Graffiti Control	Red Paint	Black Marker	Green Marker	Red Marker	% Avg. Removal
Fast Acting Stripper	95%	100%	99%	98%	98%
Graffiti Wipe	95%	98%	98%	95%	97%
“DC31”					
Untreated Control	Red Paint	Black Marker	Green Marker	Red Marker	% Avg. Removal
Fast Acting Stripper	60%	60%	40%	30%	48%
Graffiti Wipe	70%	30%	40%	40%	45%
Blok-Guard® & Graffiti Control	Red Paint	Black Marker	Green Marker	Red Marker	% Avg. Removal
Fast Acting Stripper	98%	95%	95%	98%	97%
Graffiti Wipe	90%	99%	98%	98%	96%
“WC1090”					
Untreated Control	Red Paint	Black Marker	Green Marker	Red Marker	% Avg. Removal
Fast Acting Stripper	60%	80%	20%	80%	60%
Graffiti Wipe	95%	20%	20%	30%	41%
Blok-Guard® & Graffiti Control	Red Paint	Black Marker	Green Marker	Red Marker	% Avg. Removal
Fast Acting Stripper	99%	100%	99%	99%	99%
Graffiti Wipe	98%	99%	98%	99%	99%
“WC32”					
Untreated Control	Red Paint	Black Marker	Green Marker	Red Marker	% Avg. Removal
Fast Acting Stripper	50%	70%	30%	90%	60%
Graffiti Wipe	80%	20%	30%	50%	45%
Blok-Guard® & Graffiti Control	Red Paint	Black Marker	Green Marker	Red Marker	% Avg. Removal
Fast Acting Stripper	97%	100%	99%	99%	99%
Graffiti Wipe	99%	100%	99%	99%	99%
“WC7219”					
Untreated Control	Red Paint	Black Marker	Green Marker	Red Marker	% Avg. Removal
Fast Acting Stripper	30%	50%	20%	80%	45%
Graffiti Wipe	90%	20%	20%	20%	38%
Blok-Guard® & Graffiti Control	Red Paint	Black Marker	Green Marker	Red Marker	% Avg. Removal
Fast Acting Stripper	97%	100%	95%	95%	97%
Graffiti Wipe	99%	100%	95%	95%	97%



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Photographs – Graffiti Control

“WC1090”; Before Graffiti Removal



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

Untreated Control

“WC1090”; After Graffiti Removal



**Sure Klean® Fast
Acting Stripper**

**Defacer Eraser®
Graffiti Wipe**

**Sure Klean® Fast
Acting Stripper**

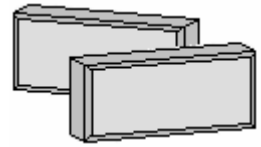
**Defacer Eraser®
Graffiti Wipe**

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

Untreated Control



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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 prior to graffiti application. In addition, Sure Klean® Weather Seal Blok-Guard® & Graffiti Control provided a slight to moderate color enhancement to the submitted samples.

Recommendations – Graffiti Control

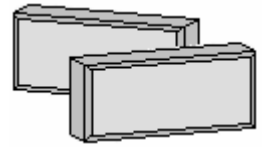
Recommendations for graffiti control treatment for each type of cast stone submitted by Edwards Cast Stone Company, Dubuque, IA are provided in the chart below. Recommendations are based on the treatment that proved most effective for providing graffiti repellency and the product that was most effective at removing the graffiti on all types submitted.

Sample	Graffiti Repellency	Graffiti Removal
“DC19” “DC31” “WC1090” “WC32” “WC7219”	Sure Klean® Weather Seal Blok-Guard® & Graffiti Control	Sure Klean® Fast Acting Stripper OR Defacer Eraser® Graffiti Wipe

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.



PALLET TAG PROGRAM LABORATORY REPORT



Stain Repellency

These trials were conducted to determine the effectiveness of treatments in preventing food and oil staining on the submitted samples.

