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





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Submitted Information

For: Brian Koenings cc: Jim Lucas

John Bourne

Subject: Town & Country Landscape Supply Co.

Markham, IL 60428

Date: October 31, 2005

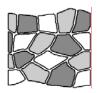
Project: 0509-17 PTP

Samples Submitted: 3 types of natural stone

Sample	Color	Size
"Café"	Brown	8" x 8" x 1"
"Cream"	Tan	12" x 12" x 1"
"Mist"	Gray	6" x 12" x 1"

Submitted by: Brian Koenings





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Purpose of Testing

Three types of natural stone were submitted to PROSOCO, Inc.'s Testing Laboratory with a request to determine if application of the evaluated cleaners will produce any surface alteration during new construction cleaning operations. Additionally, the effectiveness of water repellents, stain repellents, and color enhancement products suitable for natural stone were evaluated.

Limiting Surface Alterations – Sure Klean[®] Vana Trol[®] and Sure Klean[®] Burnished Custom Masonry Cleaner were evaluated to determine if any discoloration or erosion/etching of the samples are created during new construction cleaning operations.

A visual examination was also made to determine if the tested cleaners caused any surface alterations to the submitted samples based on the following:

<u>Surface Finish Removal</u> 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.

<u>Substrate Deterioration</u> 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.

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

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

Water Repellent Evaluation – Sure Klean[®] Paver Enhancer, Sure Klean[®] Weather Seal Natural Stone Treatment, Consolideck[®] Saltguard[®] WB, Stand Off[®] SLX100 Water & Oil Repellent and Stand Off[®] Limestone & Marble Protector were evaluated for their ability to provide water repellency on the submitted samples.

Stain Repellency – Stand Off[®] SLX100 Water & Oil Repellent and Stand Off[®] Limestone & Marble Protector were evaluated for their ability to repel stains from the submitted samples.

Color Enhancement – Sure Klean[®] Paver Enhancer was evaluated for its ability to provide color enhancement to the submitted samples.





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Products Evaluated

Products Evaluated for Limiting Surface Alterations

Sample	Product	Dilution
All Submitted Samples	Sure Klean [®] Vana Trol [®]	1:6, 1:8
All Submitted Samples	Sure Klean [®] Burnished Custom Masonry Cleaner	1:2, 1:3

Water Repellent Products Evaluated

Sample	Product	Dilution
	Sure Klean [®] Paver Enhancer	Concentrate
	Sure Klean® Weather Seal Natural Stone Treatment	Concentrate
All Submitted Samples	Consolideck [®] Saltguard [®] WB	Concentrate
	Stand Off [®] SLX100 Water & Oil Repellent	Concentrate
	Stand Off [®] Limestone & Marble Protector	Concentrate

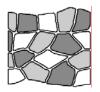
Stain Repellent Products Evaluated

Sample	Product	Dilution
All Submitted Samples	Stand Off [®] SLX100 Water & Oil Repellent	Concentrate
All Submitted Samples	Stand Off [®] Limestone & Marble Protector	Concentrate

Color Enhancement Products Evaluated

Sample	Product	Dilution
All Submitted Samples	Sure Klean [®] Paver Enhancer	Concentrate





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Limiting Surface Alterations

These cleaning trials were conducted to determine if the cleaners evaluated create any discoloration or erosion/etching of the submitted samples during new construction cleaning operations.

<u>Description of Products Evaluated</u> – Limiting Surface Alterations

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® 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.

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

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

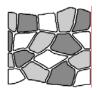
- 1. Pre-wet the surface with water.
- 2. Apply the cleaner.
- 3. Allow the appropriate dwell time, as specified.

Vana Trol®	3-5 minutes
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.





