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 Technical Services TECH Note RILEM Tube Test Procedures

 Product Data literature for all products evaluated

Submitted Information

For: Mark O'Keefe
Cc: Paul Tessier
Subject: ONE STEP Enterprises, Inc.
 West Sacramento, CA
Date: September 22, 2006
Project: 0608-16 PTP

Samples Submitted: 4 types of travertine for both horizontal and vertical installations, each with an unfinished and honed surface

Sample	Type	Color	Size
"Alpaca - Unfinished"	Travertine	Brown/Tan/White	8" x 12" x 1"
"Alpaca - Honed"	Travertine	Brown/Tan/White	8" x 12" x 1"
"Cremino - Unfinished"	Travertine	Tan/White	8" x 12" x 1"
"Cremino - Honed"	Travertine	Tan/White	8" x 12" x 1"
"Cremino Kello - Unfinished"	Travertine	Tan/White/Brown	8" x 12" x 1"
"Cremino Kello - Honed"	Travertine	Tan/White/Brown	8" x 12" x 1"
"Siena - Unfinished"	Travertine	Gold/Tan/White	8" x 12" x 1"
"Siena - Honed"	Travertine	Gold/Tan/White	8" x 12" x 1"

Submitted by: Mark O'Keefe

Introduction

Architectural Materials Testing (AMT) Laboratories is a Boyer Industries company that provides laboratory testing and consulting services for the construction industry. Laboratory testing includes evaluating chemical cleaning products and protective treatments for a variety of new and existing architectural materials.

This report includes descriptions of the PROSOCO, Inc. products and test methods that were used. Following test results and conclusions, the report provides recommendations for the most effective products and procedures.

Purpose of Testing

Four types of travertine, each with an unfinished and honed surface, were submitted to AMT Laboratories by PROSOCO, Inc. with a request to determine if application of the products evaluated will produce any surface alterations during new construction cleaning operations. Additionally, the effectiveness of water repellents, graffiti control products, stain repellents, and color and sheen enhancement products suitable for travertine were evaluated.

New Construction Cleaning – Sure Klean® Vana Trol® was tested at various dilutions to determine the optimum cleaner/cure time combination for complete removal of laboratory applied Type N mortar from the submitted travertine while limiting surface alterations. 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 N 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 N mortar after 7, 14 and 21 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.

Protective Water Repellents – Sure Klean® Weather Seal Siloxane PD, Sure Klean® Weather Seal Blok-Guard® & Graffiti Control II, Stand Off® Limestone & Marble Protector, and Stand Off® SLX100 Water & Oil Repellent were evaluated for their ability to provide water repellency to the submitted samples.

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

Stain Repellency – Stand Off® Limestone & Masonry Protector, Stand Off® SLX100 Water & Oil Repellent, and Stand Off® Stone, Tile & Masonry Protector (STMP) were evaluated for their ability to repel stains from the submitted samples.

Color and Sheen Enhancement – Stand Off® Gloss 'N Guard WB was evaluated on the submitted samples for its ability to provide color and/or sheen enhancement.

Products Evaluated**New Construction Cleaning Products Evaluated**

Sample	Product	Dilution
All Submitted Travertine	Sure Klean® Vana Trol®	(1:6), (1:8)

Protective Water Repellent Products Evaluated

Sample	Product	Dilution
All Submitted Travertine	Sure Klean® Weather Seal Siloxane PD	Concentrate
	Sure Klean® Weather Seal Blok-Guard® & Graffiti Control II	Concentrate
	Stand Off® Limestone & Marble Protector	Concentrate
	Stand Off® SLX100 Water & Oil Repellent	Concentrate

Graffiti Repellent Products Evaluated

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

Graffiti Removal Products Evaluated

Sample	Product	Dilution
All Submitted Travertine	Enviro Klean® SafStrip	Concentrate
	Defacer Eraser® Graffiti Wipe	Concentrate

Stain Repellency Products Evaluated

Sample	Product	Dilution
All Submitted Travertine	Stand Off® Limestone & Masonry Protector	Concentrate
	Stand Off® SLX100 Water & Oil Repellent	Concentrate
	Stand Off® Stone, Tile & Masonry Protector (STMP)	Concentrate

Color and Sheen Enhancement Products Evaluated

Sample	Product	Dilution
All Submitted Travertine	Stand Off® Gloss 'N Guard WB	Concentrate

Dilution ratios refer to mixtures of concentrated product : fresh water.

New Construction Cleaning

These cleaning trials were conducted to determine the optimal cleaning/cure time combination to most efficiently remove Type N mortar from the submitted samples while limiting surface alterations to the decorative finish.

Type N cementitious mortar was prepared in compliance with the manufacturer's instructions, applied to the sample's surface and allowed to cure for 7, 14 and 21 days. Mortar removal was accomplished using chemical assistance and a high-pressure water rinse with pressure rinsing equipment. The removal of Type N cementitious mortar was visually evaluated after 7, 14 and 21 days of curing.

Description of Products Evaluated – New Construction Cleaning

Sure Klean® Vana Troi® – 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.

Test Method – New Construction Cleaning

New construction cleaners were evaluated using the following procedure:

1. Pre-wet the surface with water.
2. Apply the cleaner.
3. Allow the appropriate dwell time, as specified:
 Sure Klean® Vana Troi® 3-5 minutes
4. Pressure rinse thoroughly.*

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

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

“Alpaca – Unfinished”				
Product	Dilution	7 day	14 day	21 day
Sure Klean® Vana Trol®	1:6	100%	100%	100%
Sure Klean® Vana Trol®	1:8	100%	100%	100%
“Alpaca – Honed”				
Product	Dilution	7 day	14 day	21 day
Sure Klean® Vana Trol®	1:6	100%	100%	100%
Sure Klean® Vana Trol®	1:8	100%	100%	100%
“Cremino – Unfinished”				
Product	Dilution	7 day	14 day	21 day
Sure Klean® Vana Trol®	1:6	100%	100%	100%
Sure Klean® Vana Trol®	1:8	100%	100%	100%
“Cremino – Honed”				
Product	Dilution	7 day	14 day	21 day
Sure Klean® Vana Trol®	1:6	100%	100%	100%
Sure Klean® Vana Trol®	1:8	100%	100%	100%
“Cremino Kello – Unfinished”				
Product	Dilution	7 day	14 day	21 day
Sure Klean® Vana Trol®	1:6	100%	100%	100%
Sure Klean® Vana Trol®	1:8	100%	100%	100%
“Cremino Kello – Honed”				
Product	Dilution	7 day	14 day	21 day
Sure Klean® Vana Trol®	1:6	100%	100%	100%
Sure Klean® Vana Trol®	1:8	100%	100%	100%
“Siena – Unfinished”				
Product	Dilution	7 day	14 day	21 day
Sure Klean® Vana Trol®	1:6	100%	100%	100%
Sure Klean® Vana Trol®	1:8	100%	100%	100%
“Siena – Honed”				
Product	Dilution	7 day	14 day	21 day
Sure Klean® Vana Trol®	1:6	100%	100%	100%
Sure Klean® Vana Trol®	1:8	100%	100%	100%

