

# Pallet Tag Program Laboratory Report

# Realstone Systems Troy, MI



Project No. 1906-02 PTP

## Prepared For:



Prepared By:

J. Ducase Consdoll

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September 2019



# LABORATORY REPORT

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FOR: Grazyna Cumming, Realstone Systems

cc: Douglas Barron

Mark Donze, PROSOCO, Inc. Jake Boyer, PROSOCO, Inc. Al Morris, PROSOCO, Inc.

SUBJECT: Realstone Systems DATE: September 6, 2019

Troy, MI PROJECT: 1906-02 PTP

Pallet Tag Evaluation

#### **SAMPLES SUBMITTED:**

Туре	Name	Color		Size
Marble	"Alesio Crème Honed Panel"	Buff	Honed	6" x 6" x 1"
Marble	"Alesio Frost Honed Panel"	White	Honed	6" x 6" x 1"
Marble	"Alesio Smoky Beige Honed Panel"	Light Brown	Honed	6" x 6" x 1"
Marble	"Alesio Crème Ledgestone"	Buff	Split Face	6" x 6" x 1"
Marble	"Alesio Smoky Beige Ledgestone Panel"	Light Brown	Split Face	6" x 6" x 1"
Marble	"Alesio Frost Ledgestone Panel"	White	Rough Split Face	6" x 6" x 1"
Limestone	"Carbon Honed Accentstone Panel"	on Honed Accentstone Panel" Black Honed		6" x 6" x 1"
Limestone	"Pewter Honed Panel"	Blue and Gray	Honed	6" x 6" x 1"
Limestone	"Smoky Birch Dimensional Panel"	" Light Brown Honed		6" x 6" x 1"
Limestone	"White Birch Honed Panel"	Buff	Buff Honed	
Limestone	"Carbon Ledgestone Panel"	"Carbon Ledgestone Panel" Black Rough Split		6" x 6" x 1"
Limestone	"Pewter Ledgestone Panel"	Gray Rough Split Face		6" x 6" x 1"
Limestone	"White Birch Ledgestone Panel"	Buff Rough Split Face		6" x 6" x 1"
Travertine	"Latte Honed Panel"	Light Brown	Honed	6" x 6" x 1"
Travertine	"Latte Ledgestone Panel"	Light Brown	Rough Split Face	6" x 6" x 1"



#### **SAMPLES SUBMITTED: (cont.)**

Туре	Name	Color	Finish	Size
Quartzite	"Berkshire Buff Honed Tile"	Gray	Honed	6" x 6" x 1"
Quartzite	"Arctic White Shadowstone Panel"	White	Split Face	6" x 6" x 1"
Quartzite	"Midnight Sky Shadowstone Panel"	Black	Split Face	6" x 6" x 1"
Quartzite	"New York Blue Shadowstone Panel"	Blue and Green	Split Face	6" x 6" x 1"
Quartzite	"Silver Alabaster Shadowstone Panel"	Buff and White	Split Face	6" x 6" x 1"
Quartzite	"Thin Arctic White Angled Panel"	White	Split Face	6" x 6" x 1"
Quartzite	"Sierra Accentstone Panel"	one Panel" Gray and Orange Split Face		6" x 6" x 1"
Quartzite	"Mountain Rust Ledgestone Panel"	Gray and Orange Rough Split Face		6" x 6" x 1"
Quartzite	"Berkshire Buff Sandblasted Tile Plank"	Gray	Gray Sand Blasted	
Quartzite	"Chiseled Silver Alabaster Shadowstone Panel"	Buff and White Chiseled		6" x 6" x 1"
Sandstone	"Mocha Birch Honed Panel"	Brown	Brown Honed	
Sandstone	"Mocha Birch Ledgestone Panel"	Brown	Rough Split Face	6" x 6" x 1"
Slate	"Charcoal Shadowstone Panel"	Black	Split Face	6" x 6" x 1"
Slate	"Terracotta Accentstone Panel"	Gray and Orange	Split Face	6" x 6" x 1"
Granite	"Nero Honed Panel"	Black and White	Honed	6" x 6" x 1"
Granite	"Nero Ledgestone Panel"	Black and White	Rough Split Face	6" x 6" x 1"

SUBMITTED BY: Grazyna Cumming

Grazyna Cumming Realstone Systems 1170 Souter Drive Troy, MI 48083



#### **PURPOSE OF TEST:**

- To determine the most appropriate PROSOCO, Inc. new construction cleaner(s) for the submitted natural stone panels.
- To determine the most appropriate PROSOCO, Inc. maintenance cleaner(s) for the submitted natural stone panels.
- 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 natural stone panels (where applicable).
- To determine the effectiveness of appropriate PROSOCO, Inc. products in preventing the
  penetration of, and simplifying the removal of, graffiti staining on the submitted samples (where
  applicable).
- To determine the effectiveness of appropriate PROSOCO, Inc. products in preventing food and oil staining on the submitted natural stone panels (where applicable).



#### PRODUCTS EVALUATED:

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

Maintenance Cleaning	Dilution:
Enviro Klean® 2010 All Surface Cleaner	1:10
Enviro Klean® Klean 'N Release Cleaner	1:10

Color and Sheen Enhancement	Dilution:
Sure Klean® Weather Seal Natural Stone Treatment	N/A*
Sure Klean® Weather Seal Natural Stone Treatment WB Plus	N/A*
Stand Off® Limestone & Marble Protector	N/A*
Sure Klean® Weather Seal Siloxane PD	N/A*
Sure Klean® Weather Seal Siloxane WB Concentrate	N/A*
PROSOCO® SLX100® Water & Oil Repellent	N/A*
Sure Klean® Weather Seal Paver Enhancer	N/A*
Sure Klean® Weather Seal Color Enhancer WB	N/A*
Sure Klean® Weather Seal Blok-Guard® & Graffiti Control	N/A*
Sure Klean® Weather Seal Blok-Guard® & Graffiti Control Ultra	N/A*

Water Repellency (Where Applicable)	Dilution:
Sure Klean® Weather Seal Natural Stone Treatment	N/A*
Sure Klean® Weather Seal Natural Stone Treatment WB Plus	N/A*
Stand Off® Limestone & Marble Protector	N/A*
Sure Klean® Weather Seal Paver Enhancer	N/A*
Sure Klean® Weather Seal Color Enhancer WB	N/A*
Sure Klean® Weather Seal Blok-Guard® & Graffiti Control	N/A*
Sure Klean® Weather Seal Blok-Guard® & Graffiti Control Ultra	N/A*

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



#### PRODUCTS EVALUATED: (cont.)

Graffiti Resistance (Where Applicable)	Dilution:
Sure Klean® Weather Seal Blok-Guard® & Graffiti Control	N/A*
Sure Klean® Weather Seal Blok-Guard® & Graffiti Control Ultra	N/A*

Graffiti Removal (Where Applicable)	Dilution:
Enviro Klean® SafStrip® 8	N/A*
Enviro Klean® SafStrip®	N/A*
Defacer Eraser® Graffiti Remover	N/A*

Stain Resistance (Where Applicable)	Dilution:	
Stand Off® Limestone & Marble Protector	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 evaluated to determine the optimal concentration of cleaner which leaves the external surface looking most like the uncleaned surface of the natural stone.

