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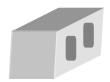
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ATTACHMENTS

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





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FOR: David Gay, Gibraltar Stone

Michael Burdette Paul Tessier

SUBJECT: Gibraltar Stone

Lawrenceville, GA

DATE: September 17, 2004

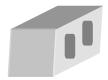
PROJECT: PTP 0407-17

SAMPLES SUBMITTED: Two types of simulated stone

Sample	Name/Color	Size
Simulated stone	"Slate"	Various
Simulated stone	"Cordovan"	Various

Submitted by: Michael Burdette





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PURPOSE OF TESTING:

Two types of simulated stone in various colors and sizes were submitted to PROSOCO, Inc.'s Testing Laboratory with a request to determine if application of the products evaluated would produce any surface alteration during new construction cleaning operations. Additionally, the effectiveness of water repellents, graffiti repellents, and stain repellents suitable for simulated stone were evaluated.

A. New Construction Cleaning: Sure Klean[®] Manufactured Stone Cleaner*, Enviro Klean[®] Safety Klean, and Enviro Klean[®] 2010 All Surface Cleaner were evaluated for removal of laboratory applied mortar.

To simulate new construction soiling, the simulated stone is placed on a bench with finished surface facing upward. Hollow cylinders measuring 50 mm in diameter and 75 mm tall are positioned on top of the simulated stone and filled with a wet mixture of Ash Grove[®] Type S mortar or Type N mortar. The wet, mortar-filled cylinder is allowed to remain in contact with the simulated stone for 10 minutes before removal.

Heavy deposits of mortar are removed with dry scraping after 24 hours. Prepared cleaning solutions are then evaluated for their effectiveness in removing residual Ash Grove[®] Type S mortar staining after 3 and 7days of curing, and Type N mortar staining after 7days of curing*.

B. Limiting Surface Alterations Testing - Sure Klean[®] Manufactured Stone Cleaner, Enviro Klean[®] Safety Klean, and Enviro Klean[®] 2010 All Surface Cleaner were evaluated at various dilutions to determine if a cleaning program implemented to remove excess mortar and related new construction soiling would otherwise alter the appearance of cleaned surfaces. Surface Alteration was evaluated visually based upon perceived discoloration or erosion/etching of the masonry unit.

<u>Aggregate Exposure</u> is the visual examination of the sample comparing aggregate exposure of the untreated control surface to surfaces cleaned with selected product(s) at given dilutions.

<u>Surface Pigment Alteration/Removal</u> is the visual examination of the sample comparing the surface pigmentation of the untreated control to surfaces cleaned with selected product(s) at given dilutions.

<u>Matrix Erosion</u> is the visual examination comparing the untreated control surface to surfaces cleaned with selected products at given dilutions looking for any potential erosion/digestion of the cementitious matrix of the sample.

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

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

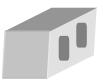
0 - no change 3 - heavy 1 - slight 4 - excessive

2 - moderate

- **C. Protective Water Repellents** Sure Klean[®] Weather Seal Blok-Guard® & Graffiti Control, Sure Klean[®] Weather Seal Siloxane PD, Sure Klean[®] Weather Seal Siloxane WB Concentrate, and Stand Off[®] SLX100 Water & Oil Repellent were evaluated for their ability to provide water repellency to the submitted samples.
- **D. Graffiti Control** Sure Klean[®] Weather Seal Blok-Guard® & Graffiti Control was evaluated for its ability to control graffiti on the submitted samples. Sure Klean[®] Fast Acting Stripper and Defacer Eraser[®] Graffiti Wipe were evaluated for their ability to remove graffiti from the submitted samples.
- **E. Stain Repellency** Stand Off[®] Stone, Tile & Masonry Protector and Stand Off[®] SLX100 Water & Oil Repellent were evaluated for their ability to provide stain repellency to the submitted samples.

*In the original report, this product was called Sure Klean® Burnished Custom Masonry Cleaner. This report was revised when the product name was changed.