Test Results – Limiting Surface Alterations

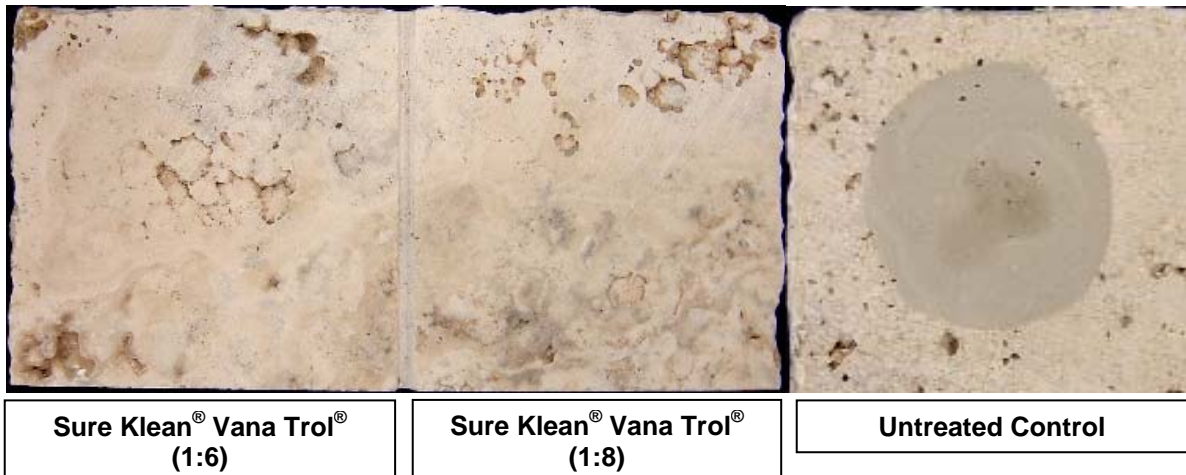
Substrate: Travertine		Pigment Color: “Alpaca – Unfinished”			
Product	Dilution	Surface Finish Removal	Substrate Deterioration	Color Change	Staining
Sure Klean® Vana Trol®	1:6	0	0	0	0
Sure Klean® Vana Trol®	1:8	0	0	0	0
Substrate: Travertine		Pigment Color: “Alpaca – Honed”			
Product	Dilution	Surface Finish Removal	Substrate Deterioration	Color Change	Staining
Sure Klean® Vana Trol®	1:6	1	0	0	0
Sure Klean® Vana Trol®	1:8	1	0	0	0

Test Results – Limiting Surface Alterations

Substrate: Travertine		Pigment Color: “Cremino – Unfinished”			
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
Substrate: Travertine		Pigment Color: “Cremino – Honed”			
Product	Dilution	Surface Finish Removal	Substrate Deterioration	Color Change	Staining
Sure Klean® Vana Trol®	1:6	1	0	0	0
Sure Klean® Vana Trol®	1:8	1	0	0	0
Substrate: Travertine		Pigment Color: “Cremino Kello – Unfinished”			
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
Substrate: Travertine		Pigment Color: “Cremino Kello – Honed”			
Product	Dilution	Surface Finish Removal	Substrate Deterioration	Color Change	Staining
Sure Klean® Vana Trol®	1:6	1	0	0	0
Sure Klean® Vana Trol®	1:8	1	0	0	0
Substrate: Travertine		Pigment Color: “Siena – Unfinished”			
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
Substrate: Travertine		Pigment Color: “Siena – Honed”			
Product	Dilution	Surface Finish Removal	Substrate Deterioration	Color Change	Staining
Sure Klean® Vana Trol®	1:6	1	0	0	0
Sure Klean® Vana Trol®	1:8	1	0	0	0

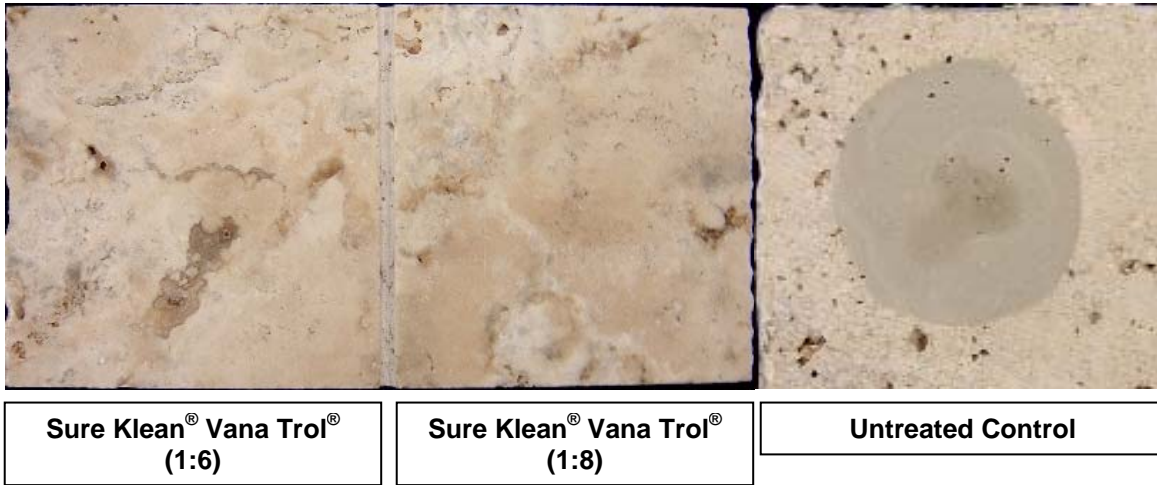
Photographs – New Construction Cleaning

“Cremino Kello – Unfinished”; 7 Day Cleaning



Photographs – New Construction Cleaning

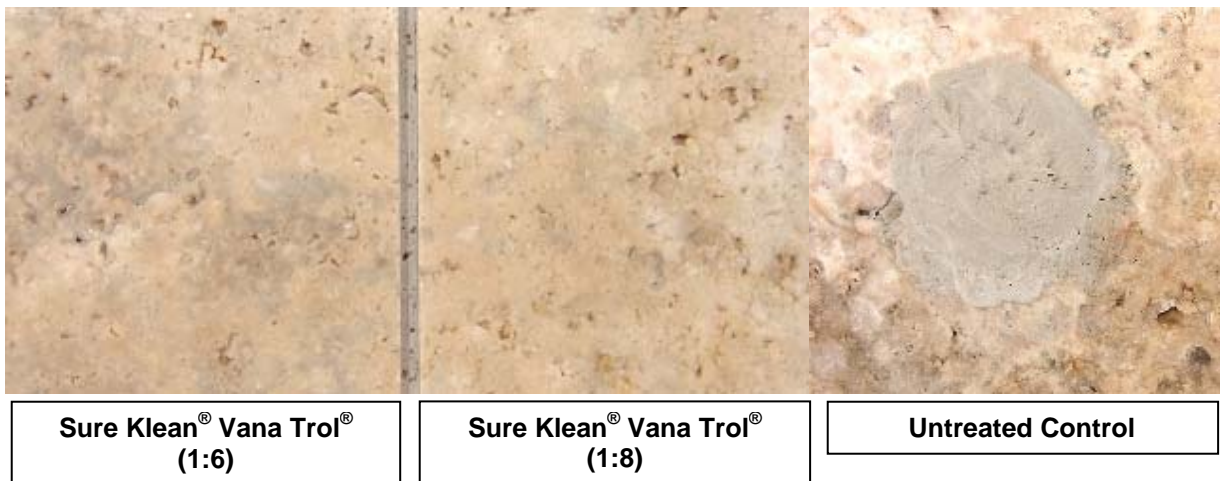
“Cremino Kello – Unfinished”; 14 Day Cleaning



“Cremino Kello – Unfinished”; 21 Day Cleaning



“Cremino Kello – Honed”; 7 Day Cleaning



Photographs – New Construction Cleaning

“Cremino Kello – Honed”; 14 Day Cleaning



Sure Klean® Vana Trol® (1:6)

Sure Klean® Vana Trol® (1:8)

Untreated Control

“Cremino Kello – Honed”; 21 Day Cleaning



Sure Klean® Vana Trol® (1:6)

Sure Klean® Vana Trol® (1:8)

Untreated Control

Photographs – Limiting Surface Alterations

“Cremino Kello – Unfinished”; Limiting Surface Alterations



Sure Klean® Vana Trol® (1:6)

Sure Klean® Vana Trol® (1:8)

Untreated Control

Photographs – Limiting Surface Alterations**“Cremino Kello – Honed”; Limiting Surface Alterations****Conclusions – New Construction Cleaning**

Based on the test results, Sure Klean® Vana Trol® performed well in removing excess mortar from the submitted samples. Sure Klean® Vana Trol® performed well in removing the mortar soils even after allowing the mortar to remain on the surface of the samples for 21 days under ideal curing conditions. Sure Klean® Vana Trol caused no noticeable surface alterations to any of the submitted unfinished samples. However, both dilutions of Sure Klean® Vana Trol removed a very small amount of the surface finish from the submitted honed samples resulting in a slight dulling of the honed surface. Onsite testing is therefore recommended to determine if the change in appearance is acceptable.

It is recommended that the selected cleaners always be used in the lowest possible concentration. To facilitate easier removal of excess mortar and construction dirt while minimizing any potential surface alterations to the decorative finish, clean within 7 days of construction when using Type N mortar.

Recommendations – New Construction Cleaning

Recommendations for cleaning for the travertine submitted by ONE STEP Enterprises, Inc., West Sacramento, CA 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 N mortar, 21 day cleaning)
All Submitted Travertine	Sure Klean® Vana Trol® (1:8)

Apply all products in accordance with the manufacturer’s recommendation provided on container labels and product data sheets. On-site testing should always be conducted to determine the most appropriate cleaning product and procedures for a particular project. See product literature for additional application and product information.

Protective Water Repellents

The testing described below evaluates the suitability of water repellent treatments.

The surface treatments evaluated were selected for their suitability for application based on the following selection criteria:

1. Weatherproofing properties
 2. Color change
 3. Ease of application
-

Description of Products Evaluated – Protective Water Repellents

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 penetrates more deeply than conventional water repellents. 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 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.

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.

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.

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 vertical 5.0-milliliter head pressures. Filled to 5.0 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 5.0 mL of water or more, then:

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

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

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

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

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

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

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

“Alpaca – Unfinished”	Results in mL loss	Ranking
Untreated Control	-0.1	--
Sure Klean® Weather Seal Siloxane PD	-0.0	AA
Sure Klean® Weather Seal Blok-Guard® & Graffiti Control II	-0.0	AA
Stand Off® Limestone & Marble Protector	-0.0	AA
Stand Off® SLX100 Water & Oil Repellent	-0.0	AA
“Alpaca – Honed”	Results in mL loss	Ranking
Untreated Control	-0.1	--
Sure Klean® Weather Seal Siloxane PD	-0.0	AA
Sure Klean® Weather Seal Blok-Guard® & Graffiti Control II	-0.0	AA
Stand Off® Limestone & Marble Protector	-0.0	AA
Stand Off® SLX100 Water & Oil Repellent	-0.0	AA
“Cremino – Unfinished”	Results in mL loss	Ranking
Untreated Control	-0.2	--
Sure Klean® Weather Seal Siloxane PD	-0.0	AA
Sure Klean® Weather Seal Blok-Guard® & Graffiti Control II	-0.0	AA
Stand Off® Limestone & Marble Protector	-0.0	AA
Stand Off® SLX100 Water & Oil Repellent	-0.0	AA

Test Results – Protective Water Repellents

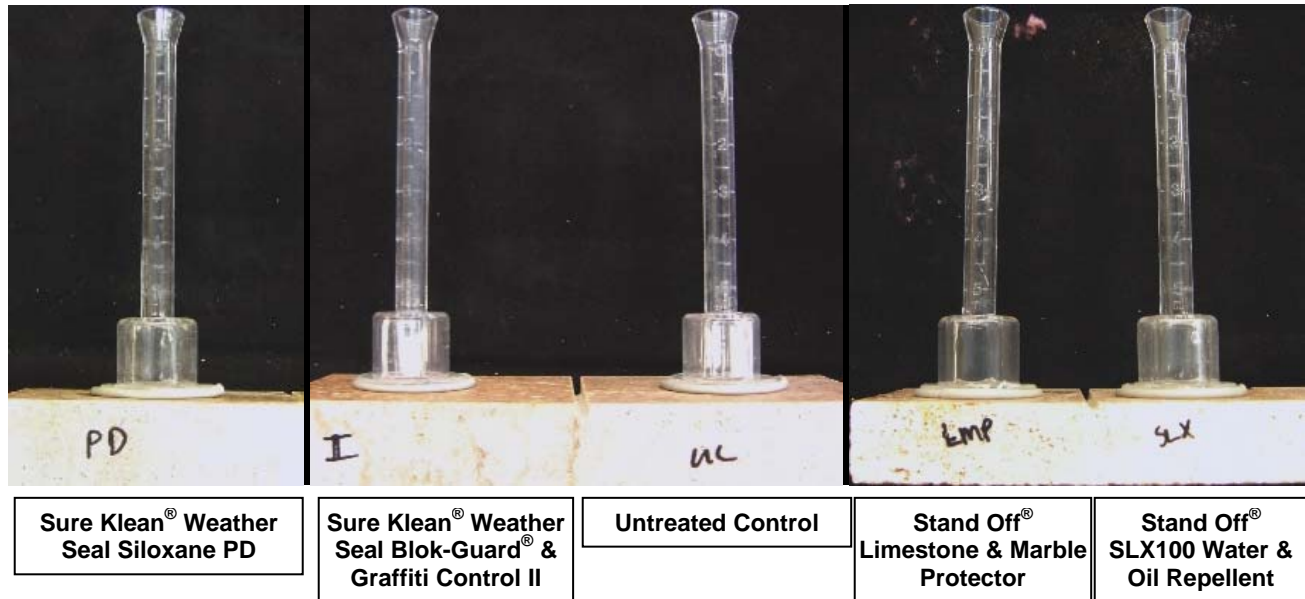
Water Absorption Tube Test: Horizontal RILEM II.4, 5.0 milliliters, 20 minutes

AA = Above Average**A** = Average**BA** = Below Average

“Cremino – Honed”	Results in mL loss	Ranking
Untreated Control	-0.1	--
Sure Klean® Weather Seal Siloxane PD	-0.0	AA
Sure Klean® Weather Seal Blok-Guard® & Graffiti Control II	-0.0	AA
Stand Off® Limestone & Marble Protector	-0.0	AA
Stand Off® SLX100 Water & Oil Repellent	-0.0	AA
“Cremino Kello – Unfinished”	Results in mL loss	Ranking
Untreated Control	-0.1	--
Sure Klean® Weather Seal Siloxane PD	-0.0	AA
Sure Klean® Weather Seal Blok-Guard® & Graffiti Control II	-0.0	AA
Stand Off® Limestone & Marble Protector	-0.0	AA
Stand Off® SLX100 Water & Oil Repellent	-0.0	AA
Cremino Kello – Honed”	Results in mL loss	Ranking
Untreated Control	-0.1	--
Sure Klean® Weather Seal Siloxane PD	-0.0	AA
Sure Klean® Weather Seal Blok-Guard® & Graffiti Control II	-0.0	AA
Stand Off® Limestone & Marble Protector	-0.0	AA
Stand Off® SLX100 Water & Oil Repellent	-0.0	AA
“Siena – Unfinished”	Results in mL loss	Ranking
Untreated Control	-0.1	--
Sure Klean® Weather Seal Siloxane PD	-0.0	AA
Sure Klean® Weather Seal Blok-Guard® & Graffiti Control II	-0.0	AA
Stand Off® Limestone & Marble Protector	-0.0	AA
Stand Off® SLX100 Water & Oil Repellent	-0.0	AA
“Siena – Honed”	Results in mL loss	Ranking
Untreated Control	-0.1	--
Sure Klean® Weather Seal Siloxane PD	-0.0	AA
Sure Klean® Weather Seal Blok-Guard® & Graffiti Control II	-0.0	AA
Stand Off® Limestone & Marble Protector	-0.0	AA
Stand Off® SLX100 Water & Oil Repellent	-0.0	AA

Photographs – Protective Water Repellents

“Alpaca - Unfinished”; Horizontal RILEM II.4, 5.0 milliliters, 20 minutes



Conclusions – Protective Water Repellents

Test results indicate that all of the water repellents tested exhibited above average water repellency on the submitted samples. Sure Klean® Weather Seal Blok-Guard® & Graffiti Control II and Stand Off® Limestone & Marble Protector exhibited a slight to moderate color enhancement to each of the submitted samples. Neither of the other treatments tested caused any noticeable color change to any of the submitted samples.

Recommendations – Protective Water Repellents

Recommendations for water repellent treatments for the travertine submitted by ONE STEP Enterprises, Inc., West Sacramento, CA are provided in the chart below. Recommendations are based on the treatments that proved most effective at providing water repellency on the submitted samples.

Sample	Protective Water Repellents
All Submitted Travertine	Sure Klean® Weather Seal Siloxane PD OR *Sure Klean® Weather Seal Blok-Guard® & Graffiti Control II OR **Stand Off® Limestone & Marble Protector OR Stand Off® SLX100 Water & Oil Repellent

***NOTE:** Sure Klean® Weather Seal Blok-Guard® & Graffiti Control II is recommended for application on vertical surfaces only.

****NOTE:** Stand Off® Limestone & Marble Protector is manufactured and marketed in compliance with USEPA AIM VOC regulations (40 CFR 59.403). This product may not be suitable for sale in states and districts with more restrictive AIM VOC regulations.

The ability of a water repellent treatment to prevent the ingress of water is affected by a variety of factors. Therefore, on-site testing should be carried out for all installations with the recommended systems to ensure job site workmanship yields equivalent results.

Apply all products in accordance with the manufacturer's recommendation provided on container labels and product data sheets. On-site testing should be conducted to determine the most appropriate water repellent product and procedures for a particular project. See product literature for additional application and product information.

Graffiti Control

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

Description of Products Evaluated – Graffiti Control

Products Evaluated for Graffiti Repellency

Sure Klean® Weather Seal Blok-Guard® & Graffiti Control II – A clear-drying, water-based silicone emulsion for weatherproofing concrete block and other porous masonry materials. Blok-Guard® & Graffiti Control II also protects masonry surfaces from graffiti attacks without altering the natural appearance. Blok-Guard® & Graffiti Control II protects exterior walls exposed to normal weathering. Graffiti removal from treated surfaces is fast and easy using Defacer Eraser® Graffiti Wipe. Blok-Guard® & Graffiti Control II is easy to apply with low-pressure spray, brush or roller.

Products Evaluated for Graffiti Removal

Enviro Klean® SafStrip – Quickly removes most paints, clear coats and graffiti from masonry, concrete, wood and metal – without use of methylene chloride or methanol. Low-odor SafStrip breaks the bond of high-strength paints and coatings including acrylics, alkyds, and clear sealers. It dissolves common hard-to-remove graffiti media such as spray paints, marking pens and lacquers. Its “thixotropic” gel consistency makes SafStrip easy to apply and spill-resistant. After cleaning, the spent paint stripper rinses off easily with cold or hot water.

Defacer Eraser® Graffiti Wipe – An easy-to-use graffiti remover that does not contain methanol, methylene chloride or other “halogenated” solvents prohibited on many projects. Graffiti Wipe removes a variety of graffiti stains from most smooth masonry, wood and metal surfaces.

Graffiti Agents

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

Sample Preparation – Graffiti Control

Sure Klean® Weather Seal Blok-Guard® & Graffiti Control II was applied in a wet-on-wet brushing application in accordance with the current PROSOCO, Inc. Product Data Sheet application instructions to sections of the travertine samples. The samples were 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 II. Removal of the graffiti agents was attempted 24 hours after application of the graffiti agents, using Enviro Klean® SafStrip and Defacer Eraser® Graffiti Wipe.

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:
 - Enviro Klean® SafStrip20 minutes
 - Defacer Eraser® Graffiti Wipe5 minutes
3. Pressure rinse thoroughly until water runs clear.*
4. Allow the surface to dry thoroughly and visually examine to determine effectiveness.

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

Test Results – Graffiti Control

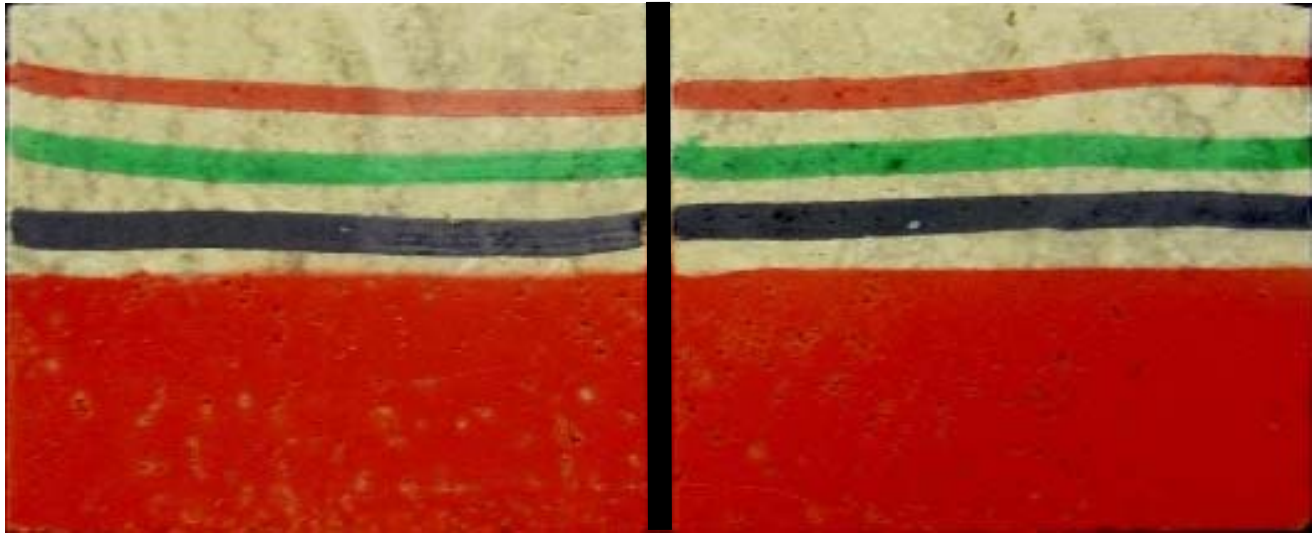
“Alpaca – Unfinished”					
Untreated Control	Red Paint	Black Marker	Green Marker	Red Marker	% Avg. Removal
SafStrip	95%	60%	30%	60%	61%
Graffiti Wipe	85%	50%	60%	30%	56%
Blok-Guard® & Graffiti Control II	Red Paint	Black Marker	Green Marker	Red Marker	% Avg. Removal
SafStrip	99%	95%	90%	90%	94%
Graffiti Wipe	99%	90%	70%	80%	85%
“Alpaca – Honed”					
Untreated Control	Red Paint	Black Marker	Green Marker	Red Marker	% Avg. Removal
SafStrip	95%	95%	60%	75%	81%
Graffiti Wipe	80%	80%	75%	75%	78%
Blok-Guard® & Graffiti Control II	Red Paint	Black Marker	Green Marker	Red Marker	% Avg. Removal
SafStrip	98%	100%	98%	95%	98%
Graffiti Wipe	98%	100%	80%	98%	94%
“Cremino – Unfinished”					
Untreated Control	Red Paint	Black Marker	Green Marker	Red Marker	% Avg. Removal
SafStrip	95%	30%	10%	20%	39%
Graffiti Wipe	80%	30%	10%	20%	35%
Blok-Guard® & Graffiti Control II	Red Paint	Black Marker	Green Marker	Red Marker	% Avg. Removal
SafStrip	95%	70%	70%	70%	76%
Graffiti Wipe	95%	50%	50%	50%	61%
“Cremino – Honed”					
Untreated Control	Red Paint	Black Marker	Green Marker	Red Marker	% Avg. Removal
SafStrip	95%	70%	40%	40%	61%
Graffiti Wipe	80%	70%	50%	50%	63%
Blok-Guard® & Graffiti Control II	Red Paint	Black Marker	Green Marker	Red Marker	% Avg. Removal
SafStrip	98%	100%	99%	95%	98%
Graffiti Wipe	99%	95%	80%	90%	91%

Test Results – Graffiti Control

“Cremino Kello – Unfinished”					
Untreated Control	Red Paint	Black Marker	Green Marker	Red Marker	% Avg. Removal
SafStrip	90%	40%	10%	50%	48%
Graffiti Wipe	70%	40%	10%	50%	43%
Blok-Guard® & Graffiti Control II	Red Paint	Black Marker	Green Marker	Red Marker	% Avg. Removal
SafStrip	99%	60%	85%	95%	85%
Graffiti Wipe	99%	60%	30%	90%	70%
“Cremino Kello – Honed”					
Untreated Control	Red Paint	Black Marker	Green Marker	Red Marker	% Avg. Removal
SafStrip	98%	100%	80%	90%	92%
Graffiti Wipe	90%	100%	90%	90%	93%
Blok-Guard® & Graffiti Control II	Red Paint	Black Marker	Green Marker	Red Marker	% Avg. Removal
SafStrip	99%	100%	95%	95%	97%
Graffiti Wipe	99%	100%	90%	95%	96%
“Siena – Unfinished”					
Untreated Control	Red Paint	Black Marker	Green Marker	Red Marker	% Avg. Removal
SafStrip	100%	70%	70%	70%	78%
Graffiti Wipe	100%	70%	20%	50%	60%
Blok-Guard® & Graffiti Control II	Red Paint	Black Marker	Green Marker	Red Marker	% Avg. Removal
SafStrip	100%	100%	90%	90%	95%
Graffiti Wipe	100%	90%	80%	90%	90%
“Siena – Honed”					
Untreated Control	Red Paint	Black Marker	Green Marker	Red Marker	% Avg. Removal
SafStrip	95%	90%	30%	60%	69%
Graffiti Wipe	75%	60%	80%	60%	69%
Blok-Guard® & Graffiti Control II	Red Paint	Black Marker	Green Marker	Red Marker	% Avg. Removal
SafStrip	99%	90%	80%	80%	87%
Graffiti Wipe	95%	70%	80%	80%	81%

Photographs – Graffiti Control

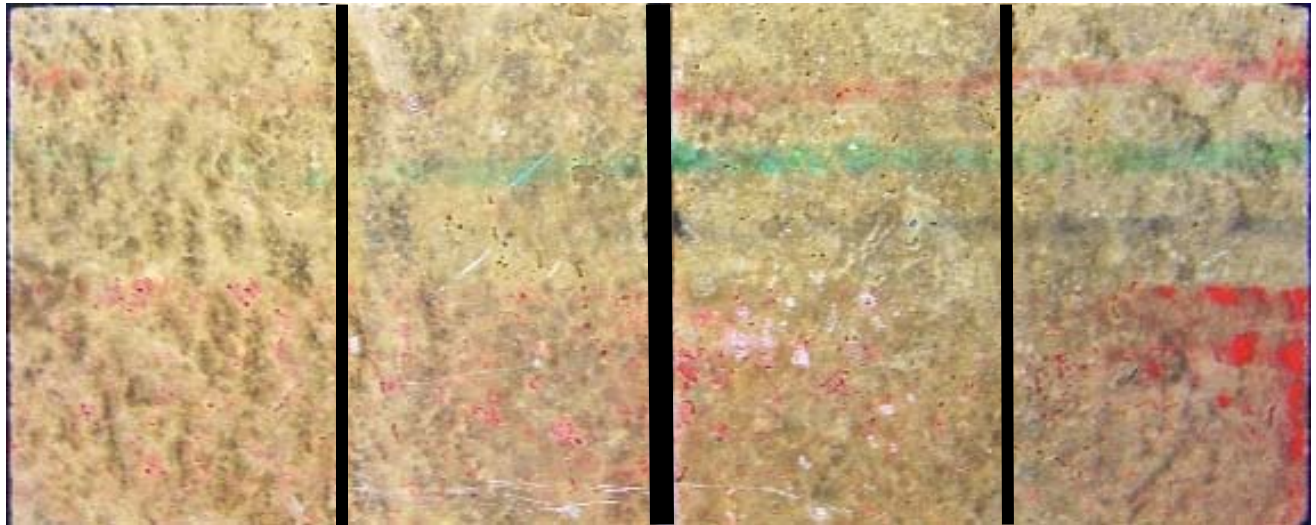
“Alpaca – Honed”; Before Graffiti Removal



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

Untreated Control

“Alpaca – Honed”; After Graffiti Removal



**Enviro Klean®
SafStrip**

**Defacer Eraser®
Graffiti Wipe**

**Enviro Klean®
SafStrip**

**Defacer Eraser®
Graffiti Wipe**

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

Untreated Control

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

However, Enviro Klean® SafStrip did slightly etch each of the submitted samples on both the treated and untreated surfaces. Enviro Klean® SafStrip is therefore not recommended for graffiti removal on the submitted samples.

Recommendations – Graffiti Control

Recommendations for graffiti control treatment for each type of travertine submitted by ONE STEP Enterprises, Inc., West Sacramento, CA 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
All Submitted Travertine	*Sure Klean® Weather Seal Blok-Guard® & Graffiti Control II	Defacer Eraser® Graffiti Wipe

***NOTE:** Sure Klean® Weather Seal Blok-Guard® & Graffiti Control II is recommended for application on vertical surfaces only.

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.

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® 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.

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® Stone, Tile & Masonry Protector (STMP) – A penetrating oil and stain repellent that is an 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.

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 application instructions. The treatments were allowed to cure on the samples for at least 72 hours before testing.

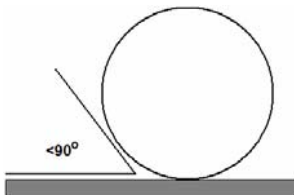
Test Method – Stain Repellency**Surface Beading Evaluation**

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 food or oil quickly absorbed into the substrate and correlates to “below average” repellency.

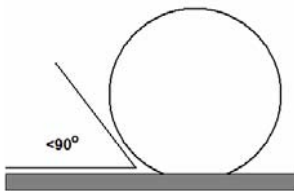
Note: Non-free flowing staining agents such as ketchup and mustard are applied in a globular fashion and therefore are not evaluated for their beading properties.

Rating System (1-5)

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



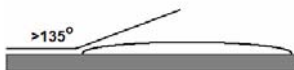
2. Wetting contained to the contact area (slight darkening); angle is less than 90°.



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.

Test Results – Surface Beading

“Alpaca – Unfinished”									
Treatment	Coco-Cola	Ketchup	Mustard	Red Wine	Balsamic Vinegar	Soy Sauce	Olive Oil	Wesson Oil	Hot Coffee
Untreated Control	4	-	-	4	4	4	5	5	4
Limestone & Marble Protector	2	-	-	1	1	2	3	3	2
SLX100 Water & Oil Repellent	1	-	-	2	2	2	3	3	2
STMP	3	-	-	3	3	3	3	3	3
“Alpaca – Honed”									
Treatment	Coco-Cola	Ketchup	Mustard	Red Wine	Balsamic Vinegar	Soy Sauce	Olive Oil	Wesson Oil	Hot Coffee
Untreated Control	5	-	-	4	4	4	5	5	4
Limestone & Marble Protector	1	-	-	1	1	1	3	3	3
SLX100 Water & Oil Repellent	1	-	-	1	1	1	3	3	3
STMP	2	-	-	2	2	2	3	3	3
“Cremino – Unfinished”									
Treatment	Coco-Cola	Ketchup	Mustard	Red Wine	Balsamic Vinegar	Soy Sauce	Olive Oil	Wesson Oil	Hot Coffee
Untreated Control	4	-	-	4	4	4	5	5	4
Limestone & Marble Protector	1	-	-	1	1	1	2	2	1
SLX100 Water & Oil Repellent	1	-	-	1	1	1	2	2	2
STMP	2	-	-	3	3	3	3	3	3
“Cremino – Honed”									
Treatment	Coco-Cola	Ketchup	Mustard	Red Wine	Balsamic Vinegar	Soy Sauce	Olive Oil	Wesson Oil	Hot Coffee
Untreated Control	4	-	-	4	4	4	5	5	4
Limestone & Marble Protector	1	-	-	1	1	1	3	3	3
SLX100 Water & Oil Repellent	1	-	-	1	1	1	2	2	3
STMP	2	-	-	2	2	2	3	3	3
“Cremino Kello – Unfinished”									
Treatment	Coco-Cola	Ketchup	Mustard	Red Wine	Balsamic Vinegar	Soy Sauce	Olive Oil	Wesson Oil	Hot Coffee
Untreated Control	4	-	-	4	4	4	5	5	4
Limestone & Marble Protector	2	-	-	1	1	1	2	2	2
SLX100 Water & Oil Repellent	1	-	-	1	1	1	2	2	2
STMP	2	-	-	3	3	3	3	3	3
“Cremino Kello – Honed”									
Treatment	Coco-Cola	Ketchup	Mustard	Red Wine	Balsamic Vinegar	Soy Sauce	Olive Oil	Wesson Oil	Hot Coffee
Untreated Control	4	-	-	4	4	4	5	5	4
Limestone & Marble Protector	1	-	-	1	1	1	2	2	2
SLX100 Water & Oil Repellent	1	-	-	1	1	1	2	2	2
STMP	2	-	-	3	3	3	3	3	3
“Siena – Unfinished”									
Treatment	Coco-Cola	Ketchup	Mustard	Red Wine	Balsamic Vinegar	Soy Sauce	Olive Oil	Wesson Oil	Hot Coffee
Untreated Control	4	-	-	4	4	4	5	5	4
Limestone & Marble Protector	1	-	-	1	1	1	2	2	2
SLX100 Water & Oil Repellent	1	-	-	2	2	2	2	2	2
STMP	2	-	-	3	3	3	3	3	3
“Siena – Honed”									
Treatment	Coco-Cola	Ketchup	Mustard	Red Wine	Balsamic Vinegar	Soy Sauce	Olive Oil	Wesson Oil	Hot Coffee
Untreated Control	3	-	-	4	4	4	5	5	4
Limestone & Marble Protector	2	-	-	2	2	2	2	2	2
SLX100 Water & Oil Repellent	2	-	-	2	2	2	2	2	2
STMP	3	-	-	3	3	3	3	3	3

Test Results – Stain Repellency**% Removal**

“Alpaca – Unfinished”									
Untreated Control									
	Coca-Cola	Ketchup	Mustard	Red Wine	Balsamic Vinegar	Soy Sauce	Olive Oil	Wesson Oil	Hot Coffee
24 hr	100%	100%*	<1%*	90%	100%	100%	<1%	<1%	100%
4 hour	100%	100%*	100%*	90%	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® 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%
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%	50%	50%	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® Stone, Tile & Masonry Protector (STMP)									
	Coca-Cola	Ketchup	Mustard	Red Wine	Balsamic Vinegar	Soy Sauce	Olive Oil	Wesson Oil	Hot Coffee
24 hr	100%	100%	100%	90%	100%	100%	70%	50%	100%
4 hour	100%	100%	100%	90%	100%	100%	100%	90%	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.

Test Results – Stain Repellency**% Removal**

“Alpaca – Honed”									
Untreated Control									
	Coca-Cola	Ketchup	Mustard	Red Wine	Balsamic Vinegar	Soy Sauce	Olive Oil	Wesson Oil	Hot Coffee
24 hr	100%	100%*	<1%*	80%	100%	100%	<1%	<1%	100%
4 hour	100%	100%*	100%*	90%	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® 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%
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%*	95%	100%	100%	90%	90%	100%
4 hour	100%	100%	100%*	95%	100%	100%	90%	90%	100%
1 hour	100%	100%	100%*	100%	100%	100%	90%	90%	100%
10 min.	100%	100%	100%	100%	100%	100%	90%	90%	100%
Stand Off® Stone, Tile & Masonry Protector (STMP)									
	Coca-Cola	Ketchup	Mustard	Red Wine	Balsamic Vinegar	Soy Sauce	Olive Oil	Wesson Oil	Hot Coffee
24 hr	100%	100%*	100%*	90%	100%	100%	95%	95%	100%
4 hour	100%	100%*	100%*	90%	100%	100%	95%	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.

Test Results – Stain Repellency**% Removal**

“Cremino – Unfinished”									
Untreated Control									
	Coca-Cola	Ketchup	Mustard	Red Wine	Balsamic Vinegar	Soy Sauce	Olive Oil	Wesson Oil	Hot Coffee
24 hr	100%	100%*	100%*	70%	70%*	100%	<1%	<1%	100%
4 hour	100%	100%*	100%*	70%	70%*	100%	<1%	<1%	100%
1 hour	100%	100%*	100%*	70%	70%*	100%	<1%	<1%	100%
10 min.	100%	100%*	100%*	70%	70%*	100%	<1%	<1%	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%*	90%	100%*	100%	100%	100%	100%
4 hour	100%	100%*	100%*	98%	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® 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%*	90%	100%*	100%	90%	90%	100%
4 hour	100%	100%*	100%*	95%	100%*	100%	90%	90%	100%
1 hour	100%	100%*	100%*	100%	100%*	100%	90%	90%	100%
10 min.	100%	100%*	100%*	100%	100%*	100%	90%	90%	100%
Stand Off® Stone, Tile & Masonry Protector (STMP)									
	Coca-Cola	Ketchup	Mustard	Red Wine	Balsamic Vinegar	Soy Sauce	Olive Oil	Wesson Oil	Hot Coffee
24 hr	100%	100%	100%	70%	90%	100%	90%	90%	100%
4 hour	100%	100%	100%	70%	90%	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.

Test Results – Stain Repellency**% Removal**

“Cremino – Honed”									
Untreated Control									
	Coca-Cola	Ketchup	Mustard	Red Wine	Balsamic Vinegar	Soy Sauce	Olive Oil	Wesson Oil	Hot Coffee
24 hr	100%	100%*	100%*	70%	100%*	100%	<1%	<1%	100%
4 hour	100%	100%*	100%*	70%	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® 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%
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® Stone, Tile & Masonry Protector (STMP)									
	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.

Test Results – Stain Repellency**% Removal**

“Cremino Kello – Unfinished”									
Untreated Control									
	Coca-Cola	Ketchup	Mustard	Red Wine	Balsamic Vinegar	Soy Sauce	Olive Oil	Wesson Oil	Hot Coffee
24 hr	100%	100%*	100%*	100%	80%*	100%	<1%	<1%	80%
4 hour	100%	100%*	100%*	100%	80%*	100%	<1%	<1%	100%
1 hour	100%	100%*	100%*	100%	80%*	100%	<1%	<1%	100%
10 min.	100%	100%*	100%*	100%	80%*	100%	<1%	<1%	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%
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%	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® Stone, Tile & Masonry Protector (STMP)									
	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.

Test Results – Stain Repellency**% Removal**

“Cremino Kello – Honed”									
Untreated Control									
	Coca-Cola	Ketchup	Mustard	Red Wine	Balsamic Vinegar	Soy Sauce	Olive Oil	Wesson Oil	Hot Coffee
24 hr	100%	<1%	100%*	70%	70%	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® 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%
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® Stone, Tile & Masonry Protector (STMP)									
	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.

Test Results – Stain Repellency**% Removal**

“Siena – Unfinished”									
Untreated Control									
	Coca-Cola	Ketchup	Mustard	Red Wine	Balsamic Vinegar	Soy Sauce	Olive Oil	Wesson Oil	Hot Coffee
24 hr	100%*	100%*	100%*	80%*	80%*	100%	<1%	<1%	100%
4 hour	100%*	100%*	100%*	80%*	80%*	100%	<1%	<1%	100%
1 hour	100%*	100%*	100%*	80%*	80%*	100%	<1%	<1%	100%
10 min.	100%*	100%*	100%*	80%*	80%*	100%	<1%	<1%	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%	90%	90%	100%
4 hour	100%*	100%*	100%*	100%*	100%*	100%	90%	90%	100%
1 hour	100%*	100%*	100%*	100%*	100%*	100%	90%	90%	100%
10 min.	100%*	100%*	100%*	100%*	100%*	100%	90%	90%	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%*	80%*	100%*	100%	90%	90%	100%
4 hour	100%*	100%*	100%*	100%*	100%*	100%	90%	90%	100%
1 hour	100%*	100%*	100%*	100%*	100%*	100%	90%	90%	100%
10 min.	100%*	100%*	100%*	100%*	100%*	100%	90%	90%	100%
Stand Off[®] Stone, Tile & Masonry Protector (STMP)									
	Coca-Cola	Ketchup	Mustard	Red Wine	Balsamic Vinegar	Soy Sauce	Olive Oil	Wesson Oil	Hot Coffee
24 hr	100%	100%*	100%*	80%	100%*	100%	95%	95%	100%
4 hour	100%	100%*	100%*	90%	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.

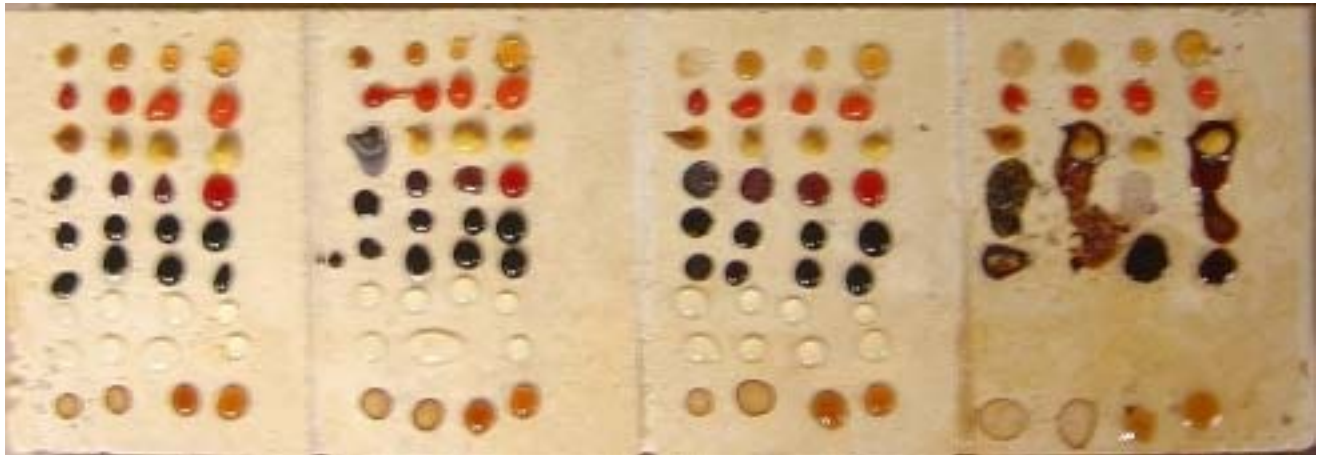
Test Results – Stain Repellency**% Removal**

“Siena – Honed”									
Untreated Control									
	Coca-Cola	Ketchup	Mustard	Red Wine	Balsamic Vinegar	Soy Sauce	Olive Oil	Wesson Oil	Hot Coffee
24 hr	100%	100%*	90%*	80%	80%*	100%	<1%	<1%	100%
4 hour	100%	100%*	100%*	80%	80%*	100%	<1%	<1%	100%
1 hour	100%	100%*	100%*	90%	90%*	100%	<1%	<1%	100%
10 min.	100%	100%*	100%*	90%	90%*	100%	<1%	<1%	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%*	98%	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® 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® Stone, Tile & Masonry Protector (STMP)									
	Coca-Cola	Ketchup	Mustard	Red Wine	Balsamic Vinegar	Soy Sauce	Olive Oil	Wesson Oil	Hot Coffee
24 hr	100%	100%	100%*	80%	90%	100%	100%	100%	100%
4 hour	100%	100%	100%*	80%	100%	100%	100%	100%	100%
1 hour	100%	100%	100%*	90%	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.

Photographs – Stain Repellency

“Siena – Unfinished”; Stains Applied



**Stand Off®
Limestone & Marble
Protector**

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

**Stand Off® Stone,
Tile & Masonry
Protector (STMP)**

Untreated Control

“Siena – Unfinished”; Stains Removed



**Stand Off®
Limestone & Marble
Protector**

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

**Stand Off® Stone,
Tile & Masonry
Protector (STMP)**

Untreated Control

Conclusions – Stain Repellency

Based upon laboratory evaluations, all of the treatments evaluated improved the surface beading of the samples. In addition, all of the treatments were effective in improving the samples' resistance to the applied stains, especially to the oils. Stand Off® Limestone & Marble Protector exhibited a slight to moderate color change to each of the submitted samples. Neither of the other treatments caused any noticeable color change to either of the submitted samples.

Recommendations – Stain Repellency

Recommendations for stain resistance treatment for the travertine submitted by ONE STEP Enterprises, Inc., West Sacramento, CA are provided in the chart below. Recommendations are based on the treatments that proved most effective for providing stain repellency on the submitted samples.

Sample	Stain Repellent	Maintenance Cleaner
"Alpaca - Unfinished" "Siena - Unfinished"	*Stand Off® Limestone & Marble Protector	Enviro Klean® 2010 All Surface Cleaner (1:10)
"Cremino - Unfinished" "Siena - Honed"	*Stand Off® Limestone & Marble Protector OR Stand Off® SLX100 Water & Oil Repellent	Enviro Klean® 2010 All Surface Cleaner (1:10)
"Cremino Kello - Unfinished"	*Stand Off® Limestone & Marble Protector OR Stand Off® Stone, Tile & Masonry Protector (STMP)	Enviro Klean® 2010 All Surface Cleaner (1:10)
"Alpaca - Honed" "Cremino - Honed" "Cremino Kello - Honed"	*Stand Off® Limestone & Marble Protector OR Stand Off® SLX100 Water & Oil Repellent OR Stand Off® Stone, Tile & Masonry Protector (STMP)	Enviro Klean® 2010 All Surface Cleaner (1:10)

***NOTE:** Stand Off® Limestone & Marble Protector is manufactured and marketed in compliance with USEPA AIM VOC regulations (40 CFR 59.403). This product may not be suitable for sale in states and districts with more restrictive AIM VOC regulations. Available in regulation-exempt small container sizes.

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.

Color and Sheen Enhancement

This evaluation compares the effectiveness of the evaluated products in providing color enhancement to the submitted samples.

Description of Products Evaluated – Color and Sheen Enhancement

Stand Off[®] Gloss 'N Guard WB – A highly durable polyurethane protective coating for tile, pavers, terrazzo and other polished and unpolished masonry. Gloss 'N Guard WB dries to a high-gloss finish, which enhances the natural beauty of treated surfaces – both horizontal and vertical. Gloss 'N Guard WB's water-based formula offers several improvements on similar solvent-based products. No solvent odor, easy soap and water cleanup, and reduced fire-hazards make the treatment safe and easy to use, as well as effective. In addition, Gloss 'N Guard WB complies with all known regulations limiting Volatile Organic Compound (VOC) content.

Sample Preparation – Color and Sheen 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 and Sheen Enhancement

Stand Off[®] Gloss 'N Guard WB 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.

Test Results – Color and Sheen Enhancement

“Alpaca – Unfinished”		
Treatment	Color Enhancement	Sheen Enhancement
Stand Off® Gloss ‘N Guard WB	1	3
“Alpaca – Honed”		
Treatment	Color Enhancement	Sheen Enhancement
Stand Off® Gloss ‘N Guard WB	1	3
“Cremino – Unfinished”		
Treatment	Color Enhancement	Sheen Enhancement
Stand Off® Gloss ‘N Guard WB	1	3
“Cremino – Honed”		
Treatment	Color Enhancement	Sheen Enhancement
Stand Off® Gloss ‘N Guard WB	1	3
“Cremino Kello – Unfinished”		
Treatment	Color Enhancement	Sheen Enhancement
Stand Off® Gloss ‘N Guard WB	1	3
“Cremino Kello – Honed”		
Treatment	Color Enhancement	Sheen Enhancement
Stand Off® Gloss ‘N Guard WB	1	3
“Siena – Unfinished”		
Treatment	Color Enhancement	Sheen Enhancement
Stand Off® Gloss ‘N Guard WB	1	3
“Siena – Honed”		
Treatment	Color Enhancement	Sheen Enhancement
Stand Off® Gloss ‘N Guard WB	1	3

Scale: 0 – No Enhancement; Dull
1 – Slight Enhancement
2 – Moderate Enhancement
3 – Significant Enhancement

Photographs – Color and Sheen Enhancement

“Cremino – Unfinished”; Treatments Applied



Recommendations – Color and Sheen Enhancement

Recommendations for color and sheen enhancement for the travertine submitted by ONE STEP Enterprises, Inc., West Sacramento, CA are provided in the chart below. Recommendations are based on the treatment that proved most effective in providing color and/or sheen enhancement to the submitted samples.

Sample	Color Enhancement	Sheen Enhancement
All Submitted Travertine	Stand Off® Gloss 'N Guard WB	Stand Off® Gloss 'N Guard WB

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



PALLET TAG PROGRAM
Laboratory Report

ONE STEP Enterprises, Inc.
2968 Shasta Way
West Sacramento, CA 95691



Project No. 0608-16 PTP

Prepared For:
PROSOCO
SINCE 1939

Prepared By:
AMT Laboratories
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