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# Pallet Tag Program Laboratory Report

## Semco Outdoor

### Belton, MO



*Project No. 2102-05 PTP*

***Prepared For:***



***Prepared By:***

*J. Lucas Comadoll*

J. Lucas Comadoll  
Project Testing Technician  
AMT Laboratories

June 2021



# Laboratory Report

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**FOR:** Sam Uselton, Semco Outdoor  
**cc:** Mike Dickey  
Clay Witt, PROSOCO, Inc.  
Jake Boyer, PROSOCO, Inc.  
Al Morris, PROSOCO, Inc.

**SUBJECT:** Semco Outdoor  
Belton, MO  
Pallet Tag Evaluation

**DATE:** June 16, 2021  
**PROJECT:** 2102-05 PTP

**SAMPLES SUBMITTED:** Eight types of natural stone

Type	Name	Color	Size
Travertine	"Country Classic"	Buff	16" x 16" x 1 ½"
Travertine	"Ivory"	Buff	16" x 16" x 1 ½"
Travertine	"Leonardo"	Buff	16" x 16" x 1 ½"
Travertine	"Noce"	Brown	16" x 16" x 1 ½"
Travertine	"Pacific Silver"	Brown and Gray	16" x 16" x 1 ½"
Limestone	"Dove Gray"	Gray	24" x 3 ½" x 2 ¼"
Dolomitic Limestone	"Mountain Ridge"	White	24" x 3 ½" x 2 ¼"
Sandstone	"Black Hills"	Brown	24" x 3 ½" x 2 ¼"

**SUBMITTED BY:** Sam Uselton  
Semco Outdoor  
2515 Semco Drive  
Belton, MO 64012

**PURPOSE OF TEST:**

- To determine the most appropriate PROSOCO, Inc. new construction cleaner(s) for the submitted samples.
- To determine the suitability of Enviro Klean® Klean 'N Release Cleaner as a maintenance cleaner for the submitted samples.
- To evaluate the color and sheen enhancement characteristics of specific PROSOCO, Inc. products on the submitted samples.
- To determine the most appropriate PROSOCO, Inc. water repellent for the submitted samples.
- To determine the effectiveness of appropriate PROSOCO, Inc. products in preventing food and oil staining on the submitted samples.

**PRODUCTS EVALUATED:**

<b>New Construction Cleaning</b>	<b>Dilution:</b>
Sure Klean® Vana Trol®	1:6; 1:8
Enviro Klean® Safety Klean	1:2, 1:3

<b>Maintenance Cleaning</b>	<b>Dilution:</b>
Enviro Klean® Klean 'N Release Cleaner	1:10

<b>Color and Sheen Enhancement/Water Repellency (Where Applicable)</b>	<b>Dilution:</b>
Sure Klean® Weather Seal Limestone & Marble Protector	N/A*
PROSOCO® SLX100® Water & Oil Repellent	N/A*
Sure Klean® Weather Seal Stone Tile & Masonry Protector (STMP)	N/A*
Sure Klean® Weather Seal Paver Enhancer	N/A*
Sure Klean® Weather Seal Natural Stone Treatment	N/A*
Sure Klean® Weather Seal Natural Stone Treatment VOC	N/A*

<b>Stain Resistance (Where Applicable)</b>	<b>Dilution:</b>
Sure Klean® Weather Seal Limestone & Marble Protector	N/A*
PROSOCO® SLX100® Water & Oil Repellent	N/A*
Sure Klean® Weather Seal Stone Tile & Masonry Protector (STMP)	N/A*

**\*NOTE: Per the product data sheet instructions, only use the product in concentrate. Do not dilute.**

## TEST METHODS: New Construction Cleaning

Sure Klean® Vana Trol® and Enviro Klean® Safety Klean were tested at various dilutions to determine the optimum cleaner for removal of laboratory applied Type N mortar from the submitted samples while limiting surface alterations. The surface alteration evaluation was visually determine 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 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 uncleaned surface to the surface finish cleaned with selected product(s) at given dilutions.

**Substrate Deterioration** is the visual examination of the sample comparing the uncleaned surface 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 uncleaned surface to the 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.

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

- 0 – **No change** compared to uncleaned surface
- 1 – **Slight change** compared to uncleaned surface
- 2 – **Moderate change** compared to uncleaned surface
- 3 – **Significant change** compared to uncleaned surface

## Cleaning Procedure:

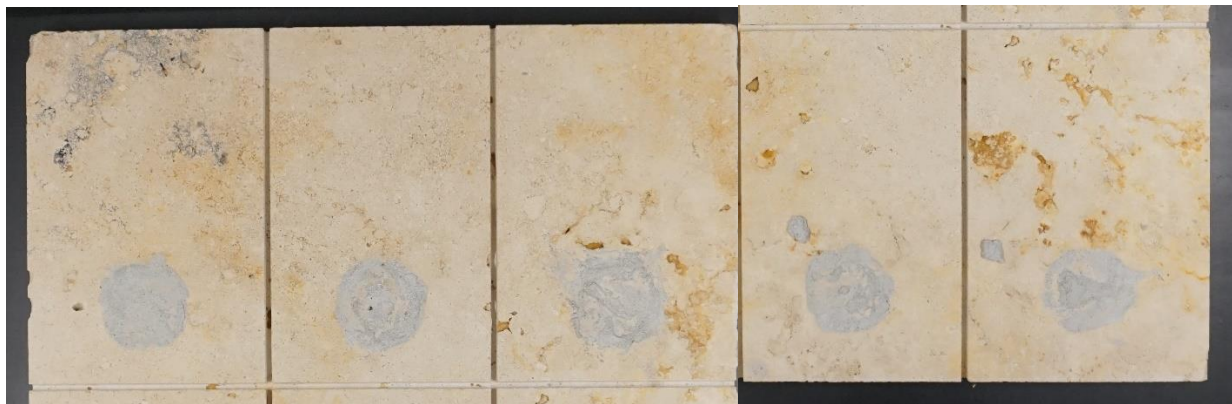
1. Pre-wet the surface and apply diluted cleaning solution according to PROSOCO, Inc. Product Data Sheet.
2. Allow for an appropriate dwell time and periodically agitate:
  - Vana Trol®.....5 minutes
  - Safety Klean.....5 minutes
3. Reapply cleaning solution; do not let cleaner dry into natural stone.
4. Rinse thoroughly with plenty of fresh water.\*
5. Allow the sample to dry for at least 18 hours and visually examine.
6. Compare the uncleaned surfaces to the cleaned surfaces for the best match.

**\*Rinsing Equipment** – Masonry washing equipment generating approximately 700-800 psi with a water flow rate of 8 gallons per minute delivered through a 40 degree fan spray tip was used for rinsing.

## TEST RESULTS AND PHOTOGRAPHS: New Construction Cleaning

Name: "Country Classic" Travertine						
Product	Dilution	7 Day Mortar Removal	Surface Finish Removal	Substrate Deterioration	Color Change	Staining
Vana Trol®	1:6	100%	0	0	0	0
Vana Trol®	1:8	100%	0	0	0	0
Safety Klean	1:2	100%	0	0	0	0
Safety Klean	1:3	100%	0	0	0	0

### "Country Classic" Travertine Before Cleaning



### "Country Classic" Travertine After Cleaning





# TEST RESULTS AND PHOTOGRAPHS: New Construction Cleaning (cont.)

Name: "Ivory" Travertine						
Product	Dilution	7 Day Mortar Removal	Surface Finish Removal	Substrate Deterioration	Color Change	Staining
Vana Trol®	1:6	100%	0	0	0	0
Vana Trol®	1:8	100%	0	0	0	0
Safety Klean	1:2	100%	0	0	0	0
Safety Klean	1:3	100%	0	0	0	0

## "Ivory" Travertine Before Cleaning



## "Ivory" Travertine After Cleaning



## TEST RESULTS AND PHOTOGRAPHS: New Construction Cleaning (cont.)

Name: "Leonardo" Travertine						
Product	Dilution	7 Day Mortar Removal	Surface Finish Removal	Substrate Deterioration	Color Change	Staining
Vana Trol®	1:6	100%	0	0	0	0
Vana Trol®	1:8	100%	0	0	0	0
Safety Klean	1:2	100%	0	0	0	0
Safety Klean	1:3	100%	0	0	0	0

**"Leonardo" Travertine Before Cleaning**



**"Leonardo" Travertine After Cleaning**





# TEST RESULTS AND PHOTOGRAPHS: New Construction Cleaning (cont.)

Name: "Noce" Travertine						
Product	Dilution	7 Day Mortar Removal	Surface Finish Removal	Substrate Deterioration	Color Change	Staining
Vana Trol®	1:6	100%	1	0	1	0
Vana Trol®	1:8	100%	1	0	1	0
Safety Klean	1:2	100%	1	0	1	0
Safety Klean	1:3	100%	1	0	1	0

## "Noce" Travertine Before Cleaning



## "Noce" Travertine After Cleaning



**TEST RESULTS AND PHOTOGRAPHS: New Construction Cleaning (cont.)**

Name: "Pacific Silver" Travertine						
Product	Dilution	7 Day Mortar Removal	Surface Finish Removal	Substrate Deterioration	Color Change	Staining
Vana Trol®	1:6	100%	0	0	0	0
Vana Trol®	1:8	100%	0	0	0	0
Safety Klean	1:2	100%	0	0	0	0
Safety Klean	1:3	100%	0	0	0	0

**"Pacific Silver" Travertine Before Cleaning**



**"Pacific Silver" Travertine After Cleaning**



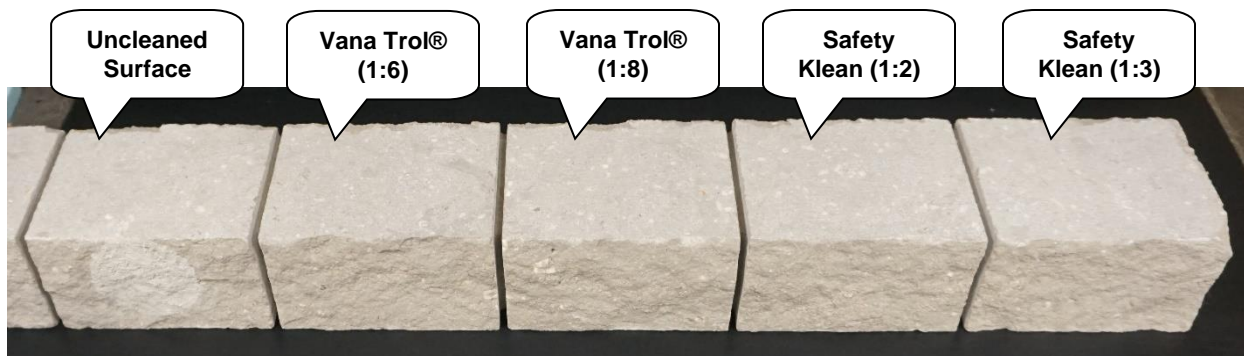
### TEST RESULTS AND PHOTOGRAPHS: New Construction Cleaning (cont.)