Description of Products Evaluated – Stain Repellency

Stain Repellent Treatments

Stand Off® SLX100 Water & Oil Repellent – Combines water and oil repellency on most substrates to prevent staining by waterborne and oily substances. This modified “neat” silane system offers invisible protection and low volatility. The small molecular structure of SLX100 allows for maximum penetration at coverage rates higher than that of conventional silanes. Depth of penetration is controlled by the application rate (loading rate). This makes SLX100 ideal for protecting granite and other dense, color-sensitive surfaces.

Maintenance Cleaner

Enviro Klean® 2010 All Surface Cleaner – A “next-generation” product for cleaning and degreasing light-to-heavily soiled stone, tile, masonry and much more. Powerful enough for industrial use, flexible enough for jobs around the home, space-saving EK 2010 replaces a host of individual cleaning agents. It is suitable for home-use on windows, bathroom tub and tile, counter tops and more when diluted with water. It's concentrated enough for the toughest industrial cleaning jobs on concrete, metal and many other plant and warehouse surfaces. EK 2010 also removes Sure Klean® Weather Seal Siloxane PD overspray from windows.

Staining Agents Evaluated

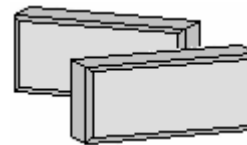
<u>Products</u>	<u>Temperature</u>
Coca Cola	ambient (~70°F)
Ketchup	ambient (~70°F)
Mustard	ambient (~70°F)
Red wine	ambient (~70°F)
Balsamic Vinegar	ambient (~70°F)
Soy Sauce	ambient (~70°F)
Olive Oil	ambient (~70°F)
Wesson Oil	(~250°F)
Coffee	(~120°F)

Sample Preparation – Stain Repellency

Samples were cleaned with Enviro Klean® 2010 All Surface Cleaner diluted with 10 parts water and allowed to dry for 24 hours prior to treatment. The protective treatments were then applied by brush in accordance with the current PROSOCO, Inc. Product Data Sheet instructions. The treatments were allowed to cure on the samples for at least 72 hours before testing.



PALLET TAG PROGRAM LABORATORY REPORT



Test Method – Stain Repellency

Surface Beading Evaluation

The food and oil products were applied to the test areas by using a dropper creating a bead 0.5 – 1.0 cm in diameter. The beading properties of the oils and liquids were visually evaluated within two minutes after application. The results are reported as a rating based on the angle of contact between the base of the droplet and the substrate. A rating of “1 or 2” indicated the smallest angle of contact (<90°) which correlates to “above average” repellency. A rating of “3 or 4” indicates “average” repellency. A rating of “5 or greater” indicated that the oil quickly absorbed into the substrate and correlates to “below average” repellency.

Note: Non-free flowing staining agents such as ketchup and mustard are applied in a globular fashion and therefore are not evaluated for their beading properties.

Rating System (1-5)

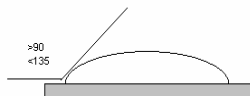
1. No wetting of contact area (no darkening); angle less than 90°



2. Wetting contained to the contact area (slight darkening); angle is less than 90°



3. Wetting contained to the contact area (slight darkening); angle is greater than 90°, but less than 135°.



4. Wetting beyond the contact area (darkening); angle is greater than 135°



5. Wetting beyond the contact area (darkening); angle is flat.

NO ANGLE

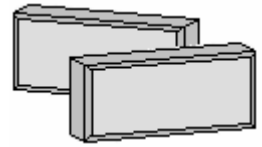


Stain Removal Evaluation

The soiling agents were allowed to dwell on the treated and untreated substrates for times of 24 hours, 4 hours, 1 hour, and 10 minutes. The test areas were then cleaned with Enviro Klean® 2010 All Surface Cleaner diluted 1 part concentrate to 10 parts fresh water and scrubbed under a stream of running water from a faucet. Samples were allowed to dry for 24 hours. Evaluation consisted of a visual examination of the tested areas to determine the percentage of staining removal.