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PRODUCTS EVALUATED FOR CLEANING AND LIMITING SURFACE ALTERATIONS

Sample Type	Product	Dilution
All submitted simulated stone	Sure Klean® Manufactured Stone Cleaner	1:2, 1:3
	Enviro Klean [®] Safety Klean	1:2, 1:3
	Enviro Klean [®] 2010 All Surface Cleaner	1:10

WATER REPELLENT PRODUCTS EVALUATED

Sample Type	Product	Dilution
All submitted simulated stone	Sure Klean [®] Weather Seal Siloxane PD	Concentrate
	Sure Klean® Weather Seal Siloxane WB Concentrate	1:9
	Stand Off [®] SLX100 Water & Oil Repellent	Concentrate
	Sure Klean [®] Weather Seal Blok-Guard [®] & Graffiti Control	Concentrate

GRAFFITI CONTROL PRODUCTS EVALUATED

Sample Type	Product	Dilution
All submitted simulated stone	Sure Klean [®] Weather Seal Blok-Guard [®] & Graffiti Control	Concentrate

GRAFFITI REMOVAL PRODUCTS EVALUATED

Sample	Product	Dilution
All submitted simulated stone	Sure Klean [®] Fast Acting Stripper	Concentrate
	Defacer Eraser [®] Graffiti Wipe	Concentrate

STAIN REPELLENCY PRODUCTS EVALUATED

Sample	Product	Dilution
All submitted simulated stone	Stand Off [®] Stone, Tile & Masonry Protector	Concentrate
	Stand Off [®] SLX100 Water & Oil Repellent	Concentrate





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SECTION A – NEW CONSTRUCTION CLEANING OF SIMULATED STONE

DESCRIPTION OF PRODUCTS EVALUATED

These cleaning trials were conducted to determine the optimal cleaning/cure time combination.

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

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

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 can be diluted for home-use on windows, bathroom tub and tile, counter tops and more. It's concentrated for the toughest industrial cleaning jobs on concrete, metal and many other plant and warehouse surfaces. Easy-to-use EK 2010 All Surface Cleaner is water-soluble and contains no harsh acids, caustics or solvents.

TEST METHOD – Cleaning

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

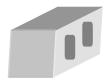
- 1. Prewet the surface with water.
- 2. Apply each cleaner at the appropriate dilutions.
- 3. Allow appropriate dwell time for each cleaner:

Manufactur	red Stone Cleaner	3-5 minutes
Safety Klea	an	3 minutes
•		

- 4. Reapply the products and moderately agitate with a brush.
- 5. Pressure rinse thoroughly.*
- 6. Allow the surface to dry for at least 18 hours and visually examine.

^{*}Pressure rinsing was conducted at approximately 1300 psi with a warm water flow rate of 1.9 gallons per minute.





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TEST RESULTS – Cleaning

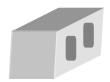
% Removal of Type S Mortar

"Slate" Simulated Stone					
Product	Dilution	3 day	7 day		
Manufactured Stone Cleaner	1:2	95			
Manufactured Stone Cleaner	1:3	95			
Safety Klean	1:2	100			
Safety Klean	1:3	100			
EK 2010	1:10		90		
"Cordovan" Simulated Stone					
Product	Dilution	3 day	7 day		
Manufactured Stone Cleaner	1:2	90			
Manufactured Stone Cleaner	1:3	85			
Safety Klean	1:2	100			
Safety Klean	1:3	100			
EK 2010	1:10		85		

% Removal of Type N Mortar

"Slate" Simulated Stone					
Product	Dilution	7 day			
Manufactured Stone Cleaner	1:2	95			
Manufactured Stone Cleaner	1:3	90			
Safety Klean	1:2	95			
Safety Klean	1:3	95			
EK 2010	1:10	95			
"Cordovan" Simulated Stone					
Product Dilution 7 day					
Manufactured Stone Cleaner	1:2	95			
Manufactured Stone Cleaner	1:3	90			
Safety Klean	1:2	100			
Safety Klean	1:3	100			
EK 2010	1:10	90			





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PHOTOGRAPHS- Cleaning

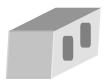
"Slate" Simulated Stone; 3 Day Cleaning - Type S Mortar