Name: "Dove Gray" Limestone						
Product	Dilution	7 Day Mortar Removal	Surface Finish Removal	Substrate Deterioration	Color Change	Staining
Vana Trol®	1:6	100%	1	0	1	0
Vana Trol®	1:8	100%	1	0	1	0
Safety Klean	1:2	100%	1	0	1	0
Safety Klean	1:3	100%	1	0	1	0

**"Dove Gray" Limestone Before Cleaning**



**"Dove Gray" Limestone After Cleaning**





### TEST RESULTS AND PHOTOGRAPHS: New Construction Cleaning (cont.)

Name: "Mountain Ridge" Dolomitic Limestone						
Product	Dilution	7 Day Mortar Removal	Surface Finish Removal	Substrate Deterioration	Color Change	Staining
Vana Trol®	1:6	100%	1	0	1	0
Vana Trol®	1:8	100%	1	0	1	0
Safety Klean	1:2	100%	1	0	1	0
Safety Klean	1:3	100%	1	0	1	0

**"Mountain Ridge" Dolomitic Limestone Before Cleaning**



**"Mountain Ridge" Dolomitic Limestone After Cleaning**



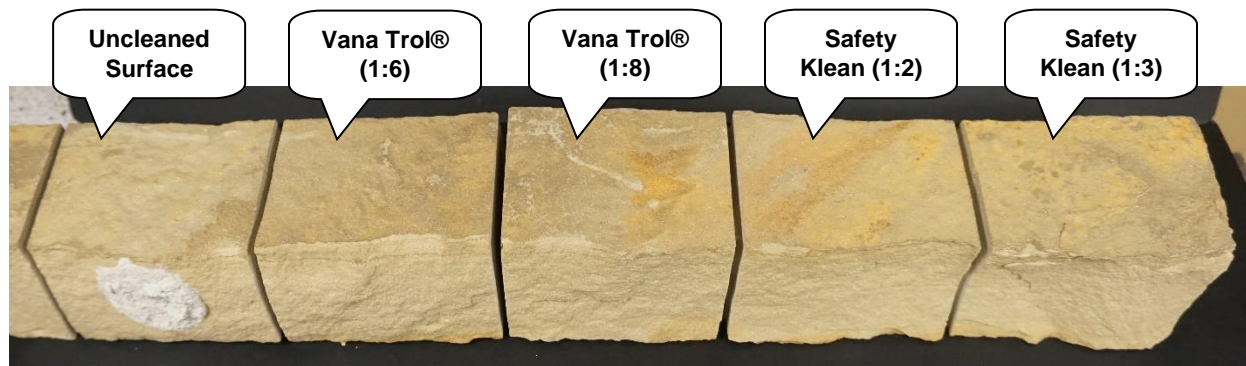
### TEST RESULTS AND PHOTOGRAPHS: New Construction Cleaning (cont.)

Name: "Black Hills" Sandstone						
Product	Dilution	7 Day Mortar Removal	Surface Finish Removal	Substrate Deterioration	Color Change	Staining
Vana Trol®	1:6	100%	0	0	0	0
Vana Trol®	1:8	100%	0	0	0	0
Safety Klean	1:2	100%	0	0	0	0
Safety Klean	1:3	100%	0	0	0	0

**"Black Hills" Sandstone Before Cleaning**



**"Black Hills" Sandstone After Cleaning**





## CONCLUSIONS: New Construction Cleaning

In the cleaning tests conducted, Sure Klean® Vana Trol® and Enviro Klean® Safety Klean caused slight to no change to the appearance of the submitted natural stone.

When choosing the most appropriate product for the desired result:

- For new masonry surfaces that are subject to vanadium, manganese, and other metallic stains – Test Sure Klean® Vana Trol®
- For an effective, safe alternative to acidic cleaning compounds – Test Enviro Klean® Safety Klean

It is recommended that the selected cleaners always be used in the lowest possible concentration. Apply all products in accordance with the manufacturer's recommendations provided on container labels and product data sheets. On-site testing should be conducted to determine the most appropriate cleaning product and procedures for a particular project. See product literature for additional application and product information.

## RECOMMENDATIONS: New Construction Cleaning

Recommendations for cleaning for each type of natural stone submitted by Semco Outdoor, Belton, MO are provided in the chart below. Recommendations are based on the cleaner and dilution that provided the best match to the uncleaned surface.

Sample	New Construction Cleaning
"Country Classic" Travertine	Sure Klean® Vana Trol® (1:6) or (1:8) OR Enviro Klean® Safety Klean (1:2) or (1:3)
"Ivory" Travertine	
"Leonardo" Travertine	
"Noce" Travertine	
"Pacific Silver" Travertine	
"Dove Gray" Limestone	
"Mountain Ridge" Dolomitic Limestone	
"Black Hills" Sandstone	

The most appropriate cleaner and dilution should be determined on the specific job-site, and will be dependent primarily on the nature and severity of soiling present at that location.

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

## TEST METHODS: Maintenance Cleaning

Enviro Klean® Klean 'N Release Cleaner was evaluated to determine if it leaves the external surface looking like the uncleaned surface of the natural stone.

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

**Substrate Deterioration** is the visual examination of the sample comparing the uncleaned surface 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 uncleaned surface to the 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.

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

- 0 – **No change** compared to uncleaned surface
- 1 – **Slight change** compared to uncleaned surface
- 2 – **Moderate change** compared to uncleaned surface
- 3 – **Significant change** compared to uncleaned surface

### Cleaning Procedure:

1. Pre-wet the surface and apply diluted cleaning solution according to PROSOCO, Inc. Product Data Sheet.
2. Allow for an appropriate dwell time:  
Klean 'N Release Cleaner..... 10 minutes
3. Reapply cleaning solution; do not let cleaner dry into natural stone.
4. Rinse thoroughly with plenty of fresh water.\*
5. Allow the sample to dry for at least 18 hours and visually examine.
6. Compare the uncleaned surfaces to the cleaned surfaces for the best match.

**\*Rinsing Equipment** – Masonry washing equipment generating approximately 700-800 psi with a water flow rate of 8 gallons per minute delivered through a 40 degree fan spray tip was used for rinsing.

### TEST RESULTS AND PHOTOGRAPHS: Maintenance Cleaning

Name: "Country Classic" Travertine					
Product	Dilution	Surface Finish Removal	Substrate Deterioration	Color Change	Staining
Klean 'N Release Cleaner	1:10	0	0	0	0

#### "Country Classic" Travertine After Cleaning



Name: "Ivory" Travertine					
Product	Dilution	Surface Finish Removal	Substrate Deterioration	Color Change	Staining
Klean 'N Release Cleaner	1:10	0	0	0	0

#### "Ivory" Travertine After Cleaning



**TEST RESULTS AND PHOTOGRAPHS: Maintenance Cleaning (cont.)**

Name: "Leonardo" Travertine					
Product	Dilution	Surface Finish Removal	Substrate Deterioration	Color Change	Staining
Klean 'N Release Cleaner	1:10	0	0	0	0

**"Leonardo" Travertine After Cleaning**



Name: "Noce" Travertine					
Product	Dilution	Surface Finish Removal	Substrate Deterioration	Color Change	Staining
Klean 'N Release Cleaner	1:10	0	0	0	0

**"Noce" Travertine After Cleaning**





**TEST RESULTS AND PHOTOGRAPHS: Maintenance Cleaning (cont.)**

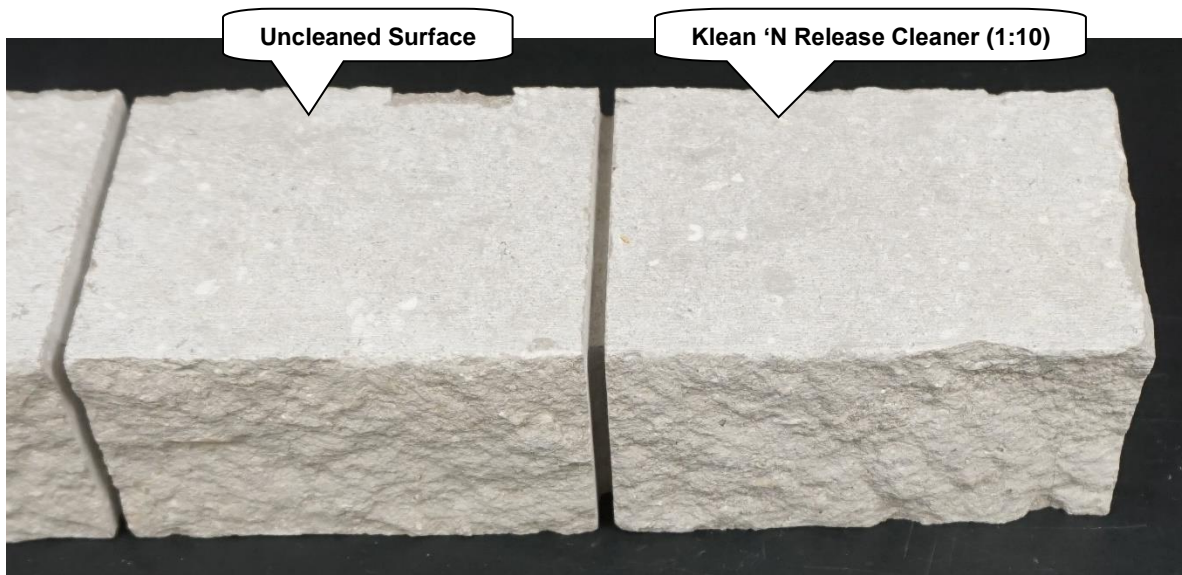
Name: "Pacific Silver" Travertine					
Product	Dilution	Surface Finish Removal	Substrate Deterioration	Color Change	Staining
Klean 'N Release Cleaner	1:10	0	0	0	0

**"Pacific Silver" Travertine After Cleaning**



Name: "Dove Gray" Limestone					
Product	Dilution	Surface Finish Removal	Substrate Deterioration	Color Change	Staining
Klean 'N Release Cleaner	1:10	0	0	0	0