PALLET TAG PROGRAM LABORATORY REPORT

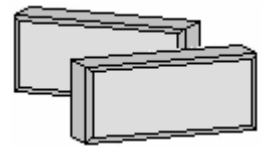


Test Results – Surface Beading

"DC19"									
	Coco-Cola	Ketchup	Mustard	Red Wine	Balsamic Vinegar	Soy Sauce	Olive Oil	Wesson Oil	Hot Coffee
Untreated Control	2	-	-	3	3	4	5	5	4
SLX100	1	-	-	1	1	1	2	2	2
"DC31"									
	Coco-Cola	Ketchup	Mustard	Red Wine	Balsamic Vinegar	Soy Sauce	Olive Oil	Wesson Oil	Hot Coffee
Untreated Control	3	-	-	3	3	3	5	5	4
SLX100	1	-	-	1	1	1	2	2	2
"WC1090"									
	Coco-Cola	Ketchup	Mustard	Red Wine	Balsamic Vinegar	Soy Sauce	Olive Oil	Wesson Oil	Hot Coffee
Untreated Control	2	-	-	3	3	3	5	5	4
SLX100	1	-	-	2	2	2	3	3	2
"WC32"									
	Coco-Cola	Ketchup	Mustard	Red Wine	Balsamic Vinegar	Soy Sauce	Olive Oil	Wesson Oil	Hot Coffee
Untreated Control	2	-	-	3	3	4	5	5	4
SLX100	1	-	-	1	1	1	2	2	2
"WC7219"									
	Coco-Cola	Ketchup	Mustard	Red Wine	Balsamic Vinegar	Soy Sauce	Olive Oil	Wesson Oil	Hot Coffee
Untreated Control	5	-	-	5	5	5	5	5	5
SLX100	2	-	-	2	2	2	3	3	2



PALLET TAG PROGRAM LABORATORY REPORT



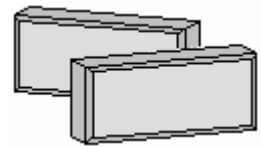
Test Results – Stain Repellency

"DC19"									
Untreated Control									
	Coca- Cola	Ketchup	Mustard	Red Wine	Balsamic Vinegar	Soy Sauce	Olive Oil	Wesson Oil	Hot Coffee
24 hr	100%	100%	95%	100%	100%	80%	80%	80%	100%
4 hour	100%	100%	95%	100%	100%	80%	80%	80%	100%
1 hour	100%	100%	100%	100%	100%	100%	80%	80%	100%
10 min.	100%	100%	100%	100%	100%	100%	80%	80%	100%
Stand Off® SLX100 Water & Oil Repellent									
	Coca- Cola	Ketchup	Mustard	Red Wine	Balsamic Vinegar	Soy Sauce	Olive Oil	Wesson Oil	Hot Coffee
24 hr	100%	100%	100%	100%	100%	100%	100%	100%	100%
4 hour	100%	100%	100%	100%	100%	100%	100%	100%	100%
1 hour	100%	100%	100%	100%	100%	100%	100%	100%	100%
10 min.	100%	100%	100%	100%	100%	100%	100%	100%	100%
"DC31"									
Untreated Control									
	Coca- Cola	Ketchup	Mustard	Red Wine	Balsamic Vinegar	Soy Sauce	Olive Oil	Wesson Oil	Hot Coffee
24 hr	100%	<1%	<1%	100%	100%	80%	<1%	<1%	100%
4 hour	100%	100%	100%	100%	100%	100%	<1%	<1%	100%
1 hour	100%	100%	100%	100%	100%	100%	<1%	<1%	100%
10 min.	100%	100%	100%	100%	100%	100%	<1%	<1%	100%
Stand Off® SLX100 Water & Oil Repellent									
	Coca- Cola	Ketchup	Mustard	Red Wine	Balsamic Vinegar	Soy Sauce	Olive Oil	Wesson Oil	Hot Coffee
24 hr	100%	100%	100%	100%	100%	100%	80%	80%	100%
4 hour	100%	100%	100%	100%	100%	100%	100%	100%	100%
1 hour	100%	100%	100%	100%	100%	100%	100%	100%	100%
10 min.	100%	100%	100%	100%	100%	100%	100%	100%	100%
"WC1090"									
Untreated Control									
	Coca- Cola	Ketchup	Mustard	Red Wine	Balsamic Vinegar	Soy Sauce	Olive Oil	Wesson Oil	Hot Coffee
24 hr	100%	100%	95%	100%	100%*	100%	<1%	<1%	100%
4 hour	100%	100%	95%	100%	100%*	100%	<1%	<1%	100%
1 hour	100%	100%	100%	100%	100%*	100%	<1%	<1%	100%
10 min.	100%	100%	100%	100%	100%*	100%	<1%	<1%	100%
Stand Off® SLX100 Water & Oil Repellent									
	Coca- Cola	Ketchup	Mustard	Red Wine	Balsamic Vinegar	Soy Sauce	Olive Oil	Wesson Oil	Hot Coffee
24 hr	100%	100%	100%	100%	100%	100%	90%	90%	100%
4 hour	100%	100%	100%	100%	100%	100%	100%	95%	100%
1 hour	100%	100%	100%	100%	100%	100%	100%	100%	100%
10 min.	100%	100%	100%	100%	100%	100%	100%	100%	100%