"Cordovan" Simulated Stone; 3 Day Cleaning - Type S Mortar







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PHOTOGRAPHS- Cleaning

"Slate" Simulated Stone; 7 Day Cleaning - Type N Mortar



"Cordovan" Simulated Stone; 7 Day Cleaning - Type N Mortar





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PHOTOGRAPHS- Cleaning

"Slate" Simulated Stone; 7 Day Cleaning - Type S Mortar



Enviro Klean[®] 2010 1:10

"Cordovan" Simulated Stone; 7 Day Cleaning – Type S Mortar



Enviro Klean[®] 2010 1:10





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CONCLUSIONS – Cleaning

Based on the test data, both types of simulated stone were efficiently cleaned with all products evaluated. However, Sure Klean[®] Manufactured Stone Cleaner and Enviro Klean[®] Safety Klean removed heavy to excessive amounts of surface pigment (see Section B "Limited Surface Alterations"). Enviro Klean[®] 2010 All Surface Cleaner diluted with ten parts water removed slight to moderate amounts of surface pigment.

RECOMMENDED PRODUCTS AND DILUTIONS - CLEANING

Recommendations for cleaning for the simulated stone submitted by Gibraltar Stone, Lawrenceville, GA, are provided in the chart below. Recommendations are based on the optimum dilution for complete removal of mortar and on limiting surface alterations (see Section B).

Sample	New Construction Cleaning (Type S and N mortar, 7 day)
All Submitted Simulated Stone	No Recommendations Due to Surface Alterations (see Section B)

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.





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SECTION B – LIMITING SURFACE ALTERATIONS:

DESCRIPTION OF PRODUCTS EVALUATED – Limiting Surface Alterations:

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

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

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 can be diluted for home-use on windows, bathroom tub and tile, counter tops and more. It's concentrated for the toughest industrial cleaning jobs on concrete, metal and many other plant and warehouse surfaces. Easy-to-use EK 2010 All Surface Cleaner is water-soluble and contains no harsh acids, caustics or solvents.

TEST METHOD – LIMITING SURFACE ALTERATIONS

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

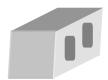
- 1. Prewet the surface with water.
- 2. Apply each cleaner at the appropriate dilutions.
- 3. Allow appropriate dwell time, as specified.

Manufactured Stone Cleaner	3-5 minutes
Safety Klean	3 minutes
EK 2010	3-5 minutes

- 4. Reapply the products and moderately agitate with a brush.
- 5. Pressure rinse thoroughly.*

^{*}Pressure rinsing was conducted at approximately 1300 psi with a warm water flow rate of 1.9 gallons per minute.





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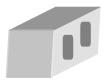
TEST RESULTS – Limiting Surface Alterations

Substrate: Simulated Stone	Pigment Color: "Slate"					
Product	Dilution	Surface Finish Removal	Substrate Deterioration	Color Change	Staining	
Sure Klean® Manufactured Stone Cleaner	1:2	4	4	4	4	
Sure Klean® Manufactured Stone Cleaner	1:3	4	4	4	4	
Enviro Klean [®] Safety Klean	1:2	4	4	4	4	
Enviro Klean [®] Safety Klean	1:3	4	4	4	4	
Enviro Klean [®] 2010 All Surface Cleaner	1:10	2	2	1	2	
Substrate: Simulated Stone	Pigment Color: "Cordovan"					
Brodust	;	Surface Finish	Substrate	Color		
Product	Dilution	Removal	Deterioration	Change	Staining	
Sure Klean® Manufactured Stone Cleaner	Dilution 1:2			Change 3	Staining 3	
		Removal	Deterioration			
Sure Klean® Manufactured Stone Cleaner	1:2	Removal 3	Deterioration 3	3	3	
Sure Klean [®] Manufactured Stone Cleaner Sure Klean [®] Manufactured Stone Cleaner	1:2 1:3	Removal 3 3	Deterioration 3 3	3	3 3	

0 - No change 3 - change - heavy 1 - change - slight 4 - change - excessive

2 - change - moderate





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PHOTOGRAPHS- Limiting Surface Alterations

"Slate" Simulated Stone







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CONCLUSIONS: LIMITING SURFACE ALTERATIONS:

Test results indicate that all of the tested products created at least slight surface alterations on both types of the submitted simulated stone. Sure Klean[®] Manufactured Stone Cleaner and Enviro Klean[®] Safety Klean removed heavy to excessive amounts of surface pigment. Enviro Klean[®] 2010 All Surface Cleaner removed the least amount of surface pigment.