**"Dove Gray" Limestone After Cleaning**

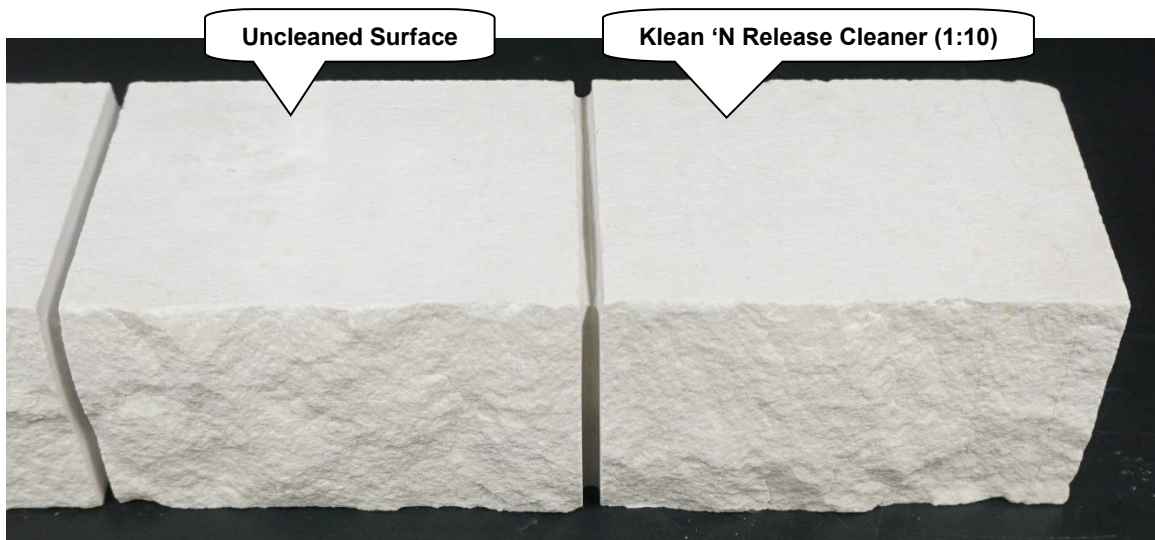




**TEST RESULTS AND PHOTOGRAPHS: Maintenance Cleaning (cont.)**

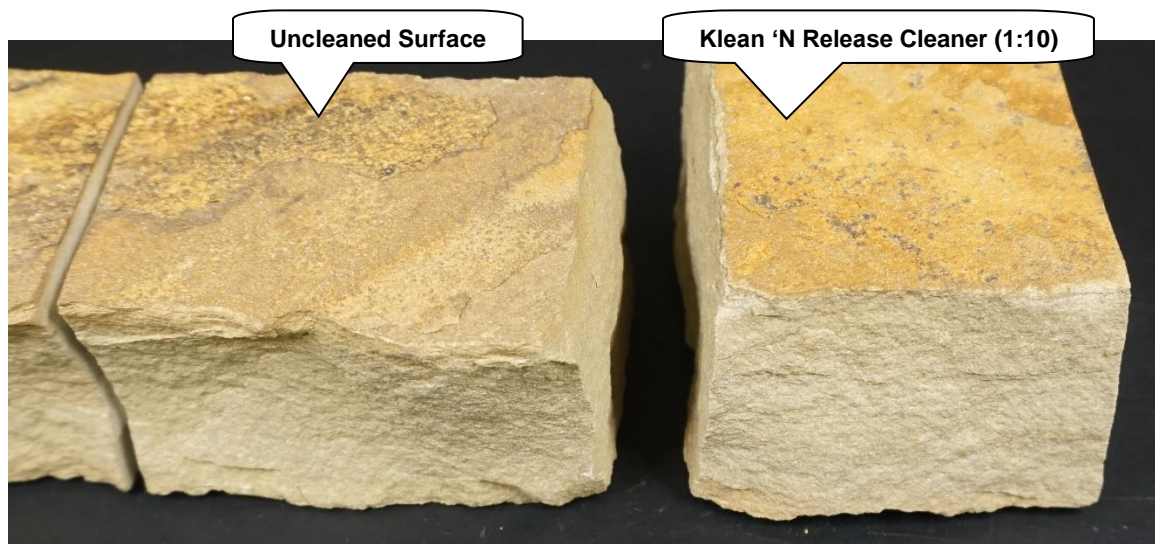
Name: "Mountain Ridge" Dolomitic Limestone					
Product	Dilution	Surface Finish Removal	Substrate Deterioration	Color Change	Staining
Klean 'N Release Cleaner	1:10	0	0	0	0

**"Mountain Ridge" Dolomitic Limestone After Cleaning**



Name: "Black Hills" Sandstone					
Product	Dilution	Surface Finish Removal	Substrate Deterioration	Color Change	Staining
Klean 'N Release Cleaner	1:10	0	0	0	0

**"Black Hills" Sandstone After Cleaning**



### CONCLUSIONS: Maintenance Cleaning

Enviro Klean® Klean 'N Release Cleaner did not cause any change in appearance to any of the submitted samples.

It is recommended that the selected cleaners always be used in the lowest possible concentration. Apply all products in accordance with the manufacturer's recommendations provided on container labels and product data sheets. On-site testing should be conducted to determine the most appropriate cleaning product and procedures for a particular project. See product literature for additional application and product information.

### RECOMMENDATIONS: Maintenance Cleaning

Recommendations for cleaning for each type of natural stone submitted by Semco Outdoor, Belton, MO are provided in the chart below. Recommendations are based on the cleaner and dilution that provided the best match to the uncleaned surface.

Sample	Maintenance Cleaning
"Country Classic" Travertine	Enviro Klean® Klean 'N Release Cleaner (1:10)
"Ivory" Travertine	
"Leonardo" Travertine	
"Noce" Travertine	
"Pacific Silver" Travertine	
"Dove Gray" Limestone	
"Mountain Ridge" Dolomitic Limestone	
"Black Hills" Sandstone	

The most appropriate cleaner and dilution should be determined on the specific job-site, and will be dependent primarily on the nature and severity of soiling present at that location.

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

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### **SAMPLE PREPARATION: Treatment Application**

Prior to treatment application, the submitted natural stone samples were cleaned with Sure Klean® Vana Trol® diluted with eight parts water in accordance with the current PROSOCO, Inc. Product Data Sheet instructions. After the samples had dried for at least 24 hours, the treatments were applied in accordance with the current PROSOCO, Inc. Product Data Sheet instructions and allowed to cure for at least 72 hours prior to testing.

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### **TEST METHODS: Color and Sheen Enhancement**

After 72 hours, a visual evaluation was made comparing the untreated control surface to the treated surface to determine the effectiveness of the evaluated products in providing color and/or sheen enhancement to the submitted natural stone samples.

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

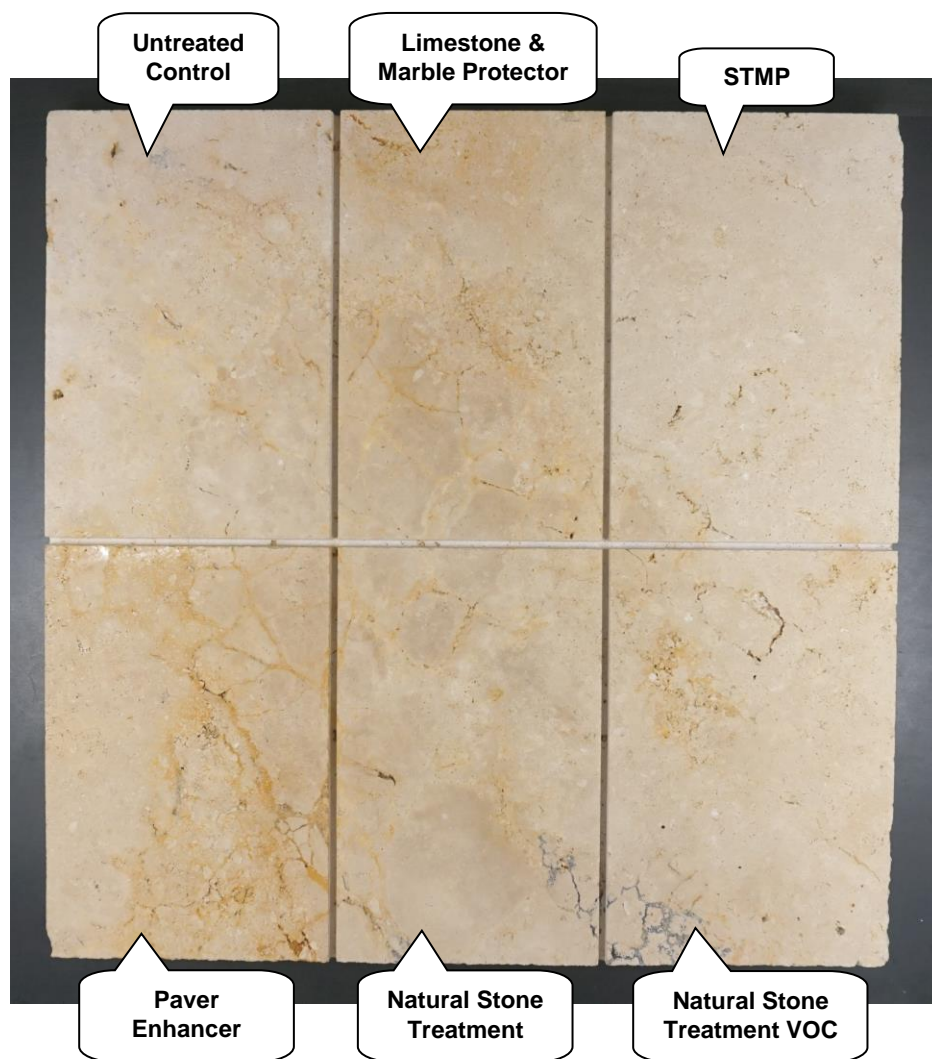
- 0 – **No enhancement** compared to untreated surface
- 1 – **Slight enhancement** compared to untreated surface
- 2 – **Moderate enhancement** compared to untreated surface
- 3 – **Significant enhancement** compared to untreated surface

**NOTE:** Due to the surface irregularities and varying nature of the natural stone, the substrate's color and sheen enhancement may vary from one area of the sample to another, as well as from sample to sample.