***Indicates etching occurred due to the acidic nature of the staining agents.**



PALLET TAG PROGRAM LABORATORY REPORT



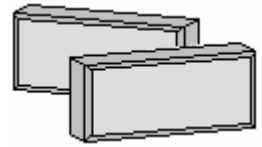
Test Results – Stain Repellency

“WC32”									
Untreated Control									
	Coca- Cola	Ketchup	Mustard	Red Wine	Balsamic Vinegar	Soy Sauce	Olive Oil	Wesson Oil	Hot Coffee
24 hr	100%	100%	95%	100%	100%*	90%	<1%	<1%	100%
4 hour	100%	100%	95%	100%	100%*	90%	<1%	<1%	100%
1 hour	100%	100%	95%	100%	100%*	100%	<1%	<1%	100%
10 min.	100%	100%	100%	100%	100%*	100%	<1%	<1%	100%
Stand Off® SLX100 Water & Oil Repellent									
	Coca- Cola	Ketchup	Mustard	Red Wine	Balsamic Vinegar	Soy Sauce	Olive Oil	Wesson Oil	Hot Coffee
24 hr	100%	100%	100%	100%	100%	100%	100%	100%	100%
4 hour	100%	100%	100%	100%	100%	100%	100%	100%	100%
1 hour	100%	100%	100%	100%	100%	100%	100%	100%	100%
10 min.	100%	100%	100%	100%	100%	100%	100%	100%	100%
“WC219”									
Untreated Control									
	Coca- Cola	Ketchup	Mustard	Red Wine	Balsamic Vinegar	Soy Sauce	Olive Oil	Wesson Oil	Hot Coffee
24 hr	100%	80%	90%	95%	95%	95%	<1%	<1%	100%
4 hour	100%	100%	90%	95%	95%	95%	<1%	<1%	100%
1 hour	100%	100%	90%	100%	100%	100%	<1%	<1%	100%
10 min.	100%	100%	100%	100%	100%	100%	<1%	<1%	100%
Stand Off® SLX100 Water & Oil Repellent									
	Coca- Cola	Ketchup	Mustard	Red Wine	Balsamic Vinegar	Soy Sauce	Olive Oil	Wesson Oil	Hot Coffee
24 hr	100%	100%	100%	100%	100%	100%	100%	100%	100%
4 hour	100%	100%	100%	100%	100%	100%	100%	100%	100%
1 hour	100%	100%	100%	100%	100%	100%	100%	100%	100%
10 min.	100%	100%	100%	100%	100%	100%	100%	100%	100%

*Indicates etching occurred due to the acidic nature of the staining agents.