<u>Surface Finish Removal</u> 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.

<u>Substrate Deterioration</u> 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.

<u>Color Change</u> is the visual examination comparing the color of the uncleaned surface to the 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.

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:

Vana Trol®	5 mi	inutes
Safety Klean.	5 mi	inutes

- 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.

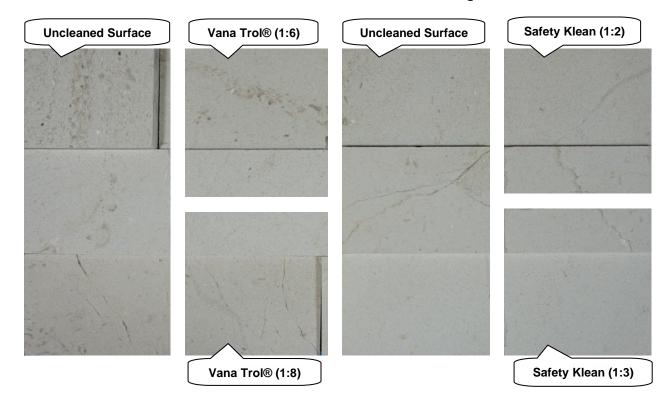
<sup>\*</sup>Rinsing Equipment – Masonry washing equipment generating approximately 700-800 psi with a water flow rate of 8 gallons per minute delivered through a 45 degree fan spray tip was used for rinsing.



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

Substrate: Marble	Name: "Alesio Crème Honed Panel"				
Product	Dilution	Surface Finish Removal	Substrate Deterioration	Color Change	Staining
Vana Trol®	1:6	0	0	0	0
Vana Trol®	1:8	0	0	0	0
Safety Klean	1:2	0	0	0	0
Safety Klean	1:3	0	0	0	0

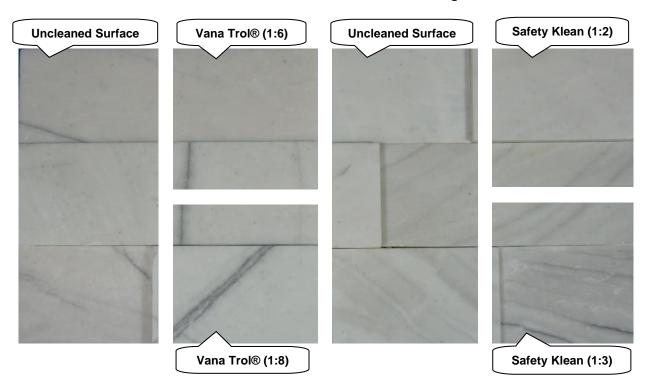
## "Alesio Crème Honed Panel" After Cleaning





Substrate: Marble	Name: "A	Name: "Alesio Frost Honed Panel"					
Product	Dilution	Surface Finish Removal	Substrate Deterioration	Color Change	Staining		
Vana Trol®	1:6	0	0	0	0		
Vana Trol®	1:8	0	0	0	0		
Safety Klean	1:2	0	0	0	0		
Safety Klean	1:3	0	0	0	0		

# "Alesio Frost Honed Panel" After Cleaning





Substrate: Marble	Name: "A	Name: "Alesio Smoky Beige Honed Panel"					
Product	Dilution	Surface Finish Removal	Substrate Deterioration	Color Change	Staining		
Vana Trol®	1:6	0	0	0	0		
Vana Trol®	1:8	0	0	0	0		
Safety Klean	1:2	0	0	0	0		
Safety Klean	1:3	0	0	0	0		

# "Alesio Smoky Beige Honed Panel" After Cleaning





Substrate: Marble	Name: "A	Name: "Alesio Crème Ledgestone"					
Product	Dilution	Surface Finish Removal	Substrate Deterioration	Color Change	Staining		
Vana Trol®	1:6	0	0	0	0		
Vana Trol®	1:8	0	0	0	0		
Safety Klean	1:2	0	0	0	0		
Safety Klean	1:3	0	0	0	0		

# "Alesio Crème Ledgestone" After Cleaning





Substrate: Marble	Name: "A	Name: "Alesio Smoky Beige Ledgestone Panel"					
Product	Dilution	Surface Finish Removal	Substrate Deterioration	Color Change	Staining		
Vana Trol®	1:6	0	0	0	0		
Vana Trol®	1:8	0	0	0	0		
Safety Klean	1:2	0	0	0	0		
Safety Klean	1:3	0	0	0	0		

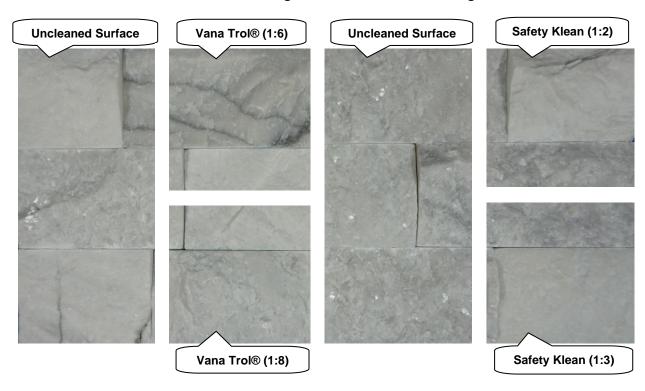
## "Alesio Smoky Beige Ledgestone Panel" After Cleaning





Substrate: Marble	Name: "A	Name: "Alesio Frost Ledgestone Panel"					
Product	Dilution	Surface Finish Removal	Substrate Deterioration	Color Change	Staining		
Vana Trol®	1:6	0	0	0	0		
Vana Trol®	1:8	0	0	0	0		
Safety Klean	1:2	0	0	0	0		
Safety Klean	1:3	0	0	0	0		