RECOMMENDATIONS – LIMITING SURFACE ALTERATIONS

Recommendations for Limiting Surface Alterations for each type of simulated stone submitted by Gibraltar Stone, Lawrenceville, GA, are provided in the chart below. Recommendations are based on the optimum dilution for removal of mortar while limiting surface alterations.

Sample	Product
All Submitted Simulated Stone	No Recommendations

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.





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SECTION C – 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

DESCRIPTIONS 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 material. Sure Klean[®] Weather Seal Blok-Guard[®] & Graffiti Control protects masonry surfaces from repeated graffiti attacks without altering the natural appearance.

Sure Klean® Weather Seal Siloxane PD – A ready-to-use, water-based silane/siloxane water repellent for concrete, GFRC, and most masonry and stucco surfaces. Siloxane PD 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 Siloxane WB Concentrate – A concentrated water repellent designed for dilution with fresh water at the jobsite. This solvent-free blend of siloxanes 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.

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.





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SAMPLE PREPARATION – Protective Water Repellents:

The submitted simulated stone samples were sectioned using hot glue, allowed to dry, and to absorb atmospheric humidity for 24 hours prior to treatment. The treatment method consisted of a wet-on-wet or saturating brush application. All treatments were allowed to cure at least 3 days 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
"Slate" Simulated Stone	
Untreated Control	52 mph
Blok-Guard [®] & Graffiti Control	58 mph
Siloxane PD	59 mph
Siloxane WB 1:9	60 mph
SLX100	58 mph
"Cordovan" Simulated Stone	
Untreated Control	< 40 mph
Blok-Guard [®] & Graffiti Control	56 mph
Siloxane PD	57 mph
Siloxane WB 1:9	59 mph
SLX100	57 mph





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PHOTOGRAPHS- Protective Water Repellents

"Slate" Simulated Stone - RILEM Testing



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

Untreated Control

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

Stand Off®
SLX100 Water &
Oil Repellent





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CONCLUSIONS - Protective Water Repellents

Based upon laboratory evaluations, Sure Klean[®] Weather Seal Siloxane PD, Sure Klean[®] Weather Seal Siloxane WB Concentrate diluted with nine parts water, Stand Off[®] SLX100 Water & Oil Repellent, and Sure Klean[®] Weather Seal Blok-Guard[®] & Graffiti Control provided excellent water repellency to the submitted samples. In addition, Sure Klean[®] Weather Seal Blok-Guard[®] & Graffiti Control enhanced the appearance of the simulated stone.

RECOMMENDATIONS - PROTECTIVE WATER REPELLENTS

Recommendations for water repellency treatment for the simulated stone submitted by Gibraltar Stone, Lawrenceville, GA, 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 Type	Water Repellents
All Submitted Simulated Stone	Sure Klean [®] Weather Seal Siloxane PD OR Sure Klean [®] Weather Seal Siloxane WB Concentrate 1:9 OR Stand Off [®] SLX100 Water & Oil Repellent OR Sure Klean [®] Weather Seal Blok-Guard [®] & Graffiti Control

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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SECTION D – GRAFFITI CONTROL

DESCRIPTION OF PRODUCTS EVALUATED

These trials were conducted to determine the optimal graffiti control treatment.

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 material. Sure Klean® Weather Seal Blok-Guard® & Graffiti Control protects masonry surfaces from repeated graffiti attacks without altering the natural appearance.

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)





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SAMPLE PREPARATION – Graffiti Control

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

Sections of the simulated stone samples were treated with one coat of Sure Klean[®] Weather Seal Blok-Guard[®] & Graffiti Control in accordance with PROSOCO, Inc.'s Product Guide application instructions and then allowed to cure for at least one day. At the end of the one-day cure period, a visual adverse effects evaluation was made and then the graffiti agents were applied to the substrates.