PALLET TAG PROGRAM LABORATORY REPORT

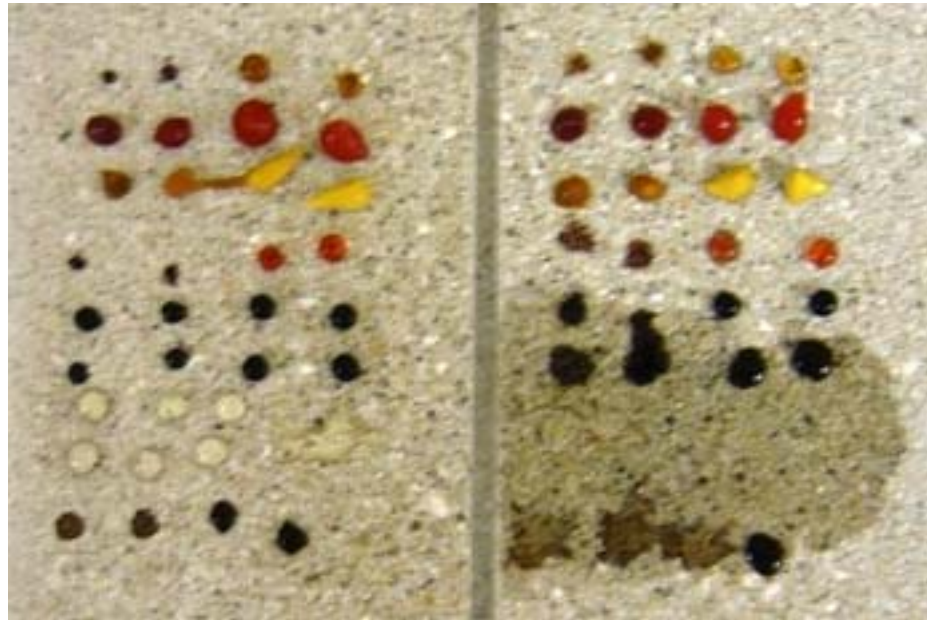


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Photographs – Stain Repellency