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Test Results – Limiting Surface Alterations

Substrate: Natural Stone	Pigment	Pigment Color: "Café"			
Product	Dilution	Surface Finish Removal	Substrate Deterioration	Color Change	Staining
Sure Klean [®] Vana Trol [®]	1:6	0	0	0	0
Sure Riedii Varia 1101	1:8	0	0	0	0
Sure Klean® Burnished Custom Masonry Cleaner	1:2	0	0	0	0
Sure Rearr Burnished Custom Masority Cleaner	1:3	0	0	0	0
Substrate: Natural Stone	Pigment	Color: "Cream"			
Product	Dilution	Surface Finish Removal	Substrate Deterioration	Color Change	Staining
Sure Klean [®] Vana Trol [®]	1:6	0	0	0	0
Sure Rieari Varia 1101	1:8	0	0	0	0
Sure Klean® Burnished Custom Masonry Cleaner	1:2	0	0	0	0
Sure Riearr Burnished Custom Masonly Cleaner	1:3	0	0	0	0
Substrate: Natural Stone	Pigment Color: "Mist"				
Product	Dilution	Surface Finish Removal	Substrate Deterioration	Color Change	Staining
Sure Klean [®] Vana Trol [®]	1:6	0	0	0	0
Sule Riedii Valla 1101	1:8	0	0	0	0
Sure Klean® Burnished Custom Masonry Cleaner	1:2	0	0	0	0
Sure Rieari Burriisrieu Custorii Masorify Clearier	1:3	0	0	0	0

0 - No change

3 - change - heavy

1 - change - slight

4 – change - excessive

2 – change – moderate





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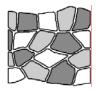
Photographs – Limiting Surface Alterations

"Café"; Limiting Surface Alterations

Untreated Control







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Conclusions – Limiting Surface Alterations

Based on the test results, neither Sure Klean[®] Vana Trol[®] nor Sure Klean[®] Burnished Custom Masonry Cleaner caused any noticeable surface alterations to 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, at least 400 psi, to minimize any potential surface alterations.

Recommendations – Limiting Surface Alterations

Recommendations for new construction cleaning for the natural stone submitted by Town & Country Landscape Supply, Co., Markham, IL are provided in the chart below. Recommendations are based on the optimum dilution to limit any potential surface alterations.

Sample	Limiting Surface Alterations
All Submitted Samples	Sure Klean [®] Vana Trol [®] (1:8) OR Sure Klean [®] Burnished Custom Masonry 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.





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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® Paver Enhancer – A solvent-based blend of high-quality siloxanes modified to provide excellent water repellency and color enhancement to interlocking concrete, fired clay, porous tile and many types of natural stone surfaces. Paver Enhancer penetrates and reacts with the surface to form a chemical bond, providing long-term durability, alkali resistance and superior breatheability.

Sure Klean® Weather Seal Natural Stone Treatment – A modified siloxane water repellent developed for limestone, marble and most other traditional masonry surfaces. Natural Stone Treatment penetrates deeply to provide long-lasting protection without altering the natural appearance of the substrate. Unlike conventional siloxane water repellents, Natural Stone Treatment is modified for effectiveness on most limestone, marble and other calcareous surfaces.

Consolideck® Saltguard® WB – A ready-to-use water-based, VOC compliant silane/siloxane water repellent and "chloride screen" for the protection of concrete and masonry surfaces. Saltguard® WB penetrates more deeply than conventional water- or solvent-based water repellents. Low odor and alkaline stable, Saltguard® WB is ideal for field or in-plant application to concrete and most masonry surfaces. Saltguard® WB protects horizontal and vertical surfaces from moisture intrusion and chemical attack of chloride salts.

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.

Stand Off® Limestone & Marble Protector – A clear, penetrating water and oil repellent suitable for use on interior or exterior calcareous surfaces such as limestone, marble and travertine. It's also suitable for many other types of masonry surfaces. Limestone & Marble Protector penetrates deeply to provide surface and subsurface protection without forming a glossy surface film. Treated surfaces retain their natural color, texture and appearance. Limestone & Marble Protector combines high quality siloxane resins with "oleophobic" resins to produce a penetrating water and oil repellent ideal for long-term protection against food, oil and waterborne staining. Unlike conventional penetrating oil repellent products, Limestone & Marble Protector has been modified to ensure effectiveness on limestone, marble and other calcareous or neutral pH surfaces.





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Sample Preparation – Protective Water Repellents

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 evaluated treatments were applied to the submitted samples by brush according to the current PROSOCO, Inc. Product Data Sheet application instructions. All treatments were allowed to cure for at least 14 days prior to testing.

<u>Test Methods</u> – 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 vertical 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.