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

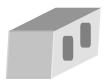
TEST METHOD - Graffiti Control

Chemical cleaners were evaluated using the following procedure:

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

- 3. Pressure rinse thoroughly until water runs clear. *
- 4. Allow the surface to dry thoroughly and visually examine to determine effectiveness.
- * Pressure rinsing was conducted at approximately 1300 psi with a warm water flow rate of 1.9 gallons per minute.



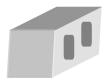


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TEST RESULTS - Graffiti Control

"Slate" Simulated Stone							
Untreated Control	Red Paint	Black Marker	Green Marker	Red Marker	% Avg. Removal		
Fast Acting Stripper	99%	100%	99%	99%	99%		
Graffiti Wipe	90%	95%	95%	95%	94%		
Blok-Guard [®] & Graffiti Control	Red Paint	Black Marker	Green Marker	Red Marker	% Avg. Removal		
Fast Acting Stripper	99%	100%	100%	100%	100%		
Graffiti Wipe	99%	100%	100%	100%	100%		
	"Cordovan"	Simulated S	tone				
Untreated Control	Red Paint	Black Marker	Green Marker	Red Marker	% Avg. Removal		
Fast Acting Stripper	99%	100%	95%	99%	98%		
Graffiti Wipe	99%	99%	90%	95%	96%		
	D - 1	Disale	C=====	Red	0/ Ava		
Blok-Guard [®] & Graffiti Control	Red Paint	Black Marker	Green Marker	Marker	% Avg. Removal		
Blok-Guard [®] & Graffiti Control Fast Acting Stripper					_		





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PHOTOGRAPHS - Graffiti Control

"Slate" Simulated Stone Before Graffiti Removal



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

"Cordovan" Simulated Stone Before Graffiti Removal

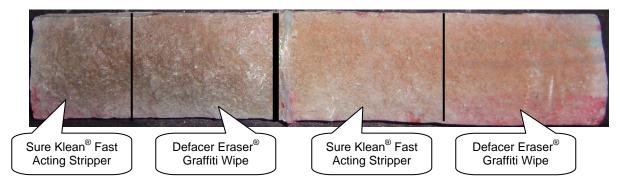


Sure Klean® Weather Seal Blok-Guard® & Graffiti Control Untreated Control

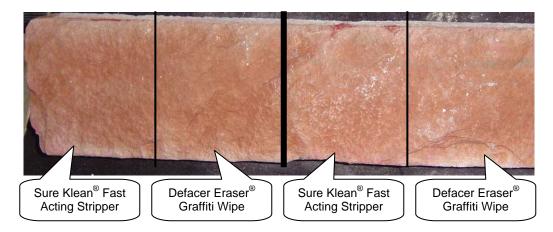
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PHOTOGRAPHS – Graffiti Control

"Slate" Simulated Stone After Graffiti Removal



"Cordovan" Simulated Stone After Graffiti Removal







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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 enhanced the appearance of the simulated stone.

RECOMMENDATIONS - GRAFFITI CONTROL

Recommendations for graffiti control treatment for each type of simulated stone submitted by Gibraltar Stone, Lawrenceville, GA, 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 Type	Graffiti Repellent	Graffiti Removers
All Submitted Simulated Stone	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.

For the most severe graffiti cases Sure Klean[®] Fast Acting Stripper is recommended for job-site testing. For mild graffiti cases, Defacer Eraser[®] Graffiti Wipe is recommended for job-site testing. See product literature for additional application and product information.





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SECTION E – STAIN RESISTANCE

DESCRIPTION OF PRODUCTS EVALUATED

These trials were conducted to determine the effectiveness of treatments in preventing food, oil, and miscellaneous staining on the simulated stone.

Products Evaluated for Stain Protection:

Stand Off[®] Stone, **Tile & Masonry Protector** – A penetrating oil and stain repellent. Easy-to-use. Low-VOC, low-odor protective treatment improves the stain resistance and simplifies maintenance cleaning of interior and exterior stone, quarry tile, concrete and 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.