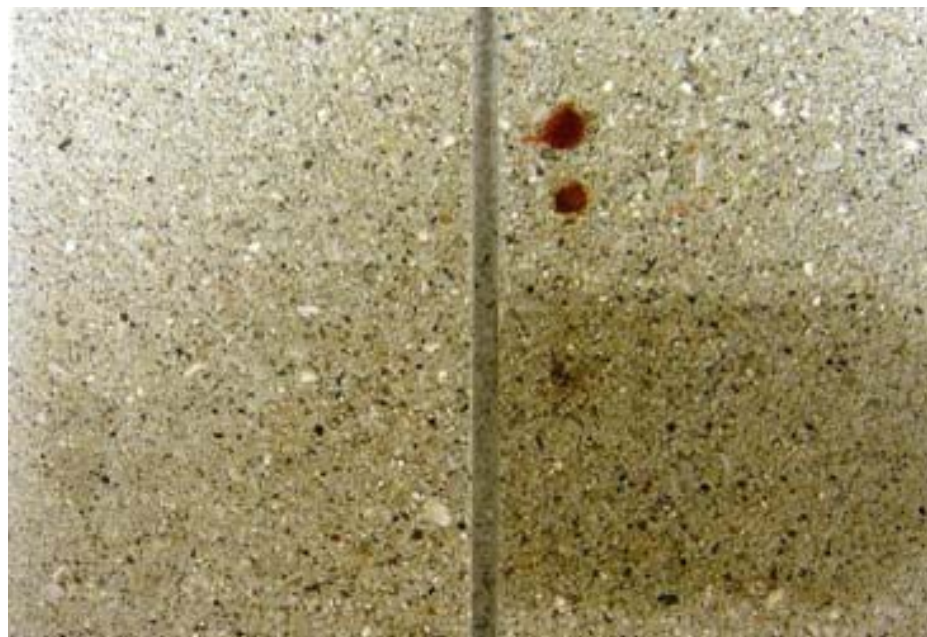
“DC31”; Stains Applied



Stand Off® SLX100 Water & Oil
Repellent

Untreated Control

“DC31”; Stains Removed

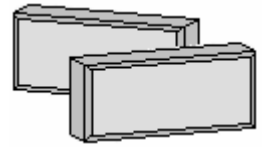


Stand Off® SLX100 Water & Oil
Repellent

Untreated Control



PALLET TAG PROGRAM LABORATORY REPORT



Conclusions – Stain Repellency

Based upon laboratory evaluations, Stand Off® SLX100 Water & Oil Repellent improved the surface beading of the samples. In addition, Stand Off® SLX100 Water & Oil Repellent was effective in improving the samples' resistance to the applied stains. Stand Off® SLX100 Water & Oil Repellent caused no noticeable change to the appearance of the submitted samples.

Recommendations – Stain Repellency

Recommendations for stain resistance treatment for the cast stone submitted by Edwards Cast Stone Company, Dubuque, IA are provided in the chart below. Recommendations are based on the treatments that proved most effective for providing stain repellency on the submitted cast stone.

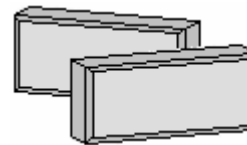
Sample	Stain Repellent	Maintenance Cleaner
“DC19” “DC31” “WC1090” “WC32” “WC7219”	Stand Off® SLX100 Water & Oil Repellent	Enviro Klean® 2010 All Surface Cleaner (1:10)

The ability of a stain repellent treatment to prevent staining 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 stain repellent product and procedures for a particular project. See product literature for additional application and product information.



PALLET TAG PROGRAM LABORATORY REPORT



In-Plant Marker Removal

This evaluation determines the effectiveness of products designed for in-plant marker removal

Description of Products Evaluated – In-Plant Marker Removal

Products Evaluated for In-Plant Marker 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, wood and metal surfaces.

In-Plant Products

Permanent Marker (Orange)
Permanent Marker (Black)

Test Methods – In-Plant Marker Removal

Chemical cleaners were evaluated using the following procedure:

1. To a dry surface, labeled with in-plant marker, apply product.
2. Allow appropriate dwell time:
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.

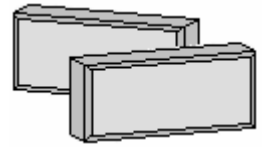
***Pressure Rinsing Equipment** – Masonry washing equipment generating approximately 700-800 psi with a water flow rate of 8 gallons per minute delivered through a 45 degree fan spray tip was used for rinsing.

Test Results – In-Plant Marker Removal

Product	% Removal	
	Orange Marker	Black Marker
Graffiti Wipe	98%	98%



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Photographs – In-Plant Marker Removal

“DC23”; Before In-Plant Marker Removal



Orange Marker

Black Marker

“DC23”; After In-Plant Marker Removal with Defacer Eraser[®] Graffiti Wipe

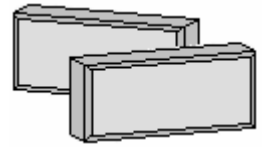


Orange Marker

Black Marker



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Conclusions – In-Plant Marker Removal

Based upon laboratory evaluations, the in-plant marker stains were successfully removed with Defacer Eraser[®] Graffiti Wipe.

Recommendations – In-Plant Marker Removal

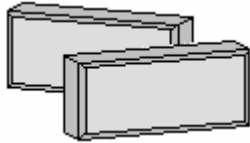
Recommendations for in-plant marker removal for the “DC23” cast stone submitted by Edwards Cast Stone Company, Dubuque, IA are provided in the chart below.

Sample	In-Plant Marker Removal
“DC23”	Defacer Eraser [®] Graffiti Wipe

Apply all products in accordance with the manufacturer’s recommendation provided on container labels and product data sheets.

Christopher A. Moore
Project Testing Laboratory Technician

CAM



Laboratory Report

Pallet Tag Program Evaluation

**Edwards Cast Stone Company
Dubuque, IA**

Project No. 0507-18 PTP

Prepared For:

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Prepared By:



***PROSOCO, Inc.
October 2005***