



## PROSOCO, Inc.

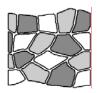
т	Λ	P				~	$\cap$	NI"	VI.	TS
1	м	D	ᇆ	·	ľ	C	v	IN	IN	ıo

Submitted Information	1
Purpose of Testing	2
Products Evaluated	3
New Construction Cleaning	4
Description of Products Evaluated – New Construction Cleaning	4
Test Method – New Construction Cleaning	
Test Results – New Construction Cleaning	5
Test Results – Limiting Surface Alterations	6
Photographs – New Construction Cleaning	7
Photographs – Limiting Surface Alterations	
Conclusions – New Construction Cleaning	
Recommendations – New Construction Cleaning	9
Protective Water Repellents	10
Description of Products Evaluated – Protective Water Repellents	10
Sample Preparation – Protective Water Repellents	
Test Methods – Protective Water Repellents	
Test Results – Protective Water Repellents	
Photographs – Protective Water Repellents	
Conclusions – Protective Water Repellents	
Recommendations – Protective Water Repellents	14
Graffiti Control	
Description of Products Evaluated – Graffiti Control	15
Sample Preparation – Graffiti Control	16
Test Methods – Graffiti Control	
Test Results – Graffiti Control	
Photographs – Graffiti Control	
Conclusions – Graffiti Control	
Recommendations – Graffiti Control	19
Stain Repellency	
Description of Products Evaluated – Stain Repellency	20
Sample Preparation – Stain Repellency	
Test Method – Stain Repellency	
Test Results – Surface Beading	
Test Results – Stain Repellency	
Photographs – Stain Repellency	
Conclusions – Stain Repellency  Recommendations – Stain Repellency	/ کاکا محمد
Color Enhancement	28
Description of Products Evaluated – Color Enhancement	
Sample Preparation – Color Enhancement	
Test Method – Color Enhancement	
Test Results – Color Enhancement	
Photographs – Color Enhancement	
NGCOHINGHUAUCHS — COIOLEHHAHCHIICHIICHI	

## **Attachments**

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





Page 1

## **Submitted Information**

For: Joseph Talecki cc: John Bourne

**Subject:** Champlain Stone, Ltd.

Warrensburg, NY

Date: October 4, 2005

**Project:** 0506-19 PTP

Samples Submitted: 6 types of natural stone

Sample	Color	Size	
"American Granite"	Gray		
"Corinthian Granite"	Light Gray		
"Great Meadow Limestone"	Light Gray/White/Tan	- Various	
"South Bay Quartzite"	White/Yellow/Orange		
"Summit Granite"	Gray		
"Van Tassel Granite"	Pink/Gray/Green		

Submitted by: Joseph Talecki





Page 2

### **Purpose of Testing**

Six types of natural stone were submitted to PROSOCO, Inc.'s Testing Laboratory with a request to determine the optimum dilution of appropriate new construction cleaning products for complete removal of laboratory applied mortar while limiting any surface alterations. Additionally, the effectiveness of water repellents, graffiti control products, stain repellents and color enhancing treatments suitable for natural stone were evaluated.

**New Construction Cleaning** – Sure Klean<sup>®</sup> Vana Trol<sup>®</sup> and Sure Klean<sup>®</sup> 600 Detergent were evaluated for removal of laboratory applied mortar 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 S cementitious mortar. The wet mortar-filled cylinder was allowed to remain in contact with the samples for 10 minutes before removal.

Heavy deposits of mortar were removed with dry scraping after 24 hours. Prepared cleaning solutions were then evaluated for their effectiveness in removing residual Type S mortar after 3, 7 and 14 days of curing. A visual examination was also made to determine if the tested cleaners caused any surface alterations to the submitted samples based on the following:

<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.

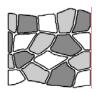
**Water Repellent Evaluation** – Sure Klean<sup>®</sup> Weather Seal Natural Stone Treatment WB, Sure Klean<sup>®</sup> Weather Seal Blok-Guard<sup>®</sup> & Graffiti Control II, and Stand Off<sup>®</sup> SLX100 Water & Oil Repellent were evaluated on the submitted samples for their ability to provide water repellency.

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

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

**Color Enhancement** – Stand Off<sup>®</sup> Gloss 'N Guard WB was evaluated for its ability to provide color enhancement to the submitted samples.





Page 3

## **Products Evaluated**

## **Products Evaluated for New Construction Cleaning and Limiting Surface Alterations**

Sample	Product	Dilution
All Submitted Samples	Sure Klean <sup>®</sup> Vana Trol <sup>®</sup>	1:6, 1:8
"American Granite" "Corinthian Granite" "South Bay Quartzite" "Summit Granite" "Van Tassel Granite"	Sure Klean <sup>®</sup> 600 Detergent	1:6, 1:8

## Water Repellent Products Evaluated

Sample	Product	Dilution
	Sure Klean <sup>®</sup> Weather Seal Natural Stone Treatment WB	Concentrate
All Submitted Samples	Sure Klean <sup>®</sup> Weather Seal Blok-Guard <sup>®</sup> & Graffiti Control II	Concentrate
	Stand Off <sup>®</sup> SLX100 Water & Oil Repellent	Concentrate

## **Graffiti Repellent Products Evaluated**

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

### **Graffiti Removal Products Evaluated**

Sample	Product	Dilution
All Submitted Samples	Sure Klean <sup>®</sup> Fast Acting Stripper	Concentrate
All Submitted Samples	Defacer Eraser® Graffiti Wipe	Concentrate

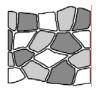
## **Stain Repellent Products Evaluated**

Sample	Product	Dilution
All Submitted Samples	Stand Off <sup>®</sup> SLX100 Water & Oil Repellent	Concentrate
All Submitted Samples	Stand Off® Stone, Tile & Masonry Protector (STMP)	Concentrate

### **Color Enhancement Products Evaluated**

Sample	Product	Dilution
All Submitted Samples	Stand Off <sup>®</sup> Gloss 'N Guard WB	Concentrate





Page 4

## **New Construction Cleaning**

These cleaning trials were conducted to determine the optimal cleaning/cure time combination to most efficiently remove Type S mortar from the submitted samples.

Type S cementitious mortar was prepared in compliance with the manufacturer's instructions, applied to the natural stone surface and allowed to cure for 3, 7 and 14 days. Mortar removal was accomplished using chemical assistance and a high-pressure water rinse with pressure rinsing equipment. The removal of Type S mortar was visually evaluated after 3, 7 and 14 days of curing.

## <u>Description of Products Evaluated</u> – New Construction Cleaning

**Sure Klean® Vana Trol®** – A concentrated acidic cleaner for new masonry surfaces that are subject to vanadium, manganese and other metallic stains. Use on: gray, brown, white, and most light-colored brick; natural stone; cast stone. Dissolves mortar smears and construction dirt quickly, leaving the masonry clean and uniform with no acid burning or streaking. Liquid concentrate for dilution with 4-10 parts water. Apply by brush or low-pressure spray.

**Sure Klean® 600 Detergent** – A general purpose, concentrated acidic cleaner for brick, tile and concrete surfaces. 600 Detergent dissolves mortar smears and construction dirt quickly, leaving the masonry clean and uniform with no acid burning or streaking.

## **Test Method** – New Construction Cleaning

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

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

Vana Trol <sup>®</sup>	minutes
600 Detergent	minutes

4. Pressure rinse thoroughly.\*

<sup>\*</sup>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.





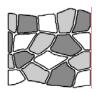
Page 5

## <u>Test Results</u> – New Construction Cleaning

% removal

	"American Granite"			
Product	Dilution	3 day	7 day	14 day
Sure Klean <sup>®</sup> Vana Trol <sup>®</sup>	1:6	100%	100%	100%
Sure Kleari Varia 110i	1:8	100%	100%	100%
Sure Klean <sup>®</sup> 600 Detergent	1:6	100%	100%	100%
Sure Rieari 600 Detergent	1:8	100%	100%	95%
	"Corinthian Granite"			
Product	Dilution	3 day	7 day	14 day
Sure Klean <sup>®</sup> Vana Trol <sup>®</sup>	1:6	100%	100%	100%
Sule Riean Valla 1101	1:8	100%	100%	100%
Sure Klean <sup>®</sup> 600 Detergent	1:6	100%	100%	100%
	1:8	100%	100%	100%
"Gr	eat Meadow Limestor	ne"		
Product	Dilution	3 day	7 day	14 day
Sure Klean <sup>®</sup> Vana Trol <sup>®</sup>	1:6	100%	100%	100%
Sure Kleari Varia 110i	1:8	100%	100%	100%
66	South Bay Quartzite'	,		
Product	Dilution	3 day	7 day	14 day
Sure Klean <sup>®</sup> Vana Trol <sup>®</sup>	1:6	100%	100%	100%
Sule Riean Valla 1101	1:8	100%	100%	100%
Sure Klean® 600 Detergent	1:6	100%	100%	100%
Sure Real 600 Detergent	1:8	100%	100%	100%
	"Summit Granite"			
Product	Dilution	3 day	7 day	14 day
Sure Klean <sup>®</sup> Vana Trol <sup>®</sup>	1:6	100%	100%	100%
Sule Riedii Valla 1101	1:8	100%	100%	100%
Sure Klean <sup>®</sup> 600 Detergent	1:6	100%	100%	100%
Sure Klearr 600 Detergent	1:8	100%	100%	100%
•	"Van Tassel Granite"			
Product	Dilution	3 day	7 day	14 day
Sure Klean <sup>®</sup> Vana Trol <sup>®</sup>	1:6	100%	100%	100%
Suite Medii Valla 1101	1:8	100%	100%	95%
Sure Klean <sup>®</sup> 600 Detergent	1:6	100%	100%	90%
Sure Kleari 600 Detergent	1:8	100%	100%	75%





Page 6

## **Test Results** – Limiting Surface Alterations

Substrate: Natural Stone	Pigment	Color: "America	n Granite"			
Product	Dilution	Surface Finish Removal	Substrate Deterioration	Color Change	Staining	
Sure Klean <sup>®</sup> Vana Trol <sup>®</sup>	1:6	0	0	0	0	
Sure Klean Vana Iroi	1:8	0	0	0	0	
Core Klass® COO Determent	1:6	0	0	0	0	
Sure Klean <sup>®</sup> 600 Detergent	1:8	0	0	0	0	
Substrate: Natural Stone	Pigment	Pigment Color: "Corinthian Granite"				
Product	Dilution	Surface Finish Removal	Substrate Deterioration	Color Change	Staining	
Sure Klean <sup>®</sup> Vana Trol <sup>®</sup>	1:6	0	0	0	0	
Sure Rieam Vana 110	1:8	0	0	0	0	
Sure Klean® 600 Detergent	1:6	0	0	0	0	
Sure Klean 600 Detergent	1:8	0	0	0	0	
Substrate: Natural Stone	Pigment	Color: "Great Mo	eadow Limestone	"		
Product	Dilution	Surface Finish Removal	Substrate Deterioration	Color Change	Staining	
Sure Klean <sup>®</sup> Vana Trol <sup>®</sup>	1:6	0	0	0	0	
Sure Rieam Vana 110	1:8	0	0	0	0	
Substrate: Natural Stone	Pigment	Color: "South Ba	ay Quartzite"			
Product	Dilution	Surface Finish Removal	Substrate Deterioration	Color Change	Staining	
Sure Klean <sup>®</sup> Vana Trol <sup>®</sup>	1:6	0	0	0	0	
Sure Riearr Varia 1101	1:8	0	0	0	0	
Sure Klean <sup>®</sup> 600 Detergent	1:6	0	0	0	0	
Sure Rieari 600 Detergent	1:8	0	0	0	0	
Substrate: Natural Stone	Pigment Color: "Summit Granite"					
Product	Dilution	Surface Finish Removal	Substrate Deterioration	Color Change	Staining	
Sure Klean <sup>®</sup> Vana Trol <sup>®</sup>	1:6	0	0	0	0	
Sure Riearr Varia 1101	1:8	0	0	0	0	
Sure Klean <sup>®</sup> 600 Detergent	1:6	0	0	0	0	
Sure Rieari 600 Detergent	1:8	0	0	0	0	
Substrate: Natural Stone Pigment Color: "Van Tassel Granite"						
Product	Dilution	Surface Finish Removal	Substrate Deterioration	Color Change	Staining	
Sure Klean <sup>®</sup> Vana Trol <sup>®</sup>	1:6	0	0	0	0	
Gare Mean vana 1101	1:8	0	0	0	0	
Sure Klean® 600 Detergent	1:6	0	0	0	0	
Care Ricair 600 Detergent	1:8	0	0	0	0	

0 - No change

3 - change - heavy

1 – change – slight

4 - change - excessive

2 - change - moderate

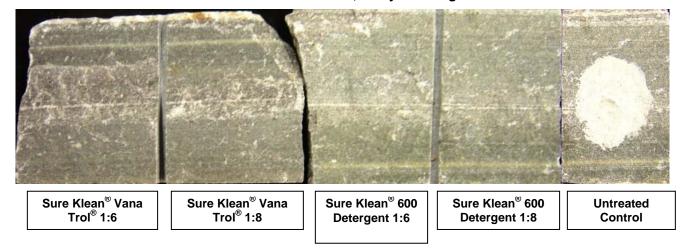




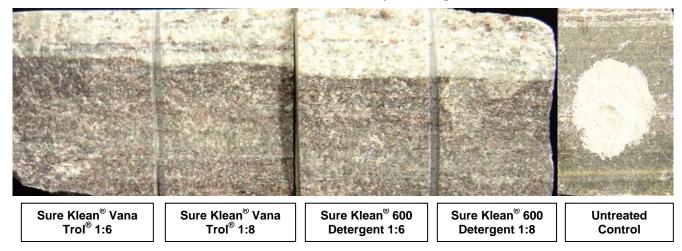
Page 7

## **Photographs** - New Construction Cleaning

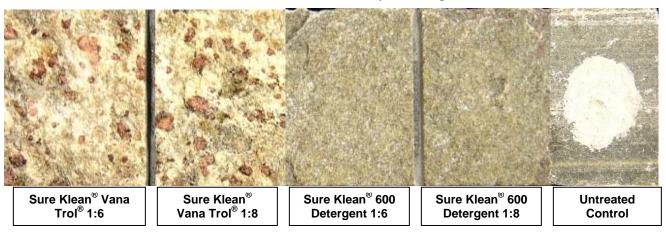
"Summit Granite"; 3 Day Cleaning



## "Summit Granite"; 7 Day Cleaning



## "Summit Granite"; 14 Day Cleaning



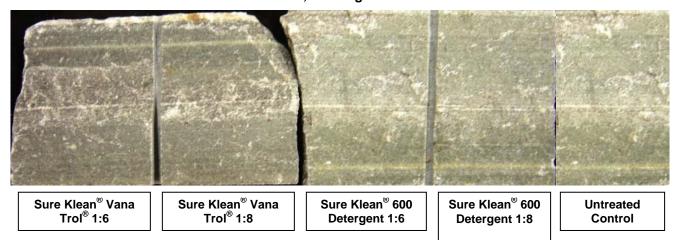




Page 8

## **Photographs** – Limiting Surface Alterations

"Summit Granite"; Limiting Surface Alterations







Page 9

### **Conclusions - New Construction Cleaning**

Based on the test results, both Sure Klean<sup>®</sup> Vana Trol<sup>®</sup> and Sure Klean<sup>®</sup> 600 Detergent performed well in removing excess mortar from the submitted samples. These products performed well in removing the mortar soils even after allowing the mortar to remain on the surface of the samples for 14 days using Type S mortar under ideal curing conditions.

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 3 days of construction when using Type S mortar.

## **Recommendations** – New Construction Cleaning

Recommendations for cleaning for the natural stone submitted by Champlain Stone, Ltd., Warrensburg, NY are provided in the chart below. Recommendations are based on the optimum dilution for complete removal of mortar while limiting surface alterations.

Sample	New Construction Cleaning (Type S mortar, 14 day cleaning)
"American Granite" "Corinthian Granite" "South Bay Quartzite" "Summit Granite"	Sure Klean <sup>®</sup> Vana Trol <sup>®</sup> (1:8) OR Sure Klean <sup>®</sup> 600 Detergent (1:8)
"Great Meadow Limestone"	Sure Klean <sup>®</sup> Vana Trol <sup>®</sup> (1:8)
"Van Tassel Granite"	Sure Klean <sup>®</sup> Vana Trol <sup>®</sup> (1:8) OR Sure Klean <sup>®</sup> 600 Detergent (1:6)

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





Page 10

### **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

## <u>Description of Products Evaluated</u> – Protective Water Repellents

**Sure Klean® Weather Seal Natural Stone Treatment WB** – A low odor, water-based solution of potassium methyl siliconate developed to effectively treat a wide range of natural stone and masonry surfaces. Natural Stone Treatment WB provides long-lasting repellency without altering the natural appearance of the substrate. Natural Stone Treatment WB is used as a surface treatment on natural stone and masonry surfaces to impart a water-repellent surface and reduce water absorption into the substrate. Unlike conventional siliconate water repellents, Natural Stone Treatment WB has been developed to help prevent surface staining during application.

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.

**Stand Off<sup>®</sup> 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. The treatments were then applied to the submitted samples by brush as recommended in the current PROSOCO, Inc. Product Data Sheet instructions. All treatments were allowed to cure for at least 72 hours prior to testing.





Page 11

## **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 milliliters, a water absorption tube produces a 103 mph dynamic wind pressure. See RILEM II.4 Tech Note for additional information.

The ranking system used to evaluate the effectiveness of the products applied to each submitted sample is as follows:

- **AA** = "Above Average" correlates to less than or equal to 20% of the maximum untreated absorption.
- **A** = "Average" correlates to less than or equal to 50% of the maximum untreated absorption.
- **BA** = "Below Average" correlates to greater than 50% of the maximum untreated absorption.

**EXAMPLE:** If RILEM tubes applied to an untreated sample result in loss of 5 ml of water or more, then:

A rating of **AA** Above Average water repellent performance would require loss of no more than:

5 ml X 20% = 1 ml.

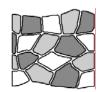
A rating of <u>A</u> Average water repellent performance would require loss of no more than:

5 ml X 50% = 2.5 ml.

A rating of <u>BA</u> 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.





Page 12

## **Test Results** – Protective Water Repellents

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

"American Granite"	Results in mL loss	<u>Ranking</u>
Untreated Control	-0.0	-
Natural Stone Treatment WB	-0.0	<u>AA</u>
Blok-Guard <sup>®</sup> & Graffiti Control II	-0.0	<u>AA</u>
SLX100 Water & Oil Repellent	-0.0	<u>AA</u>
"Corinthian Granite"	Results in mL loss	<u>Ranking</u>
Untreated Control	-0.0	-
Natural Stone Treatment WB	-0.0	<u>AA</u>
Blok-Guard® & Graffiti Control II	-0.0	<u>AA</u>
SLX100 Water & Oil Repellent	-0.0	AA
"Great Meadow Limestone"	Results in mL loss	<u>Ranking</u>
Untreated Control	-0.6	
Natural Stone Treatment WB	-0.0	AA
Blok-Guard® & Graffiti Control II	-0.0	<u>AA</u>
SLX100 Water & Oil Repellent	-0.0	AA
"South Bay Quartzite"	Results in mL loss	<u>Ranking</u>
Untreated Control	-0.1	
Simoutou Sointoi	-0.1	<b></b>
Natural Stone Treatment WB	-0.1	<u>AA</u>
	•	<u>AA</u> AA
Natural Stone Treatment WB	-0.0	
Natural Stone Treatment WB  Blok-Guard® & Graffiti Control II	-0.0 -0.0	AA
Natural Stone Treatment WB Blok-Guard® & Graffiti Control II SLX100 Water & Oil Repellent	-0.0 -0.0 -0.0	<u>AA</u> <u>AA</u>
Natural Stone Treatment WB Blok-Guard® & Graffiti Control II SLX100 Water & Oil Repellent "Summit Granite"	-0.0 -0.0 -0.0 Results in mL loss	AA AA Ranking
Natural Stone Treatment WB Blok-Guard® & Graffiti Control II SLX100 Water & Oil Repellent "Summit Granite" Untreated Control	-0.0 -0.0 -0.0 Results in mL loss -0.1	AA AA Ranking
Natural Stone Treatment WB Blok-Guard® & Graffiti Control II SLX100 Water & Oil Repellent "Summit Granite" Untreated Control Natural Stone Treatment WB	-0.0 -0.0 -0.0 Results in mL loss -0.1 -0.0	AA AA Ranking AA
Natural Stone Treatment WB Blok-Guard® & Graffiti Control II SLX100 Water & Oil Repellent "Summit Granite" Untreated Control Natural Stone Treatment WB Blok-Guard® & Graffiti Control II	-0.0 -0.0 -0.0 Results in mL loss -0.1 -0.0 -0.0	AA AA Ranking AA AA AA
Natural Stone Treatment WB Blok-Guard® & Graffiti Control II SLX100 Water & Oil Repellent "Summit Granite" Untreated Control Natural Stone Treatment WB Blok-Guard® & Graffiti Control II SLX100 Water & Oil Repellent	-0.0 -0.0 -0.0  Results in mL loss -0.1 -0.0 -0.0 -0.0	AA AA Ranking AA AA AA AA AA
Natural Stone Treatment WB  Blok-Guard® & Graffiti Control II  SLX100 Water & Oil Repellent  "Summit Granite"  Untreated Control  Natural Stone Treatment WB  Blok-Guard® & Graffiti Control II  SLX100 Water & Oil Repellent  "Van Tassel Granite"  Untreated Control  Natural Stone Treatment WB	-0.0 -0.0 -0.0  Results in mL loss -0.1 -0.0 -0.0 -0.0 -0.0 Results in mL loss	AA AA Ranking AA AA AA AA AA Ranking
Natural Stone Treatment WB  Blok-Guard® & Graffiti Control II  SLX100 Water & Oil Repellent  "Summit Granite"  Untreated Control  Natural Stone Treatment WB  Blok-Guard® & Graffiti Control II  SLX100 Water & Oil Repellent  "Van Tassel Granite"  Untreated Control	-0.0 -0.0 -0.0  Results in mL loss -0.1 -0.0 -0.0 -0.0 -0.0  Results in mL loss -0.0	AA AA Ranking AA AA AA AA AA Ranking





Page 13

## **Photographs** - Protective Water Repellents

"Corinthian Granite"; RILEM Testing



Sure Klean<sup>®</sup> Weather Seal Natural Stone Treatment WB **Untreated Control** 

Sure Klean<sup>®</sup> Weather Seal Blok-Guard<sup>®</sup> & Graffiti Control II

Stand Off<sup>®</sup> SLX100 Water & Oil Repellent





Page 14

### **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<sup>®</sup> Weather Seal Blok-Guard<sup>®</sup> & Graffiti Control II provided slight to moderate color enhancement to the submitted samples. Sure Klean<sup>®</sup> Weather Seal Natural Stone Treatment WB and Stand Off<sup>®</sup> SLX100 Water & Oil Repellent caused no noticeable color change on any of the submitted samples.

### **Recommendations** - Protective Water Repellents

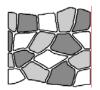
Recommendations for water repellent treatments for the natural stone submitted by Champlain Stone, Ltd., Warrensburg, NY are provided in the chart below. Recommendations are based on the treatments that proved most effective at providing water repellency on the submitted natural stone.

Sample	Water Repellents
All Submitted Samples	Sure Klean <sup>®</sup> Weather Seal Natural Stone Treatment WB OR Sure Klean <sup>®</sup> Weather Seal Blok-Guard <sup>®</sup> & Graffiti Control II OR Stand Off <sup>®</sup> 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.





Page 15

## **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

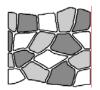
**Defacer Eraser**<sup>®</sup> **Graffiti Wipe** – An easy-to-use graffiti remover that does not contain methanol, methylene chloride or other "halogenated" solvents prohibited on many projects. Graffiti Wipe removes a variety of graffiti stains from most smooth masonry, wood and metal surfaces.

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

### Graffiti Agents

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





Page 16

### Sample Preparation - Graffiti Control

Sure Klean® Weather Seal Blok-Guard® & Graffiti Control II was applied by brush to sections of the submitted samples, in accordance with PROSOCO, Inc.'s 2005 Product Data Sheet application instructions. 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, using Defacer Eraser Graffiti Wipe and Sure Klean Fast Acting Stripper.

### **Test Methods - Graffiti Control**

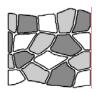
Chemical cleaners were evaluated using the following procedure:

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

- 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.





ROSOCO, Inc. Page 17

## <u>Test Results</u> – Graffiti Control

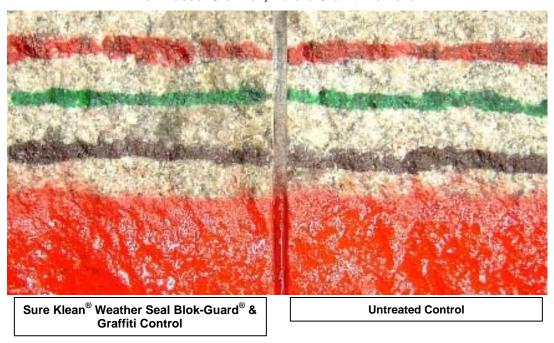
		"American Gran	nite"		
Untreated Control	Red Paint	Black Marker	Green Marker	Red Marker	% Avg. Removal
Fast Acting Stripper	75%	80%	50%	75%	70%
Graffiti Wipe	85%	40%	50%	65%	60%
Blok-Guard <sup>®</sup> & Graffiti Control II	Red Paint	Black Marker	Green Marker	Red Marker	% Avg. Removal
Fast Acting Stripper	90%	100%	90%	80%	90%
Graffiti Wipe	95%	100%	90%	80%	91%
		"Corinthian Gra	nite"		
Untreated Control	Red Paint	Black Marker	Green Marker	Red Marker	% Avg. Removal
Fast Acting Stripper	85%	100%	95%	95%	94%
Graffiti Wipe	85%	50%	95%	95%	81%
Blok-Guard <sup>®</sup> & Graffiti Control II	Red Paint	Black Marker	Green Marker	Red Marker	% Avg. Removal
Fast Acting Stripper	98%	100%	100%	100%	100%
Graffiti Wipe	95%	100%	100%	100%	99%
	"Gr	eat Meadow Lim	estone"		
Untreated Control	Red Paint	Black Marker	Green Marker	Red Marker	% Avg. Removal
Fast Acting Stripper	80%	100%	50%	95%	81%
Graffiti Wipe	80%	20%	40%	75%	54%
Blok-Guard <sup>®</sup> & Graffiti Control II	Red Paint	Black Marker	Green Marker	Red Marker	% Avg. Removal
Fast Acting Stripper	98%	100%	90%	99%	97%
Graffiti Wipe	95%	100%	98%	95%	97%
	66	South Bay Quar	tzite"		
Untreated Control	Red Paint	Black Marker	Green Marker	Red Marker	% Avg. Removal
Fast Acting Stripper	90%	20%	20%	40%	43%
Graffiti Wipe	90%	20%	20%	30%	40%
Blok-Guard <sup>®</sup> & Graffiti Control II	Red Paint	Black Marker	Green Marker	Red Marker	% Avg. Removal
Fast Acting Stripper	90%	70%	70%	70%	75%
Graffiti Wipe	90%	70%	70%	70%	75%
		"Summit Gran	ite"		
Untreated Control	Red Paint	Black Marker	Green Marker	Red Marker	% Avg. Removal
Fast Acting Stripper	70%	80%	20%	40%	53%
Graffiti Wipe	80%	20%	20%	40%	40%
Blok-Guard <sup>®</sup> & Graffiti Control II	Red Paint	Black Marker	Green Marker	Red Marker	% Avg. Removal
Fast Acting Stripper	90%	100%	95%	90%	94%
Graffiti Wipe	90%	100%	95%	95%	95%
	•	"Van Tassel Gra	nite"		
Untreated Control	Red Paint	Black Marker	Green Marker	Red Marker	% Avg. Removal
Fast Acting Stripper	80%	95%	50%	95%	80%
Graffiti Wipe	85%	20%	50%	80%	59%
Blok-Guard <sup>®</sup> & Graffiti Control II	Red Paint	Black Marker	Green Marker	Red Marker	% Avg. Removal
Fast Acting Stripper	95%	100%	95%	98%	97%
Graffiti Wipe	99%	100%	95%	98%	98%



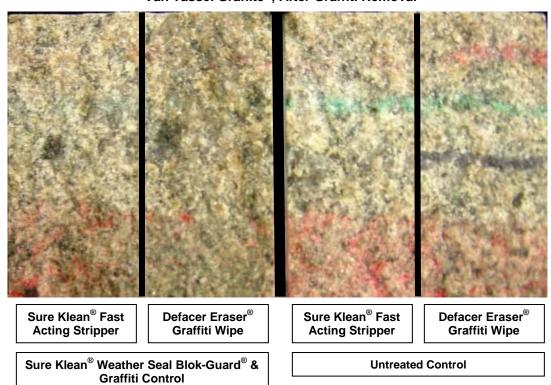
Page 18

## **Photographs** – Graffiti Control

"Van Tassel Granite"; Before Graffiti Removal



"Van Tassel Granite"; After Graffiti Removal







Page 19

#### **Conclusions – Graffiti Control**

Based upon laboratory evaluations, graffiti removal was improved when the submitted samples were treated with Sure Klean<sup>®</sup> Weather Seal Blok-Guard<sup>®</sup> & Graffiti Control II prior to graffiti application. In addition, Sure Klean<sup>®</sup> Weather Seal Blok-Guard<sup>®</sup> & Graffiti Control II provided a slight color enhancement to the appearance of the submitted samples.

## Recommendations - Graffiti Control

Recommendations for graffiti control treatment for each type of natural stone submitted by Champlain Stone, Ltd., Warrensburg, NY are provided in the chart below. Recommendations are based on the treatment that proved most effective for providing graffiti repellency and the product that was most effective at removing the graffiti on all types submitted.

Sample Type	Graffiti Repellency	Graffiti Removal
All Submitted Samples	Sure Klean <sup>®</sup> Weather Seal Blok-Guard <sup>®</sup> & Graffiti Control II	Sure Klean <sup>®</sup> Fast Acting Stripper OR Defacer Eraser <sup>®</sup> Graffiti Wipe

Apply all products in accordance with the manufacturer's recommendation provided on container labels and product data sheets. Because the severity of graffiti varies from location to location, on-site testing should be conducted to determine the most appropriate graffiti control product and procedure for a particular project.





Page 20

## **Stain Repellency**

These trials were conducted to determine the effectiveness of treatments in preventing food, oil, and miscellaneous 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<sup>®</sup> 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.

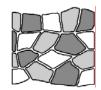
#### Staining Agents Evaluated

<u>Products</u>	<b>Temperature</b>
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<sup>®</sup> 2010 All Surface Cleaner diluted with 10 parts water, allowed to dry and absorb atmospheric moisture for 24 hours prior to treatment. The protective treatments were applied by brush in accordance with the current PROSOCO, Inc. Product Data Sheet instructions.





Page 21

## 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.



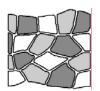


PROSOCO, Inc. Page 22

## **Test Results** – Surface Beading

	"American Granite"									
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	
SLX100	2	-	-	2	2	2	3	3	2	
STMP	3	-	-	3	3	3	3	3	3	
	"Corinthian Granite"									
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	
SLX100	1	-	-	2	2	2	3	3	2	
STMP	3	-	-	3	3	3	3	3	3	
			"Great Me	adow Lim	estone"					
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	5	
SLX100	2	-	-	3	3	3	3	3	3	
STMP	2	-	-	3	3	3	3	3	3	
			"South	Bay Quar	tzite"					
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	
SLX100	1	-	-	2	2	2	3	3	3	
STMP	3	-	-	3	3	3	3	3	3	
			"Sum	mit Grani	te"			•		
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	
SLX100	1	-	-	1	1	1	2	2	1	
STMP	2	-	-	3	3	3	3	3	3	
			"Van T	assel Gra	nite"					
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	
SLX100	1	-	-	2	2	2	3	3	3	
STMP	3	-	-	3	3	3	3	3	3	





Page 23

## **Test Results** - Stain Repellency

	"American Granite"								
	Untreate	ed Control							
	Coca- Cola	Ketchup	Mustard	Red Wine	Balsamic Vinegar	Soy Sauce	Olive Oil	Wesson Oil	Hot Coffee
24 hr	100%	95%	100%	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 0	Off <sup>®</sup> SLX1	00 Wate	r & Oil Re	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 0	Off <sup>®</sup> Ston	e, 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%	50%	50%	100%
4 hour	100%	100%	100%	100%	100%	100%	90%	90%	100%
1 hour	100%	100%	100%	100%	100%	100%	100%	100%	100%
10 min.	100%	100%	100%	100%	100%	100%	100%	100%	100%
				"Cori	inthian Gra	ınite"			
	Untreate	ed Contro							
	Coca- Cola	Ketchup	Mustard	D 1147					
04 !		rtotoriap	Mustard	Red Wine	Balsamic Vinegar	Soy Sauce	Olive Oil	Wesson Oil	Hot Coffee
24 hr	100%	80%	60%	100%			Olive Oil		Hot Coffee
24 hr 4 hour	100% 100%				Vinegar	Sauce		Oil	
		80%	60%	100%	Vinegar 100%	<b>Sauce</b> 100%	<1%	Oil <1%	100%
4 hour	100%	80% 100%	60% 100%	100% 100%	100% 100%	100% 100%	<1% <1%	Oil <1% <1%	100% 100%
4 hour 1 hour	100% 100% 100%	80% 100% 100% 100%	60% 100% 100% 100%	100% 100% 100%	Vinegar  100%  100%  100%  100%	100% 100% 100%	<1% <1% <1%	Oil <1% <1% <1% <1%	100% 100% 100%
4 hour 1 hour	100% 100% 100%	80% 100% 100% 100%	60% 100% 100% 100% <b>00 Wate</b>	100% 100% 100% 100% r & Oil Re	100% 100% 100% 100%	100% 100% 100%	<1% <1% <1%	Oil <1% <1% <1% <1%	100% 100% 100%
4 hour 1 hour	100% 100% 100% Stand C	80% 100% 100% 100% Off <sup>®</sup> SLX1	60% 100% 100% 100% <b>00 Wate</b>	100% 100% 100% 100% r & Oil Re	Vinegar 100% 100% 100% 100% 2pellent Balsamic	100% 100% 100% 100% Soy	<1% <1% <1% <1%	Oil <1% <1% <1% <1% <1% <1% <	100% 100% 100% 100%
4 hour 1 hour 10 min.	100% 100% 100% Stand C Coca- Cola	80% 100% 100% 100% 0ff <sup>®</sup> SLX1	60% 100% 100% 100% <b>00 Wate</b>	100% 100% 100% 100% r & Oil Re	100% 100% 100% 100% Pepellent Balsamic Vinegar	100% 100% 100% 100% Soy Sauce	<1% <1% <1% <1% Olive Oil	Oil <1% <1% <1% <1% <1% <1%    <1%  <1%    Wesson Oil	100% 100% 100% 100% Hot Coffee
4 hour 1 hour 10 min.	100% 100% 100% Stand C Coca- Cola 100%	80% 100% 100% 100% 0ff® SLX1 Ketchup	60% 100% 100% 100% <b>00 Wate</b> <b>Mustard</b>	100% 100% 100% 100% <b>r &amp; Oil Re</b> <b>Red Wine</b>	100% 100% 100% 100% Balsamic Vinegar 100%	Sauce 100% 100% 100% 100% Soy Sauce 100%	<1% <1% <1% <1% Olive Oil	Oil <1% <1% <1% <1% <1% <1% <11% <11% <10% <1% <10% <10	100% 100% 100% 100% Hot Coffee
4 hour 1 hour 10 min. 24 hr 4 hour	100% 100% 100% Stand C Coca- Cola 100% 100%	80% 100% 100% 100% 0ff <sup>®</sup> SLX1 Ketchup 100% 100%	60% 100% 100% 100% <b>00 Wate</b> Mustard 100% 100%	100% 100% 100% 100% <b>r &amp; Oil Re</b> <b>Red Wine</b> 100%	Vinegar  100%  100%  100%  2009  200	Sauce 100% 100% 100% 100%  Soy Sauce 100% 100%	<1% <1% <1% <1% Olive Oil 100% 100%	Oil <1% <1% <1% <1% <1%  100%	100% 100% 100% 100% Hot Coffee 100%
4 hour 1 hour 10 min. 24 hr 4 hour 1 hour	100% 100% 100% Stand (Coca-Cola 100% 100% 100%	80% 100% 100% 100% 100% Ketchup 100% 100% 100%	60% 100% 100% 00 Wate Mustard 100% 100% 100%	100% 100% 100% 100% <b>Red Wine</b> 100% 100% 100%	100% 100% 100% 100% Pepellent Balsamic Vinegar 100% 100% 100%	Sauce 100% 100% 100% 100%  Soy Sauce 100% 100% 100%	<1% <1% <1% <1% Olive Oil 100% 100%	Oil <1% <1% <1% <1% <1% <1% <1% <1% <1% <1%	100% 100% 100% 100% Hot Coffee 100% 100%
4 hour 1 hour 10 min. 24 hr 4 hour 1 hour	100% 100% 100% Stand (Coca-Cola 100% 100% 100%	80% 100% 100% 100% 100% Ketchup 100% 100% 100%	60% 100% 100% 00 Wate Mustard 100% 100% 100%	100% 100% 100% 100% <b>Red Wine</b> 100% 100% 100%	Vinegar 100% 100% 100% 2008 2008 2008 2008 2008 2008 2008 2	Sauce 100% 100% 100% 100%  Soy Sauce 100% 100% 100%	<1% <1% <1% <1% Olive Oil 100% 100%	Oil <1% <1% <1% <1% <1% <1% <1% <1% <1% <1%	100% 100% 100% 100% Hot Coffee 100% 100%
4 hour 1 hour 10 min. 24 hr 4 hour 1 hour	100% 100% 100% Stand C Coca- Cola 100% 100% 100% Stand C Coca-	80% 100% 100% 100%  Ketchup 100% 100% 100% 100%  Toff® Ston	60% 100% 100% 00 Wate Mustard 100% 100% 100% e, Tile &	100% 100% 100% 100% <b>Red Wine</b> 100% 100% 100%  100%  Masonry	Vinegar  100%  100%  100%  200	Sauce 100% 100% 100% 100%  Soy Sauce 100% 100% 100%  100% 5oy Sauce	<1% <1% <1% <1% 0live Oil 100% 100% 100%	Oil <1% <1% <1% <1% <10%  100%  100%  100%  Wesson  Wesson  Wesson	100% 100% 100% 100% 100% 100% 100%
4 hour 1 hour 10 min. 24 hr 4 hour 1 hour 10 min.	100% 100% 100% Stand C Coca- Cola 100% 100% 100% Coca- Cola Coca- Cola	80% 100% 100% 100%  The state of the state o	60% 100% 100% 00 Wate Mustard 100% 100% 100% 100% 400% Mustard	100% 100% 100% 100%  Red Wine 100% 100% 100% 100% Masonry Red Wine	Vinegar  100%  100%  100%  Pepellent  Balsamic Vinegar  100%  100%  100%  Protector  Balsamic Vinegar	Sauce 100% 100% 100% 100% Soy Sauce 100% 100% 100% Soy Sauce	<1% <1% <1% <1% <100  Olive Oil  100% 100% 100% Olive Oil	Oil <1% <1% <1% <1% <1% <1% <1% <1% <1% <1%	100% 100% 100% 100% Hot Coffee 100% 100% 100%
4 hour 1 hour 10 min. 24 hr 4 hour 1 hour 10 min.	100% 100% 100% Stand (Coca-Cola 100% 100% 100% Coca-Cola 100% Stand (Coca-Cola 100%	80% 100% 100% 100%  **Title	60% 100% 100% 00 Wate Mustard 100% 100% 100% 100% 100% e, Tile & Mustard 100%	100% 100% 100% 100% <b>Red Wine</b> 100% 100% 100%  Masonry  Red Wine 100%	Vinegar  100%  100%  100%  200	Sauce 100% 100% 100% 100%  Soy Sauce 100% 100%  100% 100% 100% 100% 100% 10	<1% <1% <1% <1% <100  Dive Oil  100%  100%  100%  100%  100%  Olive Oil  100%	Oil <1% <1% <1% <1% <1% <1% <1% <1% <1% <1%	100% 100% 100% 100% Hot Coffee 100% 100% 100%





DSOCO, Inc. Page 24

## **Test Results** - Stain Repellency

	"Great Meadow Limestone"								
	Untreate	ed Control							
	Coca- Cola	Ketchup	Mustard	Red Wine	Balsamic Vinegar	Soy Sauce	Olive Oil	Wesson Oil	Hot Coffee
24 hr	100%	80%	50%	80%	80%	80%	<1%	<1%	100%
4 hour	100%	100%	80%	80%	80%	80%	<1%	<1%	100%
1 hour	100%	100%	100%	95%	80%	80%	<1%	<1%	100%
10 min.	100%	100%	100%	100%	80%	80%	<1%	<1%	100%
	Stand 0	Off <sup>®</sup> SLX1	00 Wate	r & Oil Re	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%	90%	90%	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 0	Off <sup>®</sup> Ston	e, Tile &	Masonry	Protecto	(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%	90%	90%	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%
	"South Bay Quartzite"							.0070	10070
							10070	10070	10070
	Untreate	ed Control	l.				10070	10070	10070
	Untreate Coca- Cola	ed Control Ketchup	l.				Olive Oil	Wesson Oil	Hot Coffee
24 hr	Coca-			"Sout	h Bay Qua	rtzite"		Wesson	I
24 hr 4 hour	Coca- Cola	Ketchup	Mustard	"Sout	h Bay Qua Balsamic Vinegar	Soy Sauce	Olive Oil	Wesson Oil	Hot Coffee
	Coca- Cola	Ketchup	Mustard	"Sout	Balsamic Vinegar	Soy Sauce 80%	Olive Oil	Wesson Oil <1%	Hot Coffee
4 hour	Coca- Cola 100% 100%	10% 100%	Mustard 80% 80%	"Sout Red Wine 70% 95%	Balsamic Vinegar 80%	Soy Sauce 80%	Olive Oil <1% <1%	Wesson Oil <1% <1%	Hot Coffee 100% 100%
4 hour 1 hour	Coca- Cola  100%  100%  100%  100%	10% 100% 100% 100%	Mustard 80% 80% 100%	#Sout Red Wine 70% 95% 100%	Balsamic Vinegar 80% 80% 80%	Soy Sauce 80% 80%	Olive Oil <1% <1% <1%	Wesson Oil <1% <1% <1%	Hot Coffee 100% 100% 100%
4 hour 1 hour	Coca- Cola  100%  100%  100%  100%	10% 100% 100% 100%	Mustard 80% 80% 100%	#Sout Red Wine 70% 95% 100% 100%	Balsamic Vinegar 80% 80% 80% 80% epellent	Soy Sauce 80% 80%	Olive Oil <1% <1% <1%	Wesson Oil <1% <1% <1%	Hot Coffee 100% 100% 100%
4 hour 1 hour	Coca- Cola 100% 100% 100% 100% Stand C	10% 100% 100% 100% 100%	Mustard 80% 80% 100% 100% 00 Wate	#Sout Red Wine 70% 95% 100% 100%	Balsamic Vinegar  80% 80% 80% epellent Balsamic	Soy Sauce 80% 80% 80% Soy	Olive Oil <1% <1% <1% <1% <1%	Wesson Oil <1% <1% <1% <1% <1% Wesson	Hot Coffee 100% 100% 100% 100%
4 hour 1 hour 10 min.	Coca- Cola 100% 100% 100% 5tand Coca- Cola	10% 100% 100% 100% 5ff <sup>®</sup> SLX1	Mustard  80%  80%  100%  100%  00 Wate  Mustard	#Sout Red Wine 70% 95% 100% 100% r & Oil Re	Balsamic Vinegar 80% 80% 80% 80% epellent Balsamic Vinegar	Soy Sauce 80% 80% 80% 80% Soy Sauce	Olive Oil <1% <1% <1% <1% <1% Olive Oil	Wesson Oil <1% <1% <1% <1% Wesson Oil	Hot Coffee  100% 100% 100% 100% Hot Coffee
4 hour 1 hour 10 min.	Coca- Cola  100%  100%  100%  100%  Stand C  Coca- Cola  100%	10% 100% 100% 100%  100%  100%  100%	Mustard  80% 80% 100% 100%  00 Wate  Mustard 100%	#Sout  Red Wine  70%  95%  100%  100%  r & Oil Red  Red Wine  100%	Balsamic Vinegar  80% 80% 80% epellent Balsamic Vinegar  100%	Soy Sauce  80% 80% 80% 80% Soy Sauce 100%	Olive Oil  <1% <1% <1% <1% <1%  100%	Wesson Oil <1% <1% <1% <1% <1%  100%	Hot Coffee  100% 100% 100% Hot Coffee 100%
4 hour 1 hour 10 min. 24 hr 4 hour	Coca- Cola 100% 100% 100% Stand C Coca- Cola 100%	10% 100% 100% 100% 0ff <sup>®</sup> SLX1 Ketchup 100% 100%	Mustard  80% 80% 100% 100%  00 Wate  Mustard 100% 100%	Red Wine 70% 95% 100% 100% r & Oil Red Red Wine 100% 100%	Balsamic Vinegar  80% 80% 80% 80% epellent Balsamic Vinegar 100%	Soy Sauce 80% 80% 80% 80% Soy Sauce 100%	Olive Oil <1% <1% <1% <1% <100 <100 <100 <100 <10	Wesson Oil <1% <1% <1% <1% <1%  100%	Hot Coffee  100% 100% 100%  Hot Coffee  100% 100%
4 hour 1 hour 10 min. 24 hr 4 hour 1 hour	Coca- Cola  100%  100%  100%  Stand C  Coca- Cola  100%  100%  100%  100%	10% 100% 100% 100%  Toff® SLX1 Ketchup 100% 100% 100% 100%	Mustard  80% 80% 100% 100%  00 Wate  Mustard 100% 100% 100% 100%	#Sout Red Wine 70% 95% 100% 100% r & Oil Re Red Wine 100% 100% 100%	Balsamic Vinegar  80% 80% 80% 80% Pepellent Balsamic Vinegar 100% 100%	Soy Sauce 80% 80% 80% 80% 80% 100% 100% 100%	Olive Oil <1% <1% <1% <1% <1% <100  100%  100%	Wesson Oil <1% <1% <1% <1% <1% <1% <1% <1% <1% <1%	Hot Coffee  100% 100% 100% 100%  Hot Coffee  100% 100% 100%
4 hour 1 hour 10 min. 24 hr 4 hour 1 hour	Coca- Cola  100%  100%  100%  Stand C  Coca- Cola  100%  100%  100%  100%	10% 100% 100% 100%  Toff® SLX1 Ketchup 100% 100% 100% 100%	Mustard  80% 80% 100% 100%  00 Wate  Mustard 100% 100% 100% 100%	#Sout Red Wine 70% 95% 100% 100% r & Oil Re Red Wine 100% 100% 100%	Balsamic Vinegar  80% 80% 80% 80% epellent Balsamic Vinegar 100% 100% 100%	Soy Sauce 80% 80% 80% 80% 80% 100% 100% 100%	Olive Oil <1% <1% <1% <1% <1% <100  100%  100%	Wesson Oil <1% <1% <1% <1% <1% <1% <1% <1% <1% <1%	Hot Coffee  100% 100% 100% 100%  Hot Coffee  100% 100% 100%
4 hour 1 hour 10 min. 24 hr 4 hour 1 hour	Coca- Cola  100%  100%  100%  Stand C  Coca- Cola  100%  100%  100%  100%  Coca- Cola  Coca- Cola  Coca- Cola  Coca- Cola  Coca- Cola  Coca- Cola  Coca- Cola	10% 100% 100% 100%  Toff® SLX1 Ketchup 100% 100% 100% 100% Toff® Stone	Mustard  80% 80% 100% 100%  00 Wate  Mustard 100% 100% 100% e, Tile &	#Sout  Red Wine  70%  95%  100%  100%  Red Wine  100%  100%  100%  100%  Masonry	Balsamic Vinegar  80% 80% 80% 80% epellent Balsamic Vinegar 100% 100% 100% Protector Balsamic	Soy Sauce 80% 80% 80% 80% 80% 100% 100% 100% 5oy Sauce	Olive Oil <1% <1% <1% <1% <100  100%  100%  100%  100%	Wesson Oil <1% <1% <1% <1% <1%  100%  100%  100%  Wesson Wesson  Wesson	Hot Coffee  100% 100% 100% 100%  Hot Coffee  100% 100% 100%
4 hour 1 hour 10 min. 24 hr 4 hour 1 hour 10 min.	Coca- Cola  100%  100%  100%  Stand C  Coca- Cola  100%  100%  100%  Coca- Cola  Coca- Cola  Coca- Cola	10% 100% 100% 100%  Toff® SLX1 Ketchup 100% 100% 100% Toff® Stone Ketchup	Mustard  80% 80% 100% 100%  00 Wate  Mustard 100% 100% 100% 100% e, Tile &  Mustard	#Sout Red Wine 70% 95% 100% 100% r & Oil Re Red Wine 100% 100% 100% 100% Masonry Red Wine	Balsamic Vinegar  80% 80% 80% 80% epellent Balsamic Vinegar 100% 100% 100% Protector Balsamic Vinegar	Soy Sauce 80% 80% 80% 80% 80% 100% 100% 100% 100%	Olive Oil <1% <1% <1% <1% <100 <100  Olive Oil  100% 100% 100% Olive Oil	Wesson Oil <1% <1% <1% <1% <1% <1% <1% <1% <1% <1%	Hot Coffee  100% 100% 100% 100%  Hot Coffee  100% 100% 100% Hot Coffee
4 hour 1 hour 10 min. 24 hr 4 hour 1 hour 10 min.	Coca- Cola  100%  100%  100%  Stand C  Coca- Cola  100%  100%  Coca- Cola  100%  Coca- Cola  100%  100%	Ketchup  10% 100% 100%  5ff® SLX1 Ketchup 100% 100% 100% 100% The Stone Ketchup 100%	Mustard  80% 80% 100% 100%  00 Wate  Mustard 100% 100% 100% 400% e, Tile & Mustard 100%	#Sout  Red Wine  70% 95% 100% 100%  Red Wine 100% 100% 100% Masonry  Red Wine 90%	Balsamic Vinegar  80% 80% 80% 80% epellent Balsamic Vinegar 100% 100% 100% Protector Balsamic Vinegar 100%	Soy Sauce 80% 80% 80% 80% 80% 100% 100% 100% 100%	Olive Oil <1% <1% <1% <1% <1% <100  Olive Oil  100%  100%  Olive Oil  100%  Olive Oil  100%	Wesson Oil <1% <1% <1% <1% <1% <1% <1% <1% <1% <1%	Hot Coffee  100% 100% 100% 100%  Hot Coffee 100% 100% 100% 100%





Page 25

## <u>Test Results</u> - Stain Repellency

				"Su	ımmit Grar	nite"			
	Untreate	ed Control							
	Coca- Cola	Ketchup	Mustard	Red Wine	Balsamic Vinegar	Soy Sauce	Olive Oil	Wesson Oil	Hot Coffee
24 hr	100%	100%	100%	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 C	Off <sup>®</sup> SLX1	00 Wate	r & Oil Re	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 C	Off <sup>®</sup> Ston	e, Tile &	Masonry	Protecto	r (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%
				"Van	Tassel Gr	anite"			
	Untreate	ed Control							
	Coca- Cola	Ketchup	Mustard	Red Wine	Balsamic Vinegar	Soy Sauce	Olive Oil	Wesson Oil	Hot Coffee
24 hr	100%	50%	100%	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 C	Off <sup>®</sup> SLX1	00 Wate	r & Oil Re	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 C	Off <sup>®</sup> Ston	e, Tile &	Masonry	Protecto	r (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%





Page 26

## **Photographs** - Stain Repellency

## "South Bay Quartzite"; Stains Applied



Stand Off® SLX100 Water & Oil Repellent

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

**Untreated Control** 

## "South Bay Quartzite"; Stains Removed



Water & Oil Repellent

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





Page 27

## **Conclusions** – Stain Repellency

Based upon laboratory evaluations, both Stand Off<sup>®</sup> SLX100 Water & Oil Repellent and Stand Off<sup>®</sup> Stone, Tile & Masonry Protector (STMP) improved the surface beading of the samples, although Stand Off<sup>®</sup> SLX100 Water & Oil Repellent performed slightly better. In addition, both treatments were effective in repelling the staining agents from the samples.

## Recommendations - Stain Repellency

Recommendations for stain resistance treatment for the natural stone submitted by Champlain Stone Ltd., Warrensburg, NY 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 <sup>®</sup> SLX100 Water & Oil Repellent OR Stand Off <sup>®</sup> Stone, Tile & Masonry Protector (STMP)	Enviro Klean <sup>®</sup> 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.





Page 28

## **Color Enhancement**

### **Description of Products Evaluated - Color 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 Enhancement

Samples were cleaned with Enviro Klean<sup>®</sup> 2010 All Surface Cleaner diluted with 10 parts water and allowed to dry for 24 hours prior to treatment.

### **Test Method – Color Enhancement**

Stand Off<sup>®</sup> Gloss 'N Guard WB was applied by brush in accordance with the current PROSOCO, Inc. Product Data Sheet instructions.





Page 29

## **Test Results** – Color Enhancement

Sample	Stand Off <sup>®</sup> Gloss 'N Guard WB
"American Granite"	2
"Corinthian Granite"	2
"Great Meadow Limestone"	1
"South Bay Quartzite"	1
"Summit Granite"	2
"Van Tassel Granite"	2

Scale: 0- No enhancement; dull

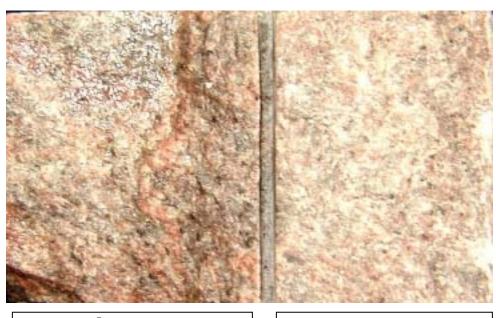
1- Slight Enhancement

2- Moderate Enhancement

3- Significant Enhancement

## **Photographs** – Color Enhancement

## "Van Tassel Granite"; Color Enhancement Products Applied



Stand Off® Gloss 'N Guard WB

**Untreated Control** 





Page 30

### **Recommendations – Color Enhancement**

Recommendations for color enhancement for the natural stone submitted by Champlain Stone, Ltd., Warrensburg, NY 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	Stand Off <sup>®</sup> 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



## Laboratory Report

## **Pallet Tag Program Evaluation**

# Champlain Stone Ltd. Warrensburg, NY

Project No. 0506-19 PTP

Prepared For:

Champlain Stone Ltd. P.O. Box 650 Warrensburg, NY 12885

Prepared By:



PROSOCO, Inc. October 2005