<u>Kitchen Products Evaluated</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 Resistance

The method of application for protective treatments consisted of a single saturating brush application.





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TEST METHOD – Stain Resistance

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 ($<90^\circ$) 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 blob and not evaluated for their beading properties.

Rating System (1-5)

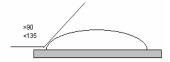
1. No wetting of contact area (no darkening); angle less than 90°



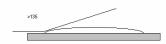
2. Wetting contained to the contact area (slight darkening); angle is less than 90°



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



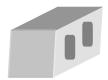
4. Wetting beyond the contact area (darkening); angle is greater than 135°



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







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TEST METHODS: Continued

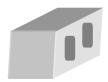
Stain Resistance

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.

TEST RESULTS – Surface Beading

"Slate" Simulated Stone									
	Coco- Cola Ketchup Mustard Red Wine Vinegar Sauce Oil Oil Coffee							Hot Coffee	
Untreated Control	4	-	-	4	4	4	4	4	4
STMP	2	-	-	3	3	3	3	3	3
SLX100	2	-	-	2	2	2	3	3	3
			"Cordov	an" Sir	nulated Sto	one			
	Coco- Cola	Ketchup	Mustard	Red Wine	Balsamic Vinegar	Soy Sauce	Olive Oil	Wesson Oil	Hot Coffee
Untreated Control	4	-	-	4	4	4	4	4	4
STMP	2	-	-	3	3	3	3	3	3
SLX100	2	-	-	2	2	2	3	3	3





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TEST RESULTS - Stain Resistance

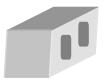
Cleaned with: Enviro Klean® 2010 All Surface Cleaner (1:10)

"Slate" Simulated Stone

Olate Officialed Otorie								
Untreated Control								
Coca Cola	Ketchup	Mustard	Red Wine	Balsamic Vinegar	Soy Sauce	Olive Oil	Wesson Oil	Hot Coffee
100%	70%*	10%*	80%*	30%*	100%*	95%	95%	100%
100%	80%*	30%*	85%*	30%*	100%*	95%	95%	100%
100%	85%*	70%*	90%*	50%*	100%*	95%	95%	100%
100%	95%*	95%*	95%*	100%	100%*	100%	100%	100%
		Sta	nd Off [®] Stor	ne, Tile, & Ma	sonry Prot	ector		
Coca Cola	Ketchup	Mustard	Red Wine	Balsamic Vinegar	Soy Sauce	Olive Oil	Wesson Oil	Hot Coffee
100%	50%*	50%*	100%*	100%*	100%*	80%	80%	100%
100%	70%*	70%*	100%*	100%*	100%*	95%	95%	100%
100%	100%*	100%*	100%*	100%*	100%*	95%	99%	100%
100%	100%*	100%*	100%*	100%*	100%*	100%	100%	100%
		St	and Off® SL	X100 Water	& Oil Repe	llent		
Coca Cola	Ketchup	Mustard	Red Wine	Balsamic Vinegar	Soy Sauce	Olive Oil	Wesson Oil	Hot Coffee
100%	100%*	100%*	100%*	100%*	100%	80%	80%	100%
100%	100%*	100%*	100%*	100%*	100%	95%	95%	100%
100%	100%*	100%*	100%*	100%*	100%	95%	99%	100%
100%	100%*	100%*	100%*	100%*	100%	100%	100%	100%
	100% 100% 100% 100% Coca Cola 100% 100% 100% 100% 100% 100% 100% 100	100% 80%* 100% 85%* 100% 95%* Coca Cola Ketchup 100% 50%* 100% 100%* 100% 100%* Coca Cola Ketchup 100% 100%* 100% 100%* 100% 100%* 100% 100%*	100% 70%* 10%* 100% 80%* 30%* 100% 85%* 70%* 100% 95%* 95%*	Coca Cola Ketchup Mustard Red Wine 100% 70%* 10%* 80%* 100% 80%* 30%* 85%* 100% 85%* 70%* 90%* 100% 95%* 95%* 95%* Stand Off® Stor Coca Cola Ketchup Mustard Red Wine 100% 50%* 50%* 100%* 100% 70%* 70%* 100%* 100% 100%* 100%* 100%* 100% 100%* 100%* 100%* Coca Cola Ketchup Mustard Red Wine Stand Off® SL Coca Cola Ketchup Mustard Red Wine 100% 100%* 100%* 100%* 100% 100%* 100%* 100%* 100% 100%* 100%* 100%*	Coca Cola Ketchup Mustard Red Wine Balsamic Vinegar	Coca Cola Ketchup Mustard Red Wine Balsamic Vinegar Soy Sauce	Coca Cola Ketchup Mustard Red Wine Balsamic Vinegar Soy Sauce Olive Oil	Coca Cola Ketchup Mustard Red Wine Balsamic Vinegar Soy Sauce Olive Oil Wesson Oil

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





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TEST RESULTS - Stain Resistance

Cleaned with: Enviro Klean® 2010 All Surface Cleaner (1:10)

"Cordovan" Simulated Stone

	Untreated Control								
	Coca Cola	Ketchup	Mustard	Red Wine	Balsamic Vinegar	Soy Sauce	Olive Oil	Wesson Oil	Hot Coffee
24 hour	100%	100%*	90%*	100%*	100%*	100%*	30%	30%	30%
4 hour	100%	100%*	100%*	100%*	100%*	100%*	30%	30%	30%
1 hour	100%	100%*	100%*	100%*	100%*	100%*	30%	30%	30%
10 min.	100%	100%*	100%*	100%*	100%*	100%*	30%	30%	30%
			Stand	d Off [®] Stone	, Tile, & Mas	sonry Prote	ector		
	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%	50%
4 hour	100%	100%*	100%*	100%*	100%	100%	99%	99%	70%
1 hour	100%	100%*	100%*	100%	100%	100%	100%	100%	100%
10 min.	100%	100%*	100%*	100%	100%	100%	100%	100%	100%
			Star	nd Off® SLX	100 Water 8	Oil Repell	ent		
	Coca Cola	Ketchup	Mustard	Red Wine	Balsamic Vinegar	Soy Sauce	Olive Oil	Wesson Oil	Hot Coffee
24 hr	100%	100%*	90%*	100%*	100%*	100%*	90%	90%	50%
4 hour	100%	100%*	100%*	100%*	100%*	100%*	90%	90%	100%
1 hour	100%	100%*	100%*	100%*	100%*	100%*	95%	95%	100%
10 min.	100%	100%*	100%*	100%*	100%*	100%*	100%	100%	100%

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





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PHOTOGRAPHS-STAIN RESULTS

"Slate"- Stains Applied



Stand Off[®] Stone, Tile, & Masonry Protector

Untreated Control

Stand Off[®] SLX 100 Water & Oil Repellent

"Slate"- Stains Removed



Stand Off[®] Stone, Tile, & Masonry Protector

Untreated Control

Stand Off® SLX 100 Water & Oil Repellent





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CONCLUSIONS – Stain Resistance

Based upon laboratory evaluations, both of the treatments evaluated effectively repelled the staining agents and improved the surface beading of the submitted simulated stone.

RECOMMENDATIONS – Stain Resistance

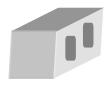
Recommendations for stain resistance treatment for the simulated stone submitted by Gibraltar Stone, Lawrenceville, GA, are provided in the chart below. Recommendations are based on the treatments that proved most effective for providing stain repellency on all types submitted.

Sample	Stain Repellents	Maintenance Cleaner
All Submitted Simulated Stone	Stand Off [®] Stone, Tile & Masonry Protector OR Stand Off [®] SLX 100 Water & Oil Repellent	Enviro Klean [®] 2010 All Surface Cleaner (1:10)

Christopher A. Moore

Project Testing Laboratory Technician

CAM



Laboratory Report

Pallet Tag Program Evaluation

Gibraltar Stone Lawrenceville, GA

Project No. 0407-17 PTP

Prepared For:

Gibraltar Stone 277-D Industrial Park Drive Lawrenceville, GA

Prepared By:



PROSOCO, Inc. August 2004