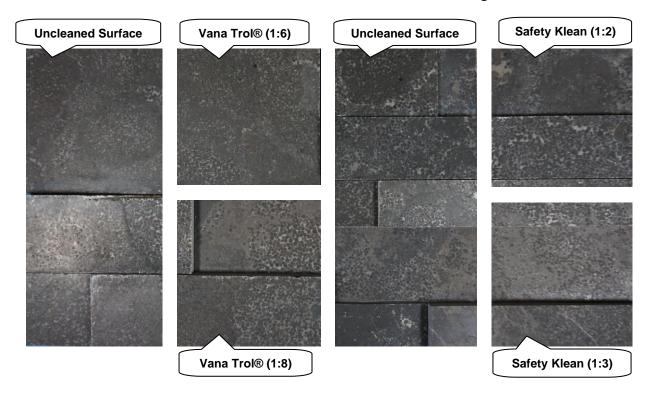
# "Alesio Frost Ledgestone Panel" After Cleaning





Substrate: Limestone	Name: "C	Name: "Carbon Honed Accentstone Panel"					
Product	Dilution	Surface Finish Removal	Substrate Deterioration	Color Change	Staining		
Vana Trol®	1:6	0	0	0	0		
Vana Trol®	1:8	0	0	0	0		
Safety Klean	1:2	0	0	0	0		
Safety Klean	1:3	0	0	0	0		

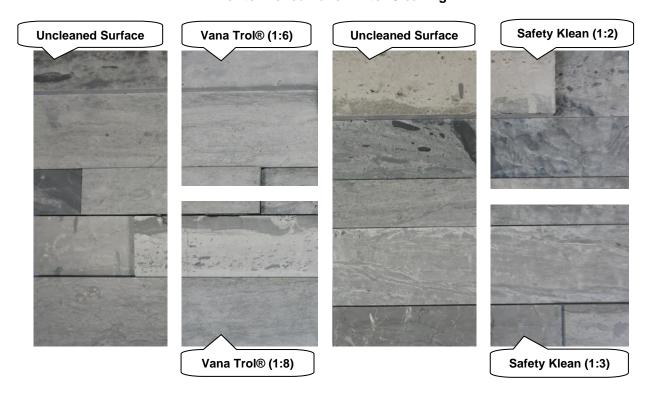
## "Carbon Honed Accentstone Panel" After Cleaning





Substrate: Limestone	Name: "P	Name: "Pewter Honed Panel"						
Product	Dilution	Surface Finish Removal	Substrate Deterioration	Color Change	Staining			
Vana Trol®	1:6	0	0	0	2			
Vana Trol®	1:8	0	0	0	2			
Safety Klean	1:2	0	0	0	1			
Safety Klean	1:3	0	0	0	1			

# "Pewter Honed Panel" After Cleaning





Substrate: Limestone	Name: "S	Name: "Smoky Birch Dimensional Panel"					
Product	Dilution	Surface Finish Removal	Substrate Deterioration	Color Change	Staining		
Vana Trol®	1:6	0	0	0	2		
Vana Trol®	1:8	0	0	0	2		
Safety Klean	1:2	0	0	0	2		
Safety Klean	1:3	0	0	0	2		

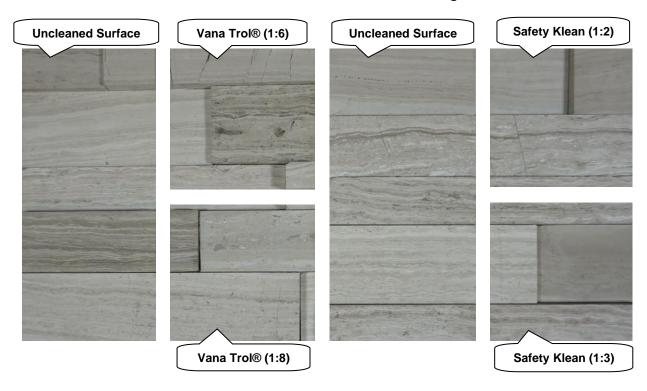
## "Smoky Birch Dimensional Panel" After Cleaning





Substrate: Limestone	Name: "V	Name: "White Birch Honed Panel"					
Product	Dilution	Surface Finish Removal	Substrate Deterioration	Color Change	Staining		
Vana Trol®	1:6	0	0	0	1		
Vana Trol®	1:8	0	0	0	1		
Safety Klean	1:2	0	0	0	1		
Safety Klean	1:3	0	0	0	1		

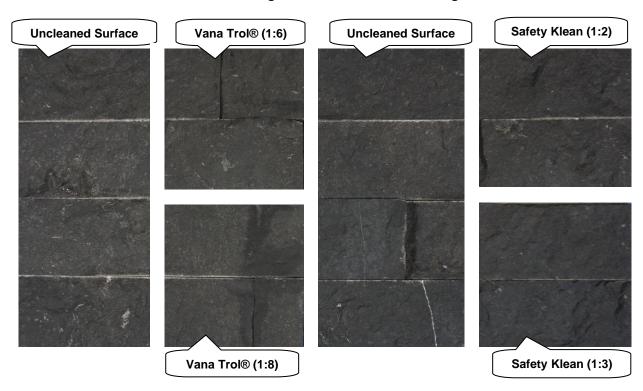
## "White Birch Honed Panel" After Cleaning





Substrate: Limestone	Name: "C	Name: "Carbon Ledgestone Panel"					
Product	Dilution	Surface Finish Removal	Substrate Deterioration	Color Change	Staining		
Vana Trol®	1:6	0	0	0	0		
Vana Trol®	1:8	0	0	0	0		
Safety Klean	1:2	0	0	0	0		
Safety Klean	1:3	0	0	0	0		

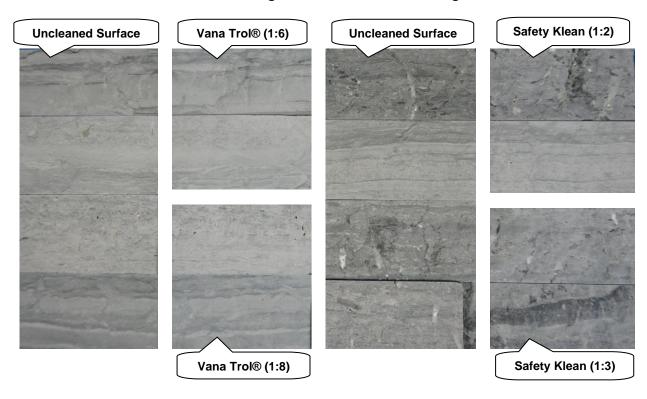
## "Carbon Ledgestone Panel" After Cleaning





Substrate: Limestone	Name: "P	Name: "Pewter Ledgestone Panel"					
Product	Dilution	Surface Finish Removal	Substrate Deterioration	Color Change	Staining		
Vana Trol®	1:6	0	0	0	0		
Vana Trol®	1:8	0	0	0	0		
Safety Klean	1:2	0	0	0	0		
Safety Klean	1:3	0	0	0	0		