### TEST RESULTS AND PHOTOGRAPHS: Color and Sheen Enhancement

"Country Classic" Travertine	Color Enhancement	Sheen Enhancement
Sure Klean® Weather Seal Limestone & Marble Protector	1	0
Sure Klean® Weather Seal Stone Tile & Masonry Protector (STMP)	0	0
Sure Klean® Weather Seal Paver Enhancer	2	0
Sure Klean® Weather Seal Natural Stone Treatment	0	0
Sure Klean® Weather Seal Natural Stone Treatment VOC	0	0

### "Country Classic" Travertine After Application



**TEST RESULTS AND PHOTOGRAPHS: Color and Sheen Enhancement (cont.)**

<b>"Ivory" Travertine</b>	<b>Color Enhancement</b>	<b>Sheen Enhancement</b>
Sure Klean® Weather Seal Limestone & Marble Protector	1	0
Sure Klean® Weather Seal Stone Tile & Masonry Protector (STMP)	0	0
Sure Klean® Weather Seal Paver Enhancer	1	0
Sure Klean® Weather Seal Natural Stone Treatment	0	0
Sure Klean® Weather Seal Natural Stone Treatment VOC	0	0

**"Ivory" Travertine After Application**





**TEST RESULTS AND PHOTOGRAPHS: Color and Sheen Enhancement (cont.)**

<b>"Leonardo" Travertine</b>	<b>Color Enhancement</b>	<b>Sheen Enhancement</b>
Sure Klean® Weather Seal Limestone & Marble Protector	0	0
Sure Klean® Weather Seal Stone Tile & Masonry Protector (STMP)	0	0
Sure Klean® Weather Seal Paver Enhancer	1	1
Sure Klean® Weather Seal Natural Stone Treatment	0	0
Sure Klean® Weather Seal Natural Stone Treatment VOC	0	0

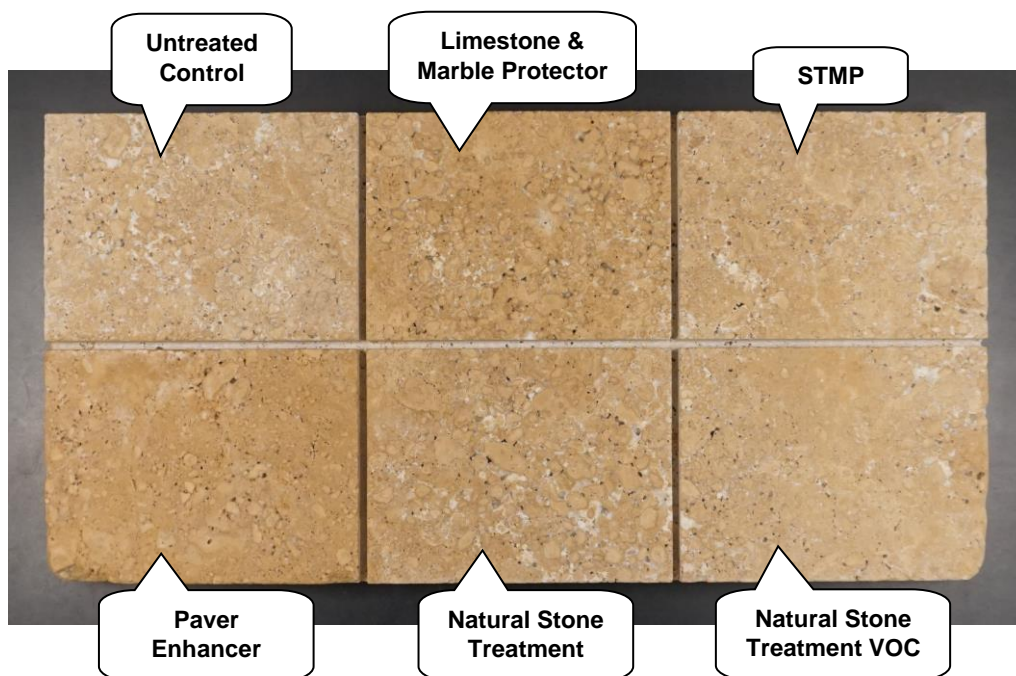
**"Leonardo" Travertine After Application**



**TEST RESULTS AND PHOTOGRAPHS: Color and Sheen Enhancement (cont.)**

<b>"Noce" Travertine</b>	<b>Color Enhancement</b>	<b>Sheen Enhancement</b>
Sure Klean® Weather Seal Limestone & Marble Protector	1	0
Sure Klean® Weather Seal Stone Tile & Masonry Protector (STMP)	0	0
Sure Klean® Weather Seal Paver Enhancer	2	1
Sure Klean® Weather Seal Natural Stone Treatment	0	0
Sure Klean® Weather Seal Natural Stone Treatment VOC	0	0

**"Noce" Travertine After Application**



**TEST RESULTS AND PHOTOGRAPHS: Color and Sheen Enhancement (cont.)**

<b>"Pacific Silver" Travertine</b>	<b>Color Enhancement</b>	<b>Sheen Enhancement</b>
Sure Klean® Weather Seal Limestone & Marble Protector	1	0
Sure Klean® Weather Seal Stone Tile & Masonry Protector (STMP)	0	0
Sure Klean® Weather Seal Paver Enhancer	2	0
Sure Klean® Weather Seal Natural Stone Treatment	0	0
Sure Klean® Weather Seal Natural Stone Treatment VOC	0	0

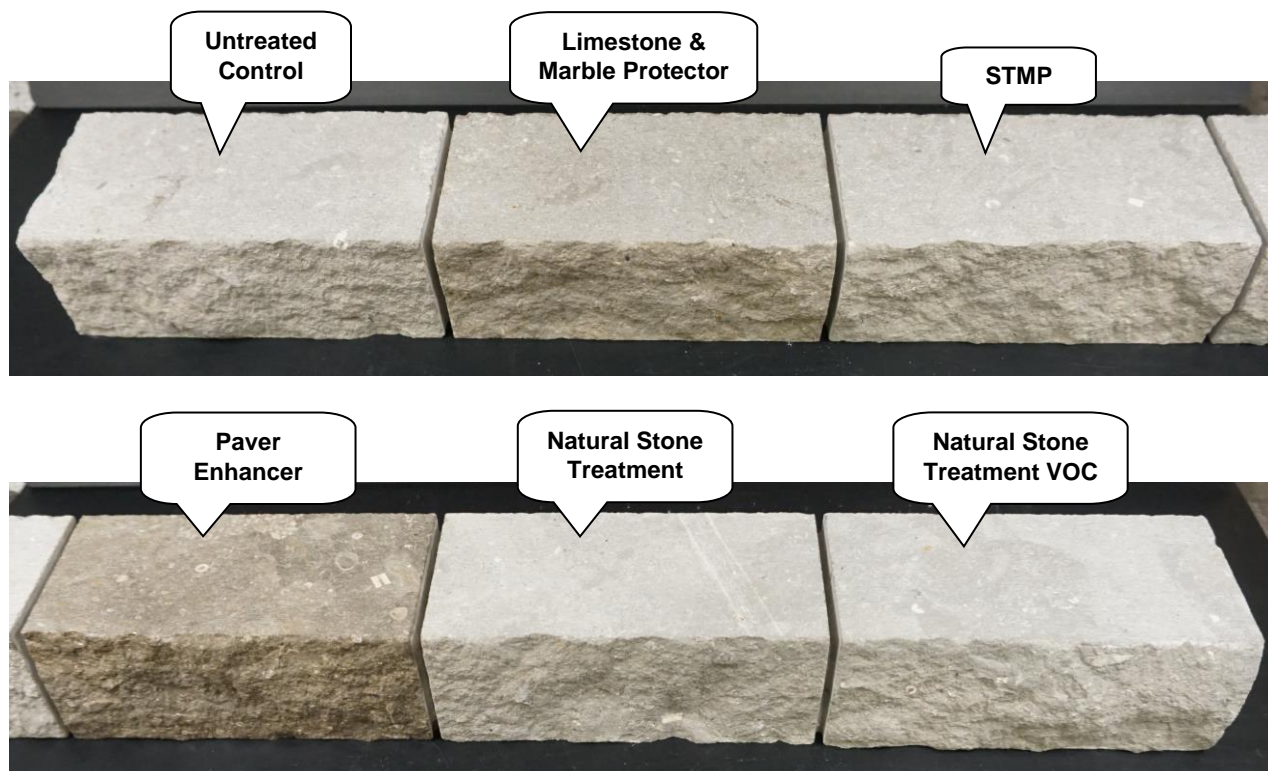
**"Pacific Silver" Travertine After Application**



**TEST RESULTS AND PHOTOGRAPHS: Color and Sheen Enhancement (cont.)**

<b>"Dove Gray" Limestone</b>	<b>Color Enhancement</b>	<b>Sheen Enhancement</b>
Sure Klean® Weather Seal Limestone & Marble Protector	1	0
Sure Klean® Weather Seal Stone Tile & Masonry Protector (STMP)	0	0
Sure Klean® Weather Seal Paver Enhancer	2	0
Sure Klean® Weather Seal Natural Stone Treatment	0	0
Sure Klean® Weather Seal Natural Stone Treatment VOC	0	0

**"Dove Gray" Limestone After Application**

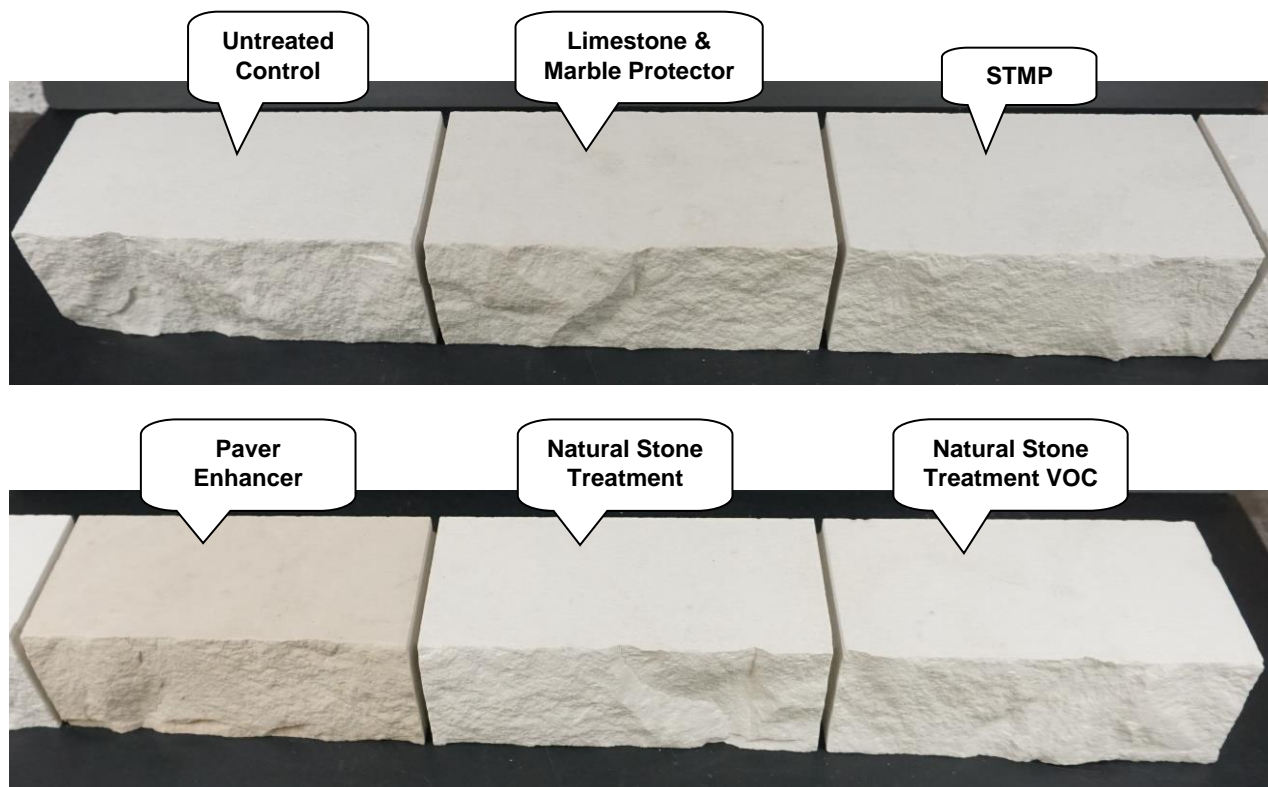




**TEST RESULTS AND PHOTOGRAPHS: Color and Sheen Enhancement (cont.)**

<b>“Mountain Ridge” Dolomitic Limestone</b>	<b>Color Enhancement</b>	<b>Sheen Enhancement</b>
Sure Klean® Weather Seal Limestone & Marble Protector	1	0
Sure Klean® Weather Seal Stone Tile & Masonry Protector (STMP)	0	0
Sure Klean® Weather Seal Paver Enhancer	2	0
Sure Klean® Weather Seal Natural Stone Treatment	0	0
Sure Klean® Weather Seal Natural Stone Treatment VOC	0	0

**“Mountain Ridge” Dolomitic Limestone After Application**

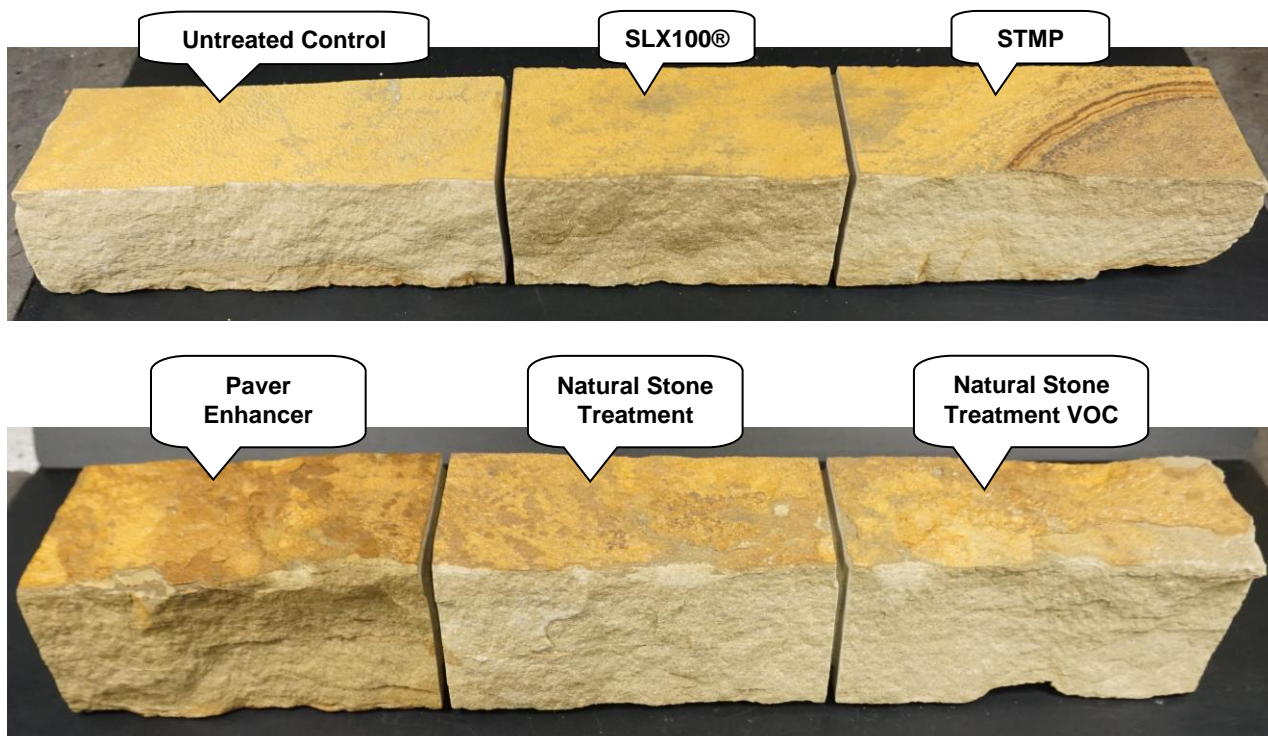




**TEST RESULTS AND PHOTOGRAPHS: Color and Sheen Enhancement (cont.)**

<b>"Black Hills" Sandstone</b>	<b>Color Enhancement</b>	<b>Sheen Enhancement</b>
PROSOCO® SLX100® Water & Oil Repellent	1	0
Sure Klean® Weather Seal Stone Tile & Masonry Protector (STMP)	0	0
Sure Klean® Weather Seal Paver Enhancer	2	0
Sure Klean® Weather Seal Natural Stone Treatment	0	0
Sure Klean® Weather Seal Natural Stone Treatment VOC	0	0

**"Black Hills" Sandstone After Application**



## CONCLUSIONS – Color and Sheen Enhancement

Sure Klean® Weather Seal Limestone & Marble Protector and PROSOCO® SLX100® Water & Oil Repellent provided a range of color enhancement results, from zero to slight depending on the sample. No sheen enhancement was observed with either of these treatments.

Sure Klean® Weather Seal Paver Enhancer provided a range of color enhancement results, from slight to moderate depending on the sample. Slight sheen enhancement was observed with Sure Klean® Weather Seal Paver Enhancer on the “Leonardo” Travertine and “Noce” Travertine samples.

Sure Klean® Weather Seal Stone Tile & Masonry Protector (STMP), Sure Klean® Weather Seal Natural Stone Treatment, and Sure Klean® Weather Seal Natural Stone Treatment VOC did not cause any change in appearance to the submitted samples.

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

## RECOMMENDATIONS: Color and Sheen Enhancement

Recommendations for color and sheen enhancement for each type of natural stone submitted by Semco Outdoor, Belton, MO are provided in the chart below. Recommendations are based on the treatment(s) that proved most effective.

Sample	Color and Sheen Enhancement
“Country Classic” Travertine	Please refer to pages 21-30 of the report for individual recommendations based on the desired result.
“Ivory” Travertine	
“Leonardo” Travertine	
“Noce” Travertine	
“Pacific Silver” Travertine	
“Dove Gray” Limestone	
“Mountain Ridge” Dolomitic Limestone	
“Black Hills” Sandstone	

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

## 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 rain conditions was performed on the submitted samples. Tests were run with 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 AND PHOTOGRAPHS: Protective Water Repellents

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

AA = Above Average    A = Average    BA = Below Average

"Country Classic" Travertine	Results in mL loss	Ranking
Untreated Control	-0.0	--
Sure Klean® Weather Seal Limestone & Marble Protector	-0.0	<u>AA</u>
Sure Klean® Weather Seal Stone Tile & Masonry Protector (STMP)	-0.0	<u>AA</u>
Sure Klean® Weather Seal Paver Enhancer	-0.0	<u>AA</u>
Sure Klean® Weather Seal Natural Stone Treatment	-0.0	<u>AA</u>
Sure Klean® Weather Seal Natural Stone Treatment VOC	-0.0	<u>AA</u>

"Ivory" Travertine	Results in mL loss	Ranking
Untreated Control	-0.0	--
Sure Klean® Weather Seal Limestone & Marble Protector	-0.0	<u>AA</u>
Sure Klean® Weather Seal Stone Tile & Masonry Protector (STMP)	-0.0	<u>AA</u>
Sure Klean® Weather Seal Paver Enhancer	-0.0	<u>AA</u>
Sure Klean® Weather Seal Natural Stone Treatment	-0.0	<u>AA</u>
Sure Klean® Weather Seal Natural Stone Treatment VOC	-0.0	<u>AA</u>

"Leonardo" Travertine	Results in mL loss	Ranking
Untreated Control	-0.0	--
Sure Klean® Weather Seal Limestone & Marble Protector	-0.0	<u>AA</u>
Sure Klean® Weather Seal Stone Tile & Masonry Protector (STMP)	-0.0	<u>AA</u>
Sure Klean® Weather Seal Paver Enhancer	-0.0	<u>AA</u>
Sure Klean® Weather Seal Natural Stone Treatment	-0.0	<u>AA</u>
Sure Klean® Weather Seal Natural Stone Treatment VOC	-0.0	<u>AA</u>

"Noce" Travertine	Results in mL loss	Ranking
Untreated Control	-0.0	--
Sure Klean® Weather Seal Limestone & Marble Protector	-0.0	<u>AA</u>
Sure Klean® Weather Seal Stone Tile & Masonry Protector (STMP)	-0.0	<u>AA</u>
Sure Klean® Weather Seal Paver Enhancer	-0.0	<u>AA</u>
Sure Klean® Weather Seal Natural Stone Treatment	-0.0	<u>AA</u>
Sure Klean® Weather Seal Natural Stone Treatment VOC	-0.0	<u>AA</u>



## TEST RESULTS AND PHOTOGRAPHS: Protective Water Repellents (cont.)

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

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

<b>"Pacific Silver" Travertine</b>	<b>Results in mL loss</b>	<b>Ranking</b>
Untreated Control	-0.3	--
Sure Klean® Weather Seal Limestone & Marble Protector	-0.0	<u><b>AA</b></u>
Sure Klean® Weather Seal Stone Tile & Masonry Protector (STMP)	-0.0	<u><b>AA</b></u>
Sure Klean® Weather Seal Paver Enhancer	-0.0	<u><b>AA</b></u>
Sure Klean® Weather Seal Natural Stone Treatment	-0.0	<u><b>AA</b></u>
Sure Klean® Weather Seal Natural Stone Treatment VOC	-0.0	<u><b>AA</b></u>

<b>"Dove Gray" Limestone</b>	<b>Results in mL loss</b>	<b>Ranking</b>
Untreated Control	-0.0	--
Sure Klean® Weather Seal Limestone & Marble Protector	-0.0	<u><b>AA</b></u>
Sure Klean® Weather Seal Stone Tile & Masonry Protector (STMP)	-0.0	<u><b>AA</b></u>
Sure Klean® Weather Seal Paver Enhancer	-0.0	<u><b>AA</b></u>
Sure Klean® Weather Seal Natural Stone Treatment	-0.0	<u><b>AA</b></u>
Sure Klean® Weather Seal Natural Stone Treatment VOC	-0.0	<u><b>AA</b></u>

<b>"Mountain Ridge" Dolomitic Limestone</b>	<b>Results in mL loss</b>	<b>Ranking</b>
Untreated Control	-0.3	--
Sure Klean® Weather Seal Limestone & Marble Protector	-0.0	<u><b>AA</b></u>
Sure Klean® Weather Seal Stone Tile & Masonry Protector (STMP)	-0.0	<u><b>AA</b></u>
Sure Klean® Weather Seal Paver Enhancer	-0.0	<u><b>AA</b></u>
Sure Klean® Weather Seal Natural Stone Treatment	-0.0	<u><b>AA</b></u>
Sure Klean® Weather Seal Natural Stone Treatment VOC	-0.0	<u><b>AA</b></u>

<b>"Black Hills" Sandstone</b>	<b>Results in mL loss</b>	<b>Ranking</b>
Untreated Control	-0.0	--
PROSOCO® SLX100® Water & Oil Repellent	-0.0	<u><b>AA</b></u>
Sure Klean® Weather Seal Stone Tile & Masonry Protector (STMP)	-0.0	<u><b>AA</b></u>
Sure Klean® Weather Seal Paver Enhancer	-0.0	<u><b>AA</b></u>
Sure Klean® Weather Seal Natural Stone Treatment	-0.0	<u><b>AA</b></u>
Sure Klean® Weather Seal Natural Stone Treatment VOC	-0.0	<u><b>AA</b></u>

### **CONCLUSIONS: Protective Water Repellents**

Based on the laboratory evaluations, all of the treatments provided good water repellent protection to the submitted samples. Although some of the untreated areas in the 20 minute RILEM test did not absorb any water, the treatments will likely provide long-term water repellent protection and help to prevent water-related staining.

## RECOMMENDATIONS: Water Repellency

Recommendations for water repellency for each type of natural stone submitted by Semco Outdoor, Belton, MO are provided in the chart below. Recommendations are based on the treatment(s) that proved most effective.

Sample	Water Repellency
"Country Classic" Travertine	Sure Klean® Weather Seal Limestone & Marble Protector OR Sure Klean® Weather Seal Stone Tile & Masonry Protector (STMP) OR Sure Klean® Weather Seal Paver Enhancer OR Sure Klean® Weather Seal Natural Stone Treatment OR Sure Klean® Weather Seal Natural Stone Treatment VOC
"Ivory" Travertine	
"Leonardo" Travertine	
"Noce" Travertine	
"Pacific Silver" Travertine	
"Dove Gray" Limestone	
"Mountain Ridge" Dolomitic Limestone	
"Black Hills" Sandstone	PROSOCO® SLX100® Water & Oil Repellent OR Sure Klean® Weather Seal Stone Tile & Masonry Protector (STMP) OR Sure Klean® Weather Seal Paver Enhancer OR Sure Klean® Weather Seal Natural Stone Treatment OR Sure Klean® Weather Seal Natural Stone Treatment VOC

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

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**SAMPLE PREPARATION: Treatments**

Each stain repellent was applied in accordance with the current PROSOCO, Inc. Product Date Sheet instructions. The treatments were allowed to cure for at least 72 hours prior to the stain testing described below.

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**TEST METHODS: Surface Beading Evaluation****Food and Oil Products Evaluated for Stain Testing:****Temperature:**

Coca Cola	ambient (~70°F)
Ketchup	ambient (~70°F)
Mustard	ambient (~70°F)
Red wine	ambient (~70°F)
Balsamic vinegar	ambient (~70°F)
Soy sauce	ambient (~70°F)
Olive oil	ambient (~70°F)
Wesson oil	250°F
Coffee	120°F

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 oils or liquids quickly absorbed into the substrate and correlates to “below average” repellency.

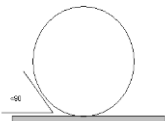
Note: Non-free flowing staining agents such as ketchup and mustard are applied in a blob and not evaluated for their beading properties.



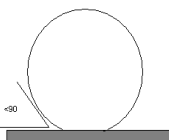
## TEST METHODS: Surface Beading Evaluation (cont.)

### Rating System (1-5)

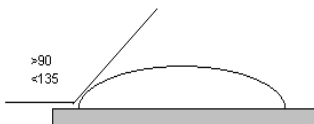
1. No wetting of contact area (no darkening); angle less than  $90^\circ$



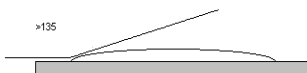
2. Wetting contained to the contact area (slight darkening); angle is less than  $90^\circ$



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



4. Wetting beyond the contact area (darkening); angle is greater than  $135^\circ$



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



**TEST RESULTS: Surface Beading Evaluation**

<b>“Country Classic” Travertine</b>			
	<b>Untreated Control</b>	<b>Limestone &amp; Marble Protector</b>	<b>STMP</b>
<b>Coca Cola</b>	4	3	3
<b>Ketchup</b>	N/A	N/A	N/A
<b>Mustard</b>	N/A	N/A	N/A
<b>Red Wine</b>	5	3	3
<b>Bals. Vin.</b>	5	3	3
<b>Soy Sauce</b>	4	3	3
<b>Olive Oil</b>	4	3	3
<b>Wesson Oil</b>	4	3	3
<b>Hot Coffee</b>	4	3	3

<b>“Ivory” Travertine</b>			
	<b>Untreated Control</b>	<b>Limestone &amp; Marble Protector</b>	<b>STMP</b>
<b>Coca Cola</b>	5	3	3
<b>Ketchup</b>	N/A	N/A	N/A
<b>Mustard</b>	N/A	N/A	N/A
<b>Red Wine</b>	5	3	3
<b>Bals. Vin.</b>	5	3	3
<b>Soy Sauce</b>	4	3	3
<b>Olive Oil</b>	4	3	3
<b>Wesson Oil</b>	4	3	3
<b>Hot Coffee</b>	4	3	3

N/A – non-free flowing staining agent

**TEST RESULTS: Surface Beading Evaluation (cont.)**

<b>“Leonardo” Travertine</b>			
	<b>Untreated Control</b>	<b>Limestone &amp; Marble Protector</b>	<b>STMP</b>
<b>Coca Cola</b>	4	3	3
<b>Ketchup</b>	N/A	N/A	N/A
<b>Mustard</b>	N/A	N/A	N/A
<b>Red Wine</b>	5	4	3
<b>Bals. Vin.</b>	5	3	3
<b>Soy Sauce</b>	4	3	3
<b>Olive Oil</b>	4	3	3
<b>Wesson Oil</b>	4	3	3
<b>Hot Coffee</b>	4	3	3

<b>“Noce” Travertine</b>			
	<b>Untreated Control</b>	<b>Limestone &amp; Marble Protector</b>	<b>STMP</b>
<b>Coca Cola</b>	5	3	3
<b>Ketchup</b>	N/A	N/A	N/A
<b>Mustard</b>	N/A	N/A	N/A
<b>Red Wine</b>	4	3	3
<b>Bals. Vin.</b>	4	3	3
<b>Soy Sauce</b>	4	3	3
<b>Olive Oil</b>	4	3	3
<b>Wesson Oil</b>	5	3	3
<b>Hot Coffee</b>	4	3	3

N/A – non-free flowing staining agent

**TEST RESULTS: Surface Beading Evaluation (cont.)**

<b>“Pacific Silver” Travertine</b>			
	<b>Untreated Control</b>	<b>Limestone &amp; Marble Protector</b>	<b>STMP</b>
<b>Coca Cola</b>	4	3	3
<b>Ketchup</b>	N/A	N/A	N/A
<b>Mustard</b>	N/A	N/A	N/A
<b>Red Wine</b>	5	3	3
<b>Bals. Vin.</b>	4	3	3
<b>Soy Sauce</b>	4	3	3
<b>Olive Oil</b>	5	3	3
<b>Wesson Oil</b>	5	3	3
<b>Hot Coffee</b>	5	3	3

<b>“Dove Gray” Limestone</b>			
	<b>Untreated Control</b>	<b>Limestone &amp; Marble Protector</b>	<b>STMP</b>
<b>Coca Cola</b>	4	2	2
<b>Ketchup</b>	N/A	N/A	N/A
<b>Mustard</b>	N/A	N/A	N/A
<b>Red Wine</b>	5	3	3
<b>Bals. Vin.</b>	5	3	3
<b>Soy Sauce</b>	4	3	3
<b>Olive Oil</b>	5	3	3
<b>Wesson Oil</b>	5	3	3
<b>Hot Coffee</b>	4	3	3

N/A – non-free flowing staining agent



**TEST RESULTS: Surface Beading Evaluation (cont.)**

<b>“Mountain Ridge” Dolomitic Limestone</b>			
	<b>Untreated Control</b>	<b>Limestone &amp; Marble Protector</b>	<b>STMP</b>
<b>Coca Cola</b>	5	3	2
<b>Ketchup</b>	N/A	N/A	N/A
<b>Mustard</b>	N/A	N/A	N/A
<b>Red Wine</b>	5	3	3
<b>Bals. Vin.</b>	5	3	3
<b>Soy Sauce</b>	5	3	3
<b>Olive Oil</b>	5	3	3
<b>Wesson Oil</b>	5	3	3
<b>Hot Coffee</b>	4	3	3

<b>“Black Hills” Sandstone</b>			
	<b>Untreated Control</b>	<b>SLX100®</b>	<b>STMP</b>
<b>Coca Cola</b>	4	3	3
<b>Ketchup</b>	N/A	N/A	N/A
<b>Mustard</b>	N/A	N/A	N/A
<b>Red Wine</b>	4	3	3
<b>Bals. Vin.</b>	4	3	3
<b>Soy Sauce</b>	4	3	3
<b>Olive Oil</b>	5	3	3
<b>Wesson Oil</b>	5	3	3
<b>Hot Coffee</b>	4	3	3

N/A – non-free flowing staining agent

## TEST METHODS: Stain Resistance Evaluation

The soiling agents were allowed to dwell on the treated and untreated substrate for times of 24 hours, 4 hours, 1 hour, and 10 minutes. The test areas were then cleaned with Enviro Klean® Klean 'N Release Cleaner diluted with ten parts water and scrubbed under a stream of running water. The 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 AND PHOTOGRAPHS: Stain Resistance Evaluation

### "Country Classic" Travertine

% Removal

Untreated Control									
	Cola	Ketch.	Must.	Red Wine	Bals. Vin.	Soy Sauce	Olive Oil	Wesson Oil	Coffee
24 hour	100%	100%*	100%*	50%	50%	100%	10%	10%	50%
4 hour	100%	100%*	100%*	50%	50%	100%	10%	10%	50%
1 hour	100%	100%*	100%*	100%*	100%	100%	30%	10%	100%
10 min.	100%	100%	100%	100%	100%	100%	30%	30%	100%
Sure Klean® Weather Seal Limestone & Marble Protector									
	Cola	Ketch.	Must.	Red Wine	Bals. Vin.	Soy Sauce	Olive Oil	Wesson Oil	Coffee
24 hour	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%
Sure Klean® Weather Seal Stone Tile & Masonry Protector (STMP)									
	Cola	Ketch.	Must.	Red Wine	Bals. Vin.	Soy Sauce	Olive Oil	Wesson Oil	Coffee
24 hour	100%	100%*	100%*	100%	100%	100%	100%	90%	100%
4 hour	100%	100%*	100%*	100%	100%	100%	100%	98%	100%
1 hour	100%	100%	100%*	90%	100%	100%	100%	100%	100%
10 min.	100%	100%	100%	100%	100%	100%	100%	100%	100%

% Removal of stain following maintenance cleaning.

\* Indicates etching of surface treatment due to the acidic nature of the staining agent.

## TEST RESULTS AND PHOTOGRAPHS: Stain Resistance Evaluation (cont.)

### “Ivory” Travertine

% Removal

Untreated Control									
	Cola	Ketch.	Must.	Red Wine	Bals. Vin.	Soy Sauce	Olive Oil	Wesson Oil	Coffee
24 hour	90%	100%	90%	50%	70%	100%	50%	50%	100%
4 hour	90%	100%	100%	70%	80%	100%	50%	50%	100%
1 hour	100%	100%	100%	100%	100%	100%	70%	70%	100%
10 min.	100%	100%	100%	100%	100%	100%	90%	90%	100%
Sure Klean® Weather Seal Limestone & Marble Protector									
	Cola	Ketch.	Must.	Red Wine	Bals. Vin.	Soy Sauce	Olive Oil	Wesson Oil	Coffee
24 hour	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%
Sure Klean® Weather Seal Stone Tile & Masonry Protector (STMP)									
	Cola	Ketch.	Must.	Red Wine	Bals. Vin.	Soy Sauce	Olive Oil	Wesson Oil	Coffee
24 hour	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%

% Removal of stain following maintenance cleaning.

\* Indicates etching of surface treatment due to the acidic nature of the staining agent.

## TEST RESULTS AND PHOTOGRAPHS: Stain Resistance Evaluation (cont.)

### “Leonardo” Travertine

% Removal

Untreated Control									
	Cola	Ketch.	Must.	Red Wine	Bals. Vin.	Soy Sauce	Olive Oil	Wesson Oil	Coffee
24 hour	50%	100%	90%	70%	70%	70%	100%	100%	30%
4 hour	50%	100%	100%	70%	70%	90%	100%	100%	70%
1 hour	100%	100%	100%	90%	100%	100%	100%	100%	90%
10 min.	100%	100%	100%	100%	100%	100%	100%	100%	100%
Sure Klean® Weather Seal Limestone & Marble Protector									
	Cola	Ketch.	Must.	Red Wine	Bals. Vin.	Soy Sauce	Olive Oil	Wesson Oil	Coffee
24 hour	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%
Sure Klean® Weather Seal Stone Tile & Masonry Protector (STMP)									
	Cola	Ketch.	Must.	Red Wine	Bals. Vin.	Soy Sauce	Olive Oil	Wesson Oil	Coffee
24 hour	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%

% Removal of stain following maintenance cleaning.

\* Indicates etching of surface treatment due to the acidic nature of the staining agent.



## TEST RESULTS AND PHOTOGRAPHS: Stain Resistance Evaluation (cont.)

### “Noce” Travertine

% Removal

Untreated Control									
	Cola	Ketch.	Must.	Red Wine	Bals. Vin.	Soy Sauce	Olive Oil	Wesson Oil	Coffee
24 hour	100%	100%*	100%*	70%	70%	100%*	10%	10%	100%
4 hour	100%	100%*	100%*	100%	100%*	100%	10%	10%	100%
1 hour	100%	100%	100%	100%	100%	100%	30%	30%	100%
10 min.	100%	100%	100%	100%	100%	100%	30%	30%	100%
Sure Klean® Weather Seal Limestone & Marble Protector									
	Cola	Ketch.	Must.	Red Wine	Bals. Vin.	Soy Sauce	Olive Oil	Wesson Oil	Coffee
24 hour	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%
Sure Klean® Weather Seal Stone Tile & Masonry Protector (STMP)									
	Cola	Ketch.	Must.	Red Wine	Bals. Vin.	Soy Sauce	Olive Oil	Wesson Oil	Coffee
24 hour	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%

% Removal of stain following maintenance cleaning.

\* Indicates etching of surface treatment due to the acidic nature of the staining agent.

**TEST RESULTS AND PHOTOGRAPHS: Stain Resistance Evaluation (cont.)**

**“Pacific Silver” Travertine**

% Removal

<b>Untreated Control</b>									
	Cola	Ketch.	Must.	Red Wine	Bals. Vin.	Soy Sauce	Olive Oil	Wesson Oil	Coffee
<b>24 hour</b>	100%	100%	100%	50%	50%	100%	10%	10%	100%
<b>4 hour</b>	100%	100%	100%	70%	90%	100%	10%	10%	100%
<b>1 hour</b>	100%	100%	100%	90%	100%	100%	30%	30%	100%
<b>10 min.</b>	100%	100%	100%	100%	100%	100%	30%	30%	100%
<b>Sure Klean® Weather Seal Limestone &amp; Marble Protector</b>									
	Cola	Ketch.	Must.	Red Wine	Bals. Vin.	Soy Sauce	Olive Oil	Wesson Oil	Coffee
<b>24 hour</b>	100%	100%*	100%	100%	100%	100%	100%	100%	100%
<b>4 hour</b>	100%	100%*	100%	100%	100%	100%	100%	100%	100%
<b>1 hour</b>	100%	100%	100%	100%	100%	100%	100%	100%	100%
<b>10 min.</b>	100%	100%	100%	100%	100%	100%	100%	100%	100%
<b>Sure Klean® Weather Seal Stone Tile &amp; Masonry Protector (STMP)</b>									
	Cola	Ketch.	Must.	Red Wine	Bals. Vin.	Soy Sauce	Olive Oil	Wesson Oil	Coffee
<b>24 hour</b>	100%	100%	100%	100%	100%	100%	100%	100%	100%
<b>4 hour</b>	100%	100%	100%	100%	100%	100%	100%	100%	100%
<b>1 hour</b>	100%	100%	100%	100%	100%	100%	100%	100%	100%
<b>10 min.</b>	100%	100%	100%	100%	100%	100%	100%	100%	100%

% Removal of stain following maintenance cleaning.

\* Indicates etching of surface treatment due to the acidic nature of the staining agent.

## TEST RESULTS AND PHOTOGRAPHS: Stain Resistance Evaluation (cont.)

### “Dove Gray” Limestone

% Removal

Untreated Control									
	Cola	Ketch.	Must.	Red Wine	Bals. Vin.	Soy Sauce	Olive Oil	Wesson Oil	Coffee
24 hour	100%	100%*	100%*	50%	N/A*	N/A*	10%	10%	90%
4 hour	100%	100%*	100%*	50%	N/A*	N/A*	10%	10%	98%
1 hour	100%	100%*	100%*	70%	N/A*	N/A*	30%	30%	100%
10 min.	100%	100%	100%	100%	N/A*	N/A*	30%	30%	100%
Sure Klean® Weather Seal Limestone & Marble Protector									
	Cola	Ketch.	Must.	Red Wine	Bals. Vin.	Soy Sauce	Olive Oil	Wesson Oil	Coffee
24 hour	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%
Sure Klean® Weather Seal Stone Tile & Masonry Protector (STMP)									
	Cola	Ketch.	Must.	Red Wine	Bals. Vin.	Soy Sauce	Olive Oil	Wesson Oil	Coffee
24 hour	100%	100%	100%*	100%	100%	100%	98%	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%

% Removal of stain following maintenance cleaning.

\* Indicates etching of surface treatment due to the acidic nature of the staining agent.

N/A\* Indicates the removal of the stain, following maintenance cleaning, was unable to be determined due to olive oil or Wesson oil spreading masking the area in question.

## TEST RESULTS AND PHOTOGRAPHS: Stain Resistance Evaluation (cont.)

### “Mountain Ridge” Dolomitic Limestone

% Removal

Untreated Control									
	Cola	Ketch.	Must.	Red Wine	Bals. Vin.	Soy Sauce	Olive Oil	Wesson Oil	Coffee
24 hour	100%	100%	80%	70%	70%	80%	10%	10%	90%
4 hour	100%	100%	90%	80%	80%	90%	10%	10%	100%
1 hour	100%	100%	98%	80%	90%	90%	30%	30%	100%
10 min.	100%	100%	98%	90%	100%	100%	30%	30%	100%
Sure Klean® Weather Seal Limestone & Marble Protector									
	Cola	Ketch.	Must.	Red Wine	Bals. Vin.	Soy Sauce	Olive Oil	Wesson Oil	Coffee
24 hour	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%	98%	98%	100%
10 min.	100%*	100%	100%	100%*	100%*	100%	100%	100%	100%
Sure Klean® Weather Seal Stone Tile & Masonry Protector (STMP)									
	Cola	Ketch.	Must.	Red Wine	Bals. Vin.	Soy Sauce	Olive Oil	Wesson Oil	Coffee
24 hour	98%	100%	90%	90%	90%	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%

% Removal of stain following maintenance cleaning.

\* Indicates etching of surface treatment due to the acidic nature of the staining agent.

## TEST RESULTS AND PHOTOGRAPHS: Stain Resistance Evaluation (cont.)

### “Black Hills” Sandstone

% Removal

Untreated Control									
	Cola	Ketch.	Must.	Red Wine	Bals. Vin.	Soy Sauce	Olive Oil	Wesson Oil	Coffee
24 hour	100%	100%	80%	80%	N/A*	N/A*	10%	10%	100%
4 hour	100%	100%	100%	N/A*	N/A*	N/A*	10%	10%	100%
1 hour	100%	100%	100%	N/A*	N/A*	N/A*	10%	10%	100%
10 min.	100%	100%	100%	N/A*	N/A*	N/A*	10%	10%	100%
PROSOCO® SLX100® Water & Oil Repellent									
	Cola	Ketch.	Must.	Red Wine	Bals. Vin.	Soy Sauce	Olive Oil	Wesson Oil	Coffee
24 hour	100%	100%	100%	100%	100%	100%	90%	70%	100%
4 hour	100%	100%	100%	100%	100%	100%	90%	80%	100%
1 hour	100%	100%	100%	100%	100%	100%	98%	90%	100%
10 min.	100%	100%	100%	100%	100%	100%	100%	100%	100%
Sure Klean® Weather Seal Stone Tile & Masonry Protector (STMP)									
	Cola	Ketch.	Must.	Red Wine	Bals. Vin.	Soy Sauce	Olive Oil	Wesson Oil	Coffee
24 hour	100%	100%	100%	100%	100%	100%	90%	70%	100%
4 hour	100%	100%	100%	100%	100%	100%	98%	80%	100%
1 hour	100%	100%	100%	100%	100%	100%	100%	90%	100%
10 min.	100%	100%	100%	100%	100%	100%	100%	90%	100%

% Removal of stain following maintenance cleaning.

\* Indicates etching of surface treatment due to the acidic nature of the staining agent.

N/A\* Indicates the removal of the stain, following maintenance cleaning, was unable to be determined due to olive oil or Wesson oil spreading masking the area in question.



**TEST RESULTS AND PHOTOGRAPHS: Stain Resistance Evaluation (cont.)**

**“Noce” Travertine With Stains**



**Untreated  
Control**



**Limestone &  
Marble Protector**



**STMP**

**“Noce” Travertine After Stain Testing**



**Untreated  
Control**



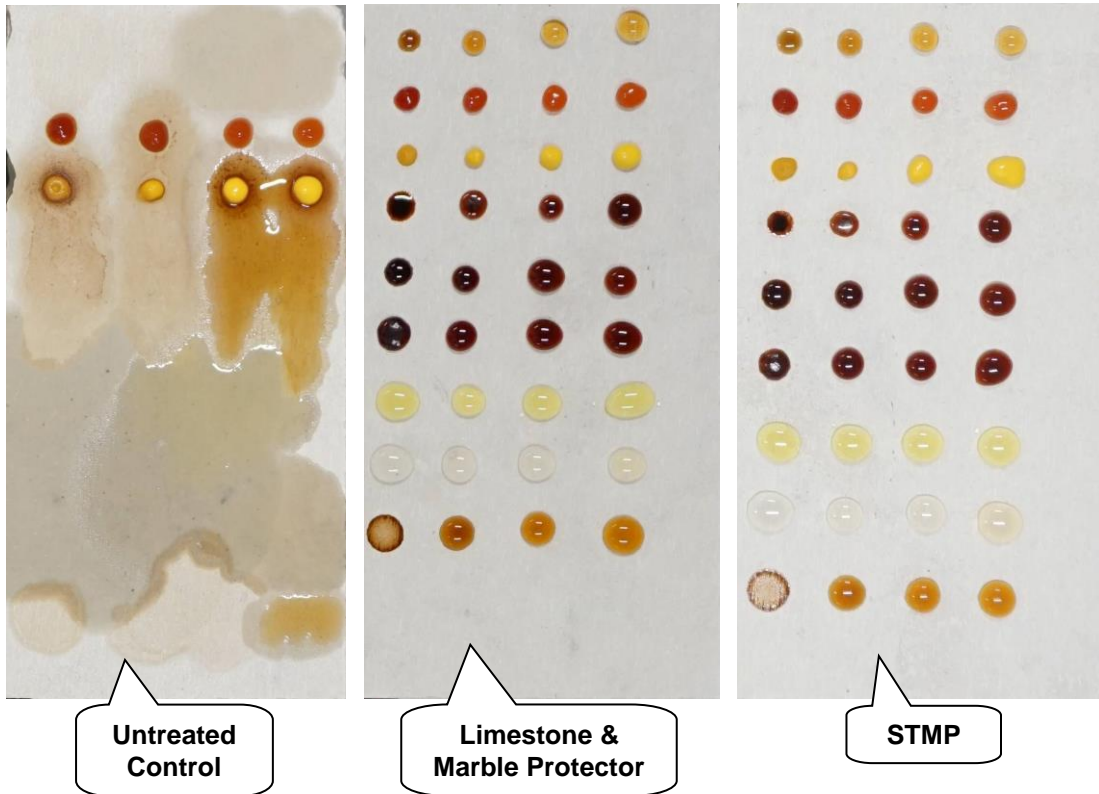
**Limestone &  
Marble Protector**



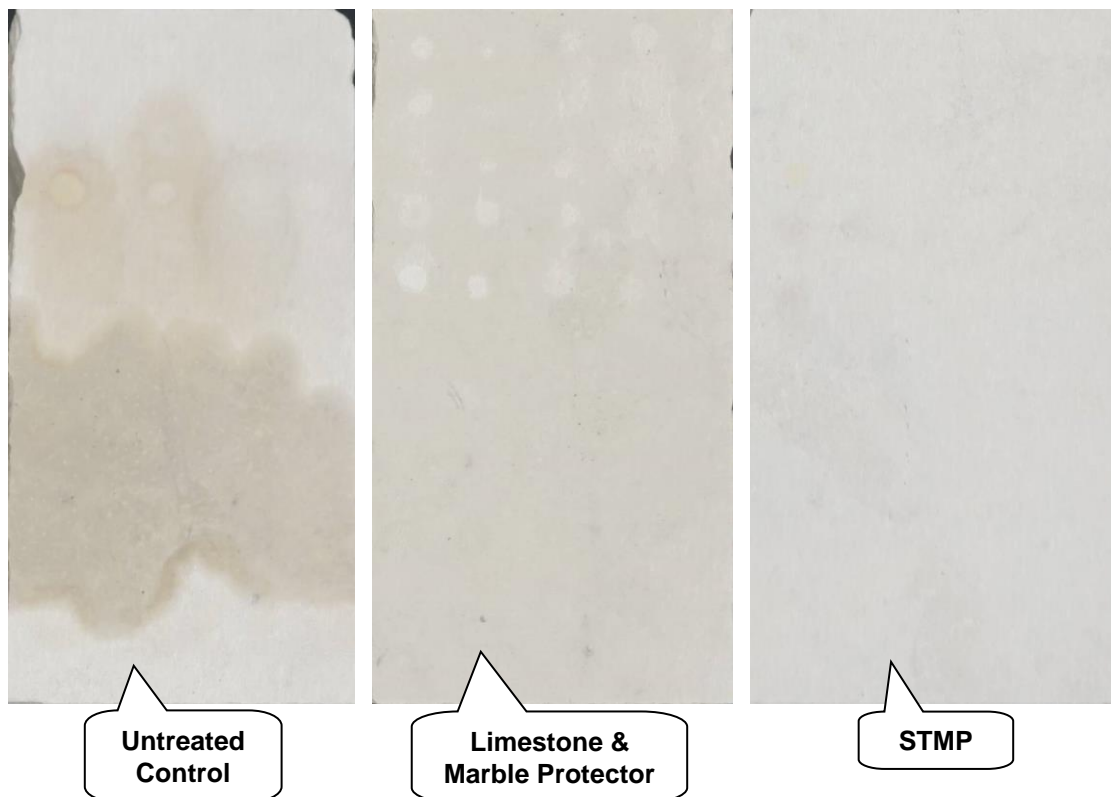
**STMP**

**TEST RESULTS AND PHOTOGRAPHS: Stain Resistance Evaluation (cont.)**

**“Mountain Ridge” Dolomitic Limestone With Stains**



**“Mountain Ridge” Dolomitic Limestone After Stain Testing**



### **CONCLUSIONS: Surface Beading and Stain Resistance**

In the surface beading evaluation, Sure Klean® Weather Seal Limestone & Marble Protector, PROSOCO® SLX100® Water & Oil Repellent, and Sure Klean® Weather Seal Stone Tile & Masonry Protector (STMP) had the smallest angles of contact with each stain applied on the submitted samples. This small angle correlates to “above average” repellency.

In the stain resistance tests conducted, Sure Klean® Weather Seal Limestone & Marble Protector, PROSOCO® SLX100® Water & Oil Repellent, and Sure Klean® Weather Seal Stone Tile & Masonry Protector (STMP) proved effective at repelling the applied stains on the submitted samples.

**NOTE:** Due to the surface irregularities of the natural stone, the substrate’s stain resistance may vary from one area of the stone to another.

## RECOMMENDATIONS: Stain Resistance

Recommendations for stain resistance for each type of natural stone submitted by Semco Outdoor, Belton, MO 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 Resistance
"Country Classic" Travertine	<p><b><u>Stain Repellents</u></b> Sure Klean® Weather Seal Limestone &amp; Marble Protector OR Sure Klean® Weather Seal Stone Tile &amp; Masonry Protector (STMP)</p> <p><b><u>Maintenance Cleaner</u></b> Enviro Klean® Klean 'N Release Cleaner (1:10)</p>
"Ivory" Travertine	
"Leonardo" Travertine	
"Noce" Travertine	
"Pacific Silver" Travertine	
"Dove Gray" Limestone	
"Mountain Ridge" Dolomitic Limestone	
"Black Hills" Sandstone	<p><b><u>Stain Repellents</u></b> PROSOCO® SLX100® Water &amp; Oil Repellent OR Sure Klean® Weather Seal Stone Tile &amp; Masonry Protector (STMP)</p> <p><b><u>Maintenance Cleaner</u></b> Enviro Klean® Klean 'N Release Cleaner (1:10)</p>

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.



J. Lucas Comadoll  
QC/Project Testing Technician

**ALL SAMPLES SUPPLIED FOR THE ABOVE EVALUATION WILL BE DISPOSED OF THIRTY (30) DAYS AFTER THE ISSUE DATE OF THIS REPORT. IF SAMPLES ARE TO BE RETAINED FOR ADDITIONAL TESTING OR RETURNED TO THE SENDER, PROVIDE WRITTEN INSTRUCTIONS TO THE LABORATORY WITHIN THIRTY (30) DAYS OF THE ISSUE DATE OF THIS REPORT.**

Recommendations made within this report are based on laboratory test applications and observations. Final determination of the suitability of a product and/or procedure should be made only after thorough job testing on actual surfaces.