 $\underline{\mathbf{A}}$ = "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 no more than:

5 ml X 20% = 1 ml.

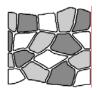
A rating of <u>A</u> Average water repellent performance would require loss of no more than:

5 ml X 50% = 2.5 ml.

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

5 ml X 50% = 2.5 ml.





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Test Results – Protective Water Repellents

Water Absorption Tube Test: Horizontal RILEM II.4, 5.0 milliliters, 20 minutes $\underline{AA} = \text{Above Average} \qquad \underline{A} = \text{Average} \qquad \underline{BA} = \text{Below Average}$

"Café"	Results in mL loss	<u>Ranking</u>
Untreated Control	-0.1	
Paver Enhancer	-0.0	<u>AA</u>
Natural Stone Treatment	-0.0	<u>AA</u>
Saltguard [®] WB	-0.0	<u>AA</u>
SLX100 Water & Oil Repellent	-0.0	<u>AA</u>
Limestone & Marble Protector	-0.0	AA
"Cream"	Results in mL loss	<u>Ranking</u>
Untreated Control	-0.0	
Paver Enhancer	-0.0	<u>AA</u>
Natural Stone Treatment	-0.0	<u>AA</u>
Saltguard [®] WB	-0.0	<u>AA</u>
SLX100 Water & Oil Repellent	-0.0	<u>AA</u>
Limestone & Marble Protector	-0.0	<u>AA</u>
"Mist"	Results in mL loss	<u>Ranking</u>
Untreated Control	-0.1	
Paver Enhancer	-0.0	AA
Natural Stone Treatment	-0.0	<u>AA</u>
Saltguard [®] WB	-0.0	AA
SLX100 Water & Oil Repellent	-0.0	<u>AA</u>
Limestone & Marble Protector	-0.0	<u>AA</u>

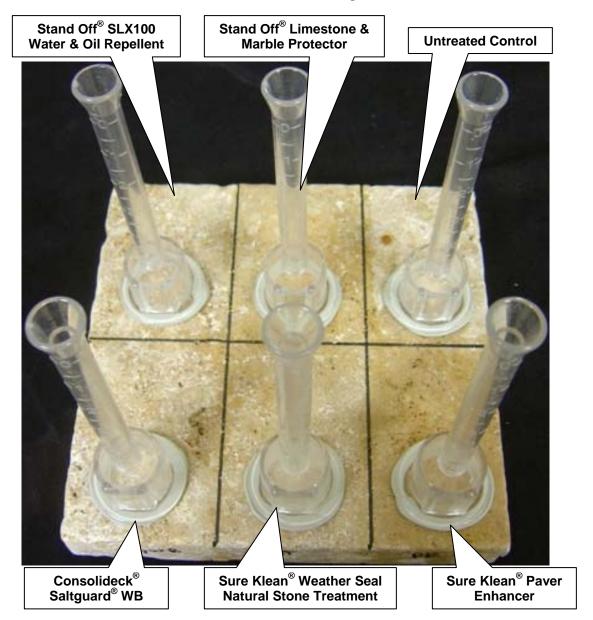




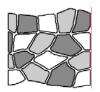
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Photographs - Protective Water Repellents

"Café"; RILEM Testing







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Conclusions – Protective Water Repellents

Test results indicate that all of the water repellents tested exhibited above average water repellency on the submitted samples. In addition, Sure Klean[®] Paver Enhancer provided moderate to significant color enhancement to the submitted samples. Sure Klean[®] Weather Seal Natural Stone Treatment, Consolideck[®] Saltguard[®] WB, Stand Off[®] SLX100 Water & Oil Repellent and Stand Off[®] Limestone & Marble Protector caused no noticeable color change on any of the submitted samples.

Recommendations - Protective Water Repellents

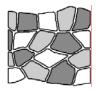
Recommendations for water repellent treatments for the natural stone submitted by Town & Country Landscape Supply, Co., Markham, IL are provided in the chart below. Recommendations are based on the treatments that proved most effective at providing water repellency on the submitted natural stone.

Sample	Water Repellents
All Submitted Samples	Sure Klean [®] Paver Enhancer OR Sure Klean [®] Weather Seal Natural Stone Treatment OR Consolideck [®] Saltguard [®] WB OR Stand Off [®] Limestone & Marble Protector 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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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.

Stand Off[®] **Limestone & Marble Protector** – A clear, penetrating water and oil repellent suitable for use on interior or exterior calcareous surfaces such as limestone, marble and travertine. It's also suitable for many other types of masonry surfaces. Limestone & Marble Protector penetrates deeply to provide surface and subsurface protection without forming a glossy surface film. Treated surfaces retain their natural color, texture and appearance. Limestone & Marble Protector combines high quality siloxane resins with "oleophobic" resins to produce a penetrating water and oil repellent ideal for long-term protection against food, oil and waterborne staining. Unlike conventional penetrating oil repellent products, Limestone & Marble Protector has been modified to ensure effectiveness on limestone, marble and other calcareous or neutral pH 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.

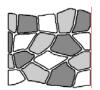
Staining Agents Evaluated

<u>Products</u>	Temperature
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.





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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 ($<90^{\circ}$) 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 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.



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.





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Test Results – Surface Beading

"Café"									
Treatment	Coco- Cola	Ketchup	Mustard	Red Wine	Balsamic Vinegar	Soy Sauce	Olive Oil	Wesson Oil	Hot Coffee
Untreated Control	5	-	-	5	4	4	5	5	4
SLX100 Water & Oil Repellent	1	-	-	2	2	2	3	3	3
Limestone & Marble Protector	1			2	2	2	3	3	3
	"Cream"								
Treatment	Coco- Cola	Ketchup	Mustard	Red Wine	Balsamic Vinegar	Soy Sauce	Olive Oil	Wesson Oil	Hot Coffee
Untreated Control	5	-	-	5	4	4	5	5	4
SLX100 Water & Oil Repellent	1	-	-	2	2	2	3	3	3
Limestone & Marble Protector	1			2	2	2	3	3	3
"Mist"									
Treatment	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 Water & Oil Repellent	1	-	-	2	2	2	3	3	3
Limestone & Marble Protector	1			2	2	2	3	3	3





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<u>Test Results</u> – Stain Repellency

					"Café"					
	Untreated	Control			Guio					
	Coca- Cola	Ketchup	Mustard	Red Wine	Balsamic Vinegar	Soy Sauce	Olive Oil	Wesson Oil	Hot Coffee	
24 hr	100%	100%	<1%	60%*	60%*	100%	<1%	<1%	100%	
4 hour	100%	100%	100%	60%*	60%*	100%	<1%	<1%	100%	
1 hour	100%	100%	100%	60%*	60%*	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%	
	Stand Off	Limestone	& Marble P	rotector	•			·		
	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%	
	"Cream"									
	Untreated Control									
	Coca- Cola	Ketchup	Mustard	Red Wine	Balsamic Vinegar	Soy Sauce	Olive Oil	Wesson Oil	Hot Coffee	
24 hr	100%	100%	<1%	100%	100%	100%	<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 W	ater & Oil R	epellent						
	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%	
	Stand Off [®] Limestone & Marble Protector									
	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%	1000/	100%	4000/	4000/	4000/	4000/	4000/	
1 Hour	100 /0	100%	100%	100%	100%	100%	100%	100%	100%	

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





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Test Results - Stain Repellency

	"Mist"									
	Untreated Control									
	Coca- Cola	Ketchup	Mustard	Red Wine	Balsamic Vinegar	Soy Sauce	Olive Oil	Wesson Oil	Hot Coffee	
24 hr	100%	100%	<1%	100%	100%	100%	<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%	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%	
	Stand Off® Limestone & Marble Protector									
	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%	

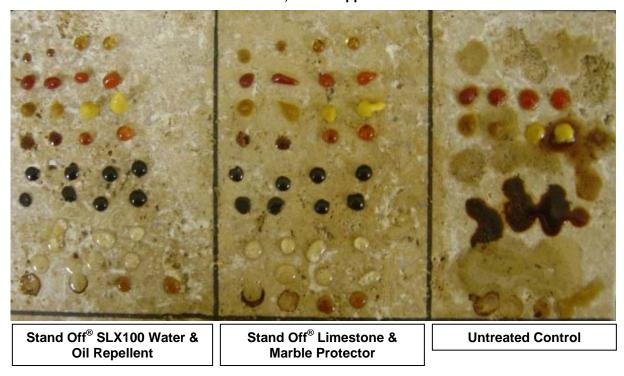




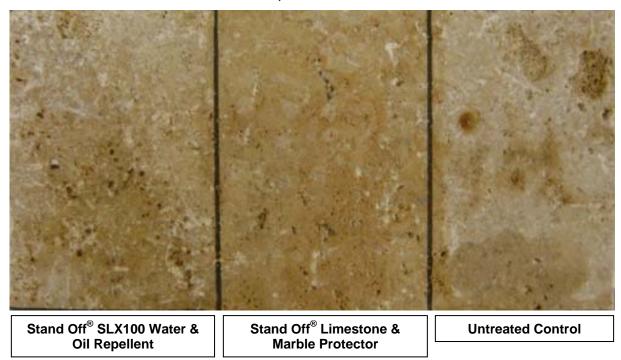
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Photographs – Stain Repellency

"Café"; Stains Applied



"Café"; Stains Removed







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Conclusions – Stain Repellency

Based upon laboratory evaluations, both Stand Off[®] SLX100 Water & Oil Repellent and Stand Off[®] Limestone & Marble Protector improved the surface beading of the samples. In addition, both treatments were effective in improving the samples' resistance to the applied stains. Stand Off[®] SLX100 Water & Oil Repellent and Stand Off[®] Limestone & Marble Protector caused no noticeable change to the appearance of the submitted samples.

<u>Recommendations</u> – Stain Repellency

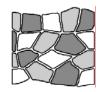
Recommendations for stain resistance treatment for the natural stone submitted by Town & Country Landscape Supply, Co., Markham, IL are provided in the chart below. Recommendations are based on the treatments that proved most effective for providing stain repellency on the submitted natural stone.

Sample	Stain Repellent	Maintenance Cleaner
All Submitted Samples	Stand Off [®] SLX100 Water & Oil Repellent OR Stand Off [®] Limestone & Marble Protector	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, onsite 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.





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Color Enhancement

Description of Products Evaluated - Color Enhancement

Sure Klean® Paver Enhancer – A solvent-based blend of high-quality siloxanes modified to provide excellent water repellency and color enhancement to interlocking concrete, fired clay, porous tile and many types of natural stone surfaces. Paver Enhancer penetrates and reacts with the surface to form a chemical bond, providing long-term durability, alkali resistance and superior breatheability.

Sample Preparation – Color Enhancement

Samples were cleaned with Enviro Klean[®] 2010 All Surface Cleaner diluted with 10 parts water and allowed to dry for at least 24 hours prior to treatment.

Test Method – Color Enhancement

Sure Klean[®] Paver Enhancer was applied by brush in accordance with the current PROSOCO, Inc. Product Data Sheet application instructions. After 24 hours, a visual evaluation was made comparing the untreated surface to the treated surface.



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Test Results – Color Enhancement

Sample	Sure Klean [®] Paver Enhancer				
"Café"	3				
"Cream"	2				
"Mist"	3				

Scale: 0- No Enhancement; Dull

1- Slight Enhancement

2- Moderate Enhancement

3- Significant Enhancement

Photographs – Color Enhancement

"Café"; Color Enhancement Products Applied







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Recommendations – Color Enhancement

Recommendations for color enhancement for the natural stone submitted by Town & Country Landscape Supply, Co., Markham, IL are provided in the chart below. Recommendations are based on the treatment that proved most effective in providing color enhancement to the submitted samples.

Sample	Color Enhancement
All Submitted Samples	Sure Klean [®] Paver Enhancer

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 product and procedures for a particular project. See product literature for additional application and product information.

Christopher A. Moore

Project Testing Laboratory Technician

CAM



Laboratory Report

Pallet Tag Program Evaluation

Town & Country Landscape Supply, Co. Markham, IL

Project No. 0509-17 PTP

Prepared For:

Town & Country Landscape Supply, Co. 3900 W. 167th St. Markham, IL 60428

Prepared By:



PROSOCO, Inc. October 2005