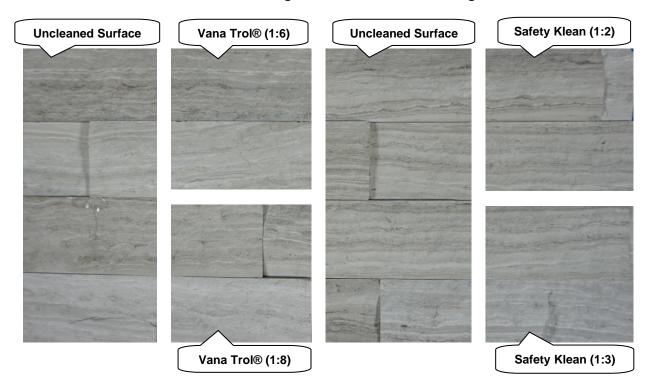
# "Pewter Ledgestone Panel" After Cleaning





Substrate: Limestone	Name: "V	Name: "White Birch Ledgestone Panel"					
Product	Dilution	Surface Finish Removal	Substrate Deterioration	Color Change	Staining		
Vana Trol®	1:6	0	0	0	0		
Vana Trol®	1:8	0	0	0	0		
Safety Klean	1:2	0	0	0	0		
Safety Klean	1:3	0	0	0	0		

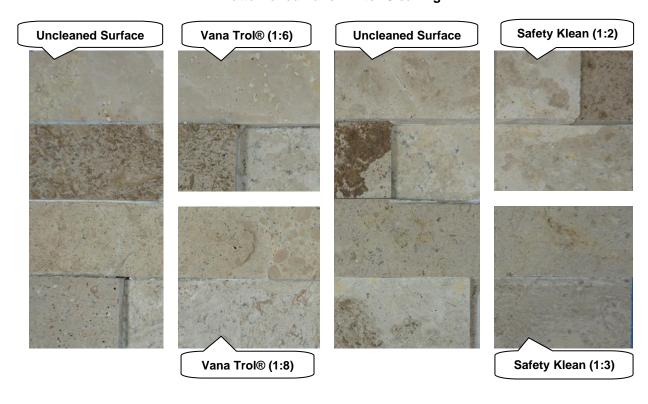
# "White Birch Ledgestone Panel" After Cleaning





Substrate: Travertine	Name: "L	Name: "Latte Honed Panel"						
Product	Dilution	Surface Finish Removal	Substrate Deterioration	Color Change	Staining			
Vana Trol®	1:6	0	0	0	0			
Vana Trol®	1:8	0	0	0	0			
Safety Klean	1:2	0	0	0	0			
Safety Klean	1:3	0	0	0	0			

# "Latte Honed Panel" After Cleaning





Substrate: Travertine	Name: "L	Name: "Latte Ledgestone Panel"					
Product	Dilution	Surface Finish Removal	Substrate Deterioration	Color Change	Staining		
Vana Trol®	1:6	0	0	0	0		
Vana Trol®	1:8	0	0	0	0		
Safety Klean	1:2	0	0	0	0		
Safety Klean	1:3	0	0	0	0		

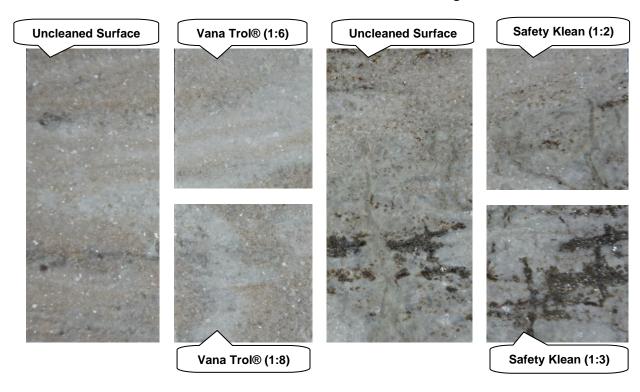
# "Latte Ledgestone Panel" After Cleaning





Substrate: Quartzite	Name: "B	Name: "Berkshire Buff Honed Tile"					
Product	Dilution	Surface Finish Removal	Substrate Deterioration	Color Change	Staining		
Vana Trol®	1:6	0	0	0	0		
Vana Trol®	1:8	0	0	0	0		
Safety Klean	1:2	0	0	0	0		
Safety Klean	1:3	0	0	0	0		

# "Berkshire Buff Honed Tile" After Cleaning





Substrate: Quartzite	Name: "A	Name: "Arctic White Shadowstone Panel"					
Product	Dilution	Surface Finish Removal	Substrate Deterioration	Color Change	Staining		
Vana Trol®	1:6	1	0	0	0		
Vana Trol®	1:8	1	0	0	0		
Safety Klean	1:2	1	0	0	0		
Safety Klean	1:3	1	0	0	0		

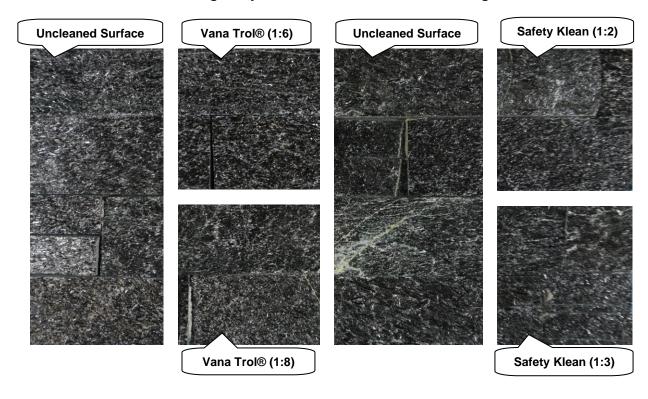
# "Arctic White Shadowstone Panel" After Cleaning





Substrate: Quartzite	Name: "N	Name: "Midnight Sky Shadowstone Panel"						
Product	Dilution	Surface Finish Removal	Substrate Deterioration	Color Change	Staining			
Vana Trol®	1:6	0	0	0	0			
Vana Trol®	1:8	0	0	0	0			
Safety Klean	1:2	0	0	0	0			
Safety Klean	1:3	0	0	0	0			

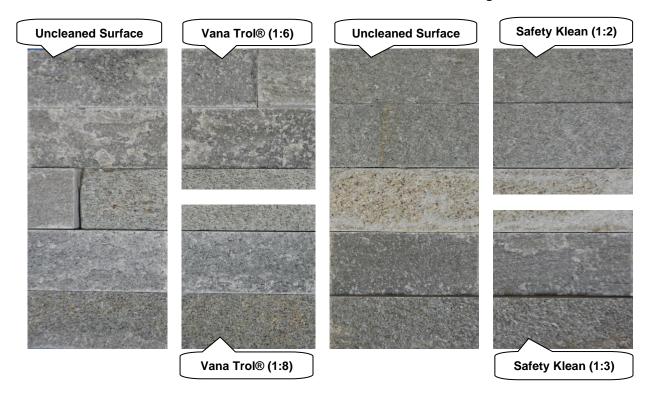
## "Midnight Sky Shadowstone Panel" After Cleaning





Substrate: Quartzite	Name: "N	Name: "New York Blue Shadowstone Panel"						
Product	Dilution	Surface Finish Removal	Substrate Deterioration	Color Change	Staining			
Vana Trol®	1:6	0	0	0	0			
Vana Trol®	1:8	0	0	0	0			
Safety Klean	1:2	0	0	0	0			
Safety Klean	1:3	0	0	0	0			

#### "New York Blue Shadowstone Panel" After Cleaning





Substrate: Quartzite	Name: "S	Name: "Silver Alabaster Shadowstone Panel"						
Product	Dilution	Surface Finish Removal	Substrate Deterioration	Color Change	Staining			
Vana Trol®	1:6	0	0	0	0			
Vana Trol®	1:8	0	0	0	0			
Safety Klean	1:2	0	0	0	0			
Safety Klean	1:3	0	0	0	0			

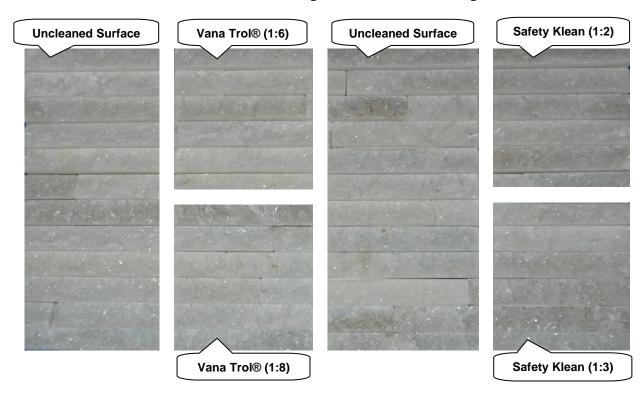
#### "Silver Alabaster Shadowstone Panel" After Cleaning





Substrate: Quartzite	Name: "T	Name: "Thin Arctic White Angled Panel"					
Product	Dilution	Surface Finish Removal	Substrate Deterioration	Color Change	Staining		
Vana Trol®	1:6	0	0	0	0		
Vana Trol®	1:8	0	0	0	0		
Safety Klean	1:2	0	0	0	0		
Safety Klean	1:3	0	0	0	0		

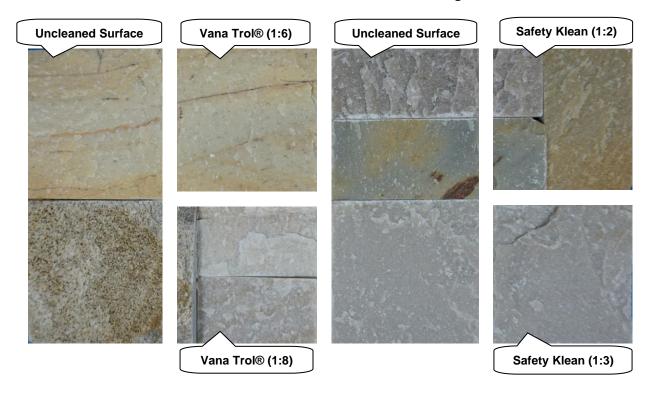
# "Thin Arctic White Angled Panel" After Cleaning





Substrate: Quartzite	Name: "S	Name: "Sierra Accentstone Panel"					
Product	Dilution	Surface Finish Removal	Substrate Deterioration	Color Change	Staining		
Vana Trol®	1:6	0	0	0	0		
Vana Trol®	1:8	0	0	0	0		
Safety Klean	1:2	0	0	0	0		
Safety Klean	1:3	0	0	0	0		

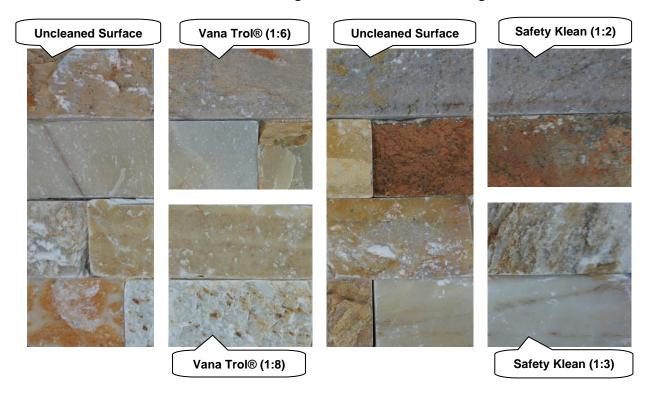
## "Sierra Accentstone Panel" After Cleaning





Substrate: Quartzite	Name: "N	Name: "Mountain Rust Ledgestone Panel"					
Product	Dilution	Surface Finish Removal	Substrate Deterioration	Color Change	Staining		
Vana Trol®	1:6	0	0	0	0		
Vana Trol®	1:8	0	0	0	0		
Safety Klean	1:2	0	0	0	0		
Safety Klean	1:3	0	0	0	0		

# "Mountain Rust Ledgestone Panel" After Cleaning





Substrate: Quartzite	Name: "B	Name: "Berkshire Buff Sandblasted Tile Plank"					
Product	Dilution	Surface Finish Removal	Substrate Deterioration	Color Change	Staining		
Vana Trol®	1:6	0	0	0	0		
Vana Trol®	1:8	0	0	0	0		
Safety Klean	1:2	0	0	0	0		
Safety Klean	1:3	0	0	0	0		

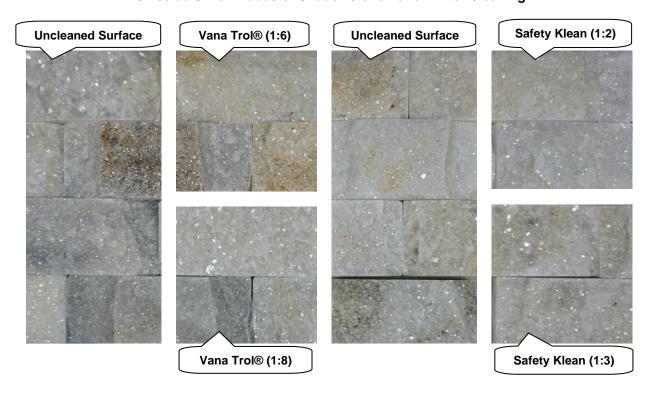
# "Berkshire Buff Sandblasted Tile Plank" After Cleaning





Substrate: Quartzite	Name: "C	Name: "Chiseled Silver Alabaster Shadowstone Panel"					
Product	Dilution	Surface Finish Removal	Substrate Deterioration	Color Change	Staining		
Vana Trol®	1:6	0	0	0	0		
Vana Trol®	1:8	0	0	0	0		
Safety Klean	1:2	0	0	0	0		
Safety Klean	1:3	0	0	0	0		

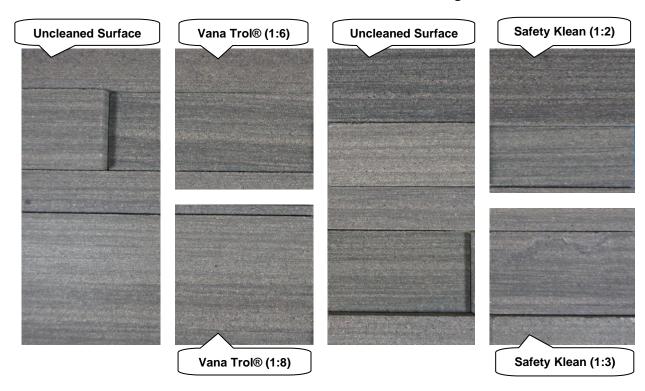
#### "Chiseled Silver Alabaster Shadowstone Panel" After Cleaning





Substrate: Sandstone	Name: "Mocha Birch Honed Panel"				
Product	Dilution	Surface Finish Removal	Substrate Deterioration	Color Change	Staining
Vana Trol®	1:6	0	0	0	0
Vana Trol®	1:8	0	0	0	0
Safety Klean	1:2	0	0	0	0
Safety Klean	1:3	0	0	0	0

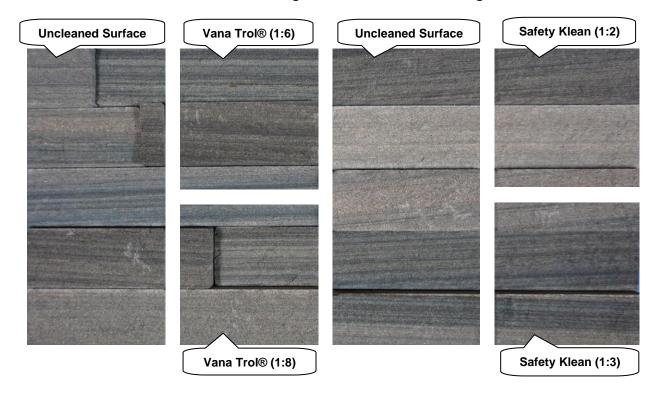
## "Mocha Birch Honed Panel" After Cleaning





Substrate: Sandstone	Name: "Mocha Birch Ledgestone Panel"				
Product	Dilution	Surface Finish Removal	Substrate Deterioration	Color Change	Staining
Vana Trol®	1:6	0	0	0	0
Vana Trol®	1:8	0	0	0	0
Safety Klean	1:2	0	0	0	0
Safety Klean	1:3	0	0	0	0

# "Mocha Birch Ledgestone Panel" After Cleaning





Substrate: Slate	Name: "Charcoal Shadowstone Panel"				
Product	Dilution	Surface Finish Removal	Substrate Deterioration	Color Change	Staining
Vana Trol®	1:6	0	0	0	0
Vana Trol®	1:8	0	0	0	0
Safety Klean	1:2	0	0	0	0
Safety Klean	1:3	0	0	0	0

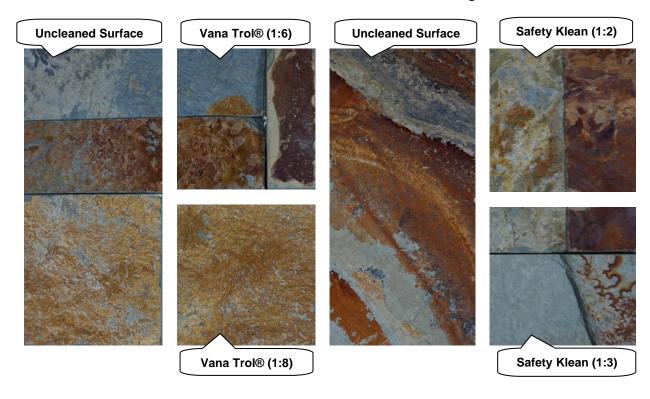
## "Charcoal Shadowstone Panel" After Cleaning





Substrate: Slate	Name: "Terracotta Accentstone Panel"				
Product	Dilution	Surface Finish Removal	Substrate Deterioration	Color Change	Staining
Vana Trol®	1:6	0	0	0	0
Vana Trol®	1:8	0	0	0	0
Safety Klean	1:2	0	0	0	0
Safety Klean	1:3	0	0	0	0

## "Terracotta Accentstone Panel" After Cleaning

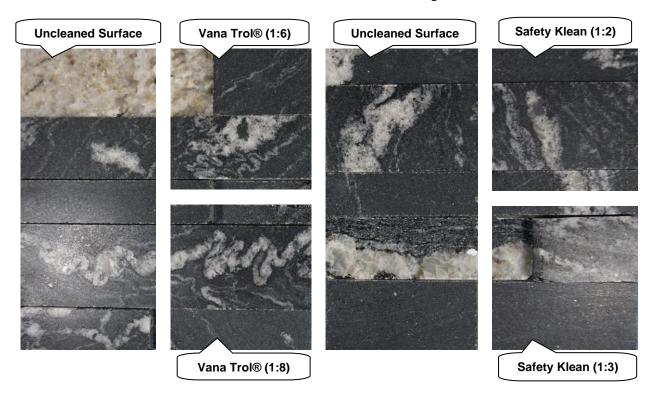




## **TEST RESULTS AND PHOTOGRAPHS: New Construction Cleaning (cont.)**

Substrate: Granite	Name: "N	Name: "Nero Honed Panel"					
Product	Dilution	Surface Finish Removal	Substrate Deterioration	Color Change	Staining		
Vana Trol®	1:6	0	0	0	0		
Vana Trol®	1:8	0	0	0	0		
Safety Klean	1:2	0	0	0	0		
Safety Klean	1:3	0	0	0	0		

# "Nero Honed Panel" After Cleaning

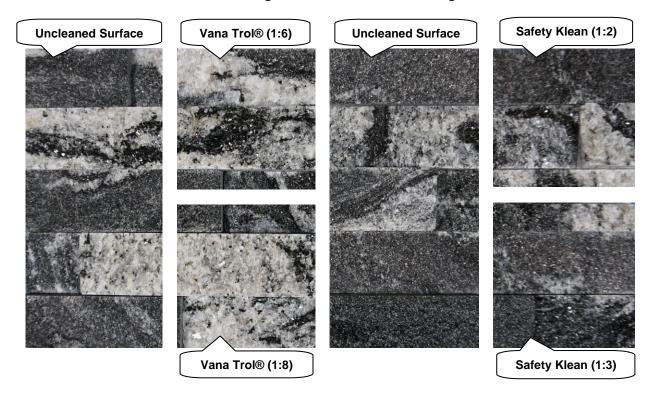




## **TEST RESULTS AND PHOTOGRAPHS: New Construction Cleaning (cont.)**

Substrate: Granite	Name: "N	Name: "Nero Ledgestone Panel"					
Product	Dilution	Surface Finish Removal	Substrate Deterioration	Color Change	Staining		
Vana Trol®	1:6	0	0	0	0		
Vana Trol®	1:8	0	0	0	0		
Safety Klean	1:2	0	0	0	0		
Safety Klean	1:3	0	0	0	0		

# "Nero Ledgestone Panel" After Cleaning





#### **CONCLUSIONS: New Construction Cleaning**

In most of the cleaning tests conducted, neither Sure Klean® Vana Trol® nor Enviro Klean® Safety Klean caused any change to the submitted natural stone panels. However, both cleaners caused a slight to moderate staining on the surface of the "Pewter Honed Panel", "Smoky Birch Dimensional Panel", and "White Birch Honed Panel". Both cleaners caused a slight surface finish removal on the surface of the "Arctic White Shadowstone Panel".

When choosing the most appropriate product for the desired result, use Sure Klean® Vana Trol® for new masonry surfaces that are subject to vanadium, manganese, and other metallic stains. Additionally, Sure Klean® Vana Trol® is designed for use with colored mortar. Use Enviro Klean® Safety Klean as an effective, safe alternative to acidic cleaning compounds.

It is recommended that the selected cleaners always be used in the lowest possible concentration.



#### **RECOMMENDATIONS: New Construction Cleaning**

Recommendations for cleaning for each type of natural stone panel submitted by Realstone Systems, Troy, MI 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		
"Alesio Crème Honed Panel" – Honed Marble			
"Alesio Frost Honed Panel" – Honed Marble			
"Alesio Smoky Beige Honed Panel" – Honed Marble	Sure Klean® Vana Trol® (1:6) or (1:8)		
"Alesio Crème Ledgestone" – Split Face Marble	OR		
"Alesio Smoky Beige Ledgestone Panel" – Split Face Marble	Enviro Klean® Safety Klean (1:2) or (1:3)		
"Alesio Frost Ledgestone Panel" – Rough Split Face Marble			
"Carbon Honed Accentstone Panel" – Honed Limestone			
"Pewter Honed Panel" – Honed Limestone			
"Smoky Birch Dimensional Panel" – Honed Limestone	Please refer to the "RECOMMENDATIONS:  Maintenance Cleaning" section.		
"White Birch Honed Panel" – Honed Limestone	ivialitie lance Cleaning Section.		
"Carbon Ledgestone Panel" – Rough Split Face Limestone			
"Pewter Ledgestone Panel" – Rough Split Face Limestone			
"White Birch Ledgestone Panel" - Rough Split Face Limestone			
"Latte Honed Panel" – Honed Travertine			
"Latte Ledgestone Panel" – Rough Split Face Travertine			
"Berkshire Buff Honed Tile" – Honed Quartzite			
"Arctic White Shadowstone Panel" – Split Face Quartzite			
"Midnight Sky Shadowstone Panel" – Split Face Quartzite			
"New York Blue Shadowstone Panel" – Split Face Quartzite			
"Silver Alabaster Shadowstone Panel" – Split Face Quartzite	Sure Klean® Vana Trol® (1:6) or (1:8)		
"Thin Arctic White Angled Panel" - Split Face Quartzite	OR		
"Sierra Accentstone Panel" – Split Face Quartzite	Enviro Klean® Safety Klean (1:2) or (1:3)		
"Mountain Rust Ledgestone Panel" – Rough Split Face Quartzite			
"Berkshire Buff Sandblasted Tile Plank" – Sand Blasted Quartzite			
"Chiseled Silver Alabaster Shadowstone Panel" - Chiseled Quartzite			
"Mocha Birch Honed Panel" – Honed Sandstone			
"Mocha Birch Ledgestone Panel" – Rough Split Face Sandstone			
"Charcoal Shadowstone Panel" – Split Face Slate			
"Terracotta Accentstone Panel" – Split Face Slate			
"Nero Honed Panel" – Honed Granite			
"Nero Ledgestone Panel" – Rough Split Face Granite			

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® 2010 All Surface Cleaner and Enviro Klean® Klean 'N Release Cleaner were evaluated to determine the optimal cleaner which leaves the external surface looking most like the uncleaned surface of the natural stone.

<u>Surface Finish Removal</u> 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.

<u>Substrate Deterioration</u> 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.

<u>Color Change</u> is the visual examination comparing the color of the uncleaned surface to the 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.

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:**

- Pre-wet the surface and apply diluted cleaning solution according to PROSOCO, Inc. Product Data Sheet.
- 2. Allow for an appropriate dwell time:
- 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.

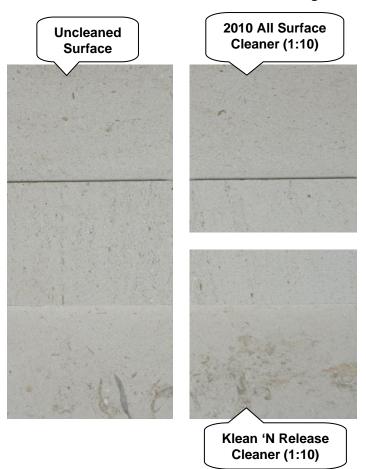
\*Rinsing Equipment – Masonry washing equipment generating approximately 700-800 psi with a water flow rate of 8 gallons per minute delivered through a 45 degree fan spray tip was used for rinsing.



Scale used for reporting results of both categories:
0 - <b>No change</b> 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

Substrate: Marble	Name: "A	Name: "Alesio Crème Honed Panel"					
Product	Dilution	Oilution Surface Finish Substrate Color Removal Deterioration Change					
2010 All Surface Cleaner	1:10	0	0	0	0		
Klean 'N Release Cleaner	1:10	0	0	0	0		

# "Alesio Crème Honed Panel" After Cleaning





Substrate: Marble	Name: "A	Name: "Alesio Frost Honed Panel"					
Product	Dilution	Surface Finish Removal	Substrate Deterioration	Color Change	Staining		
2010 All Surface Cleaner	1:10	0	0	0	0		
Klean 'N Release Cleaner	1:10	0	0	0	0		

## "Alesio Frost Honed Panel" After Cleaning





Substrate: Marble	Name: "A	Name: "Alesio Smoky Beige Honed Panel"					
Product	Dilution	Surface Finish Removal	Substrate Deterioration	Color Change	Staining		
2010 All Surface Cleaner	1:10	0	0	0	0		
Klean 'N Release Cleaner	1:10	0	0	0	0		

## "Alesio Smoky Beige Honed Panel" After Cleaning





Substrate: Marble	Name: "A	Name: "Alesio Crème Ledgestone"					
Product	Dilution	Surface Finish Substrate Color Removal Deterioration Change					
2010 All Surface Cleaner	1:10	0	0	0	0		
Klean 'N Release Cleaner	1:10	0	0	0	0		

## "Alesio Crème Ledgestone" After Cleaning





Substrate: Marble	Name: "A	Name: "Alesio Smoky Beige Ledgestone Panel"					
Product	Dilution	Surface Finish Removal	Substrate Deterioration	Color Change	Staining		
2010 All Surface Cleaner	1:10	0	0	0	0		
Klean 'N Release Cleaner	1:10	0	0	0	0		

"Alesio Smoky Beige Ledgestone Panel" After Cleaning





Substrate: Marble	Name: "A	Name: "Alesio Frost Ledgestone Panel"					
Product	Dilution	Oilution Surface Finish Substrate Color Change					
2010 All Surface Cleaner	1:10	0	0	0	0		
Klean 'N Release Cleaner	1:10	0	0	0	0		

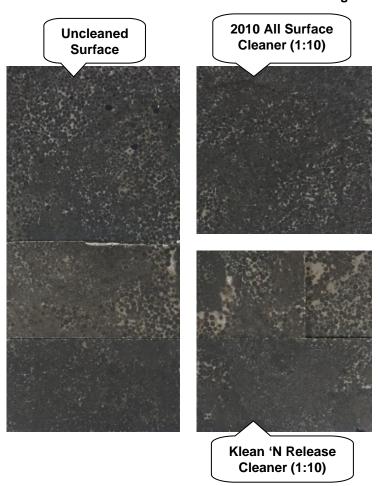
## "Alesio Frost Ledgestone Panel" After Cleaning





Substrate: Limestone	Name: "C	Name: "Carbon Honed Accentstone Panel"				
Product	Dilution	Surface Finish Removal	Substrate Deterioration	Color Change	Staining	
2010 All Surface Cleaner	1:10	0	0	0	0	
Klean 'N Release Cleaner	1:10	0	0	0	0	

## "Carbon Honed Accentstone Panel" After Cleaning





Substrate: Limestone	Name: "P	Name: "Pewter Honed Panel"					
Product	Dilution	Surface Finish Removal	Substrate Deterioration	Color Change	Staining		
2010 All Surface Cleaner	1:10	0	0	0	0		
Klean 'N Release Cleaner	1:10	0	0	0	0		

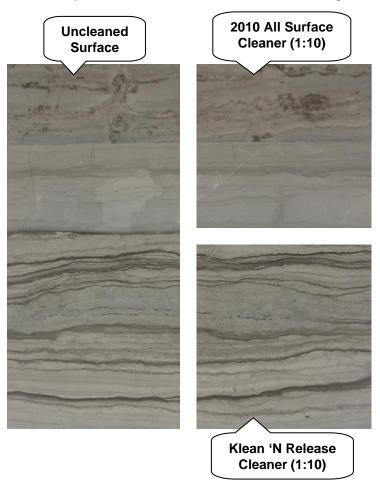
## "Pewter Honed Panel" After Cleaning





Substrate: Limestone	Name: "S	Name: "Smoky Birch Dimensional Panel"					
Product	Dilution	Surface Finish Removal	Substrate Deterioration	Color Change	Staining		
2010 All Surface Cleaner	1:10	0	0	0	0		
Klean 'N Release Cleaner	1:10	0	0	0	0		

## "Smoky Birch Dimensional Panel" After Cleaning





Substrate: Limestone	Name: "V	Name: "White Birch Honed Panel"					
Product	Dilution	Surface Finish Removal	Substrate Deterioration	Color Change	Staining		
2010 All Surface Cleaner	1:10	0	0	0	0		
Klean 'N Release Cleaner	1:10	0	0	0	0		

## "White Birch Honed Panel" After Cleaning





Substrate: Limestone	Name: "C	Name: "Carbon Ledgestone Panel"					
Product	Dilution	Surface Finish Removal	Substrate Deterioration	Color Change	Staining		
2010 All Surface Cleaner	1:10	0	0	0	0		
Klean 'N Release Cleaner	1:10	0	0	0	0		

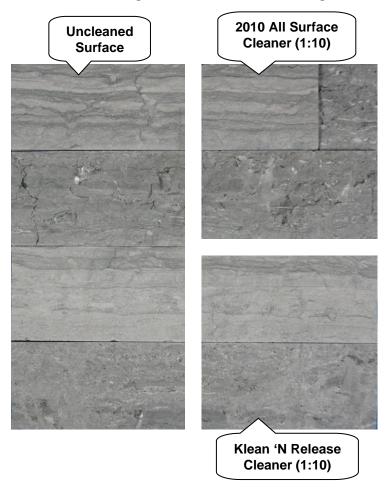
## "Carbon Ledgestone Panel" After Cleaning





Substrate: Limestone	Name: "P	Name: "Pewter Ledgestone Panel"					
Product	Dilution	Surface Finish Removal	Substrate Deterioration	Color Change	Staining		
2010 All Surface Cleaner	1:10	0	0	0	0		
Klean 'N Release Cleaner	1:10	0	0	0	0		

## "Pewter Ledgestone Panel" After Cleaning





Substrate: Limestone	Name: "V	Name: "White Birch Ledgestone Panel"					
Product	Dilution	Surface Finish Removal	Substrate Deterioration	Color Change	Staining		
2010 All Surface Cleaner	1:10	0	0	0	0		
Klean 'N Release Cleaner	1:10	0	0	0	0		

## "White Birch Ledgestone Panel" After Cleaning





Substrate: Travertine	Name: "L	Name: "Latte Honed Panel"					
Product	Dilution	Surface Finish Removal	Substrate Deterioration	Color Change	Staining		
2010 All Surface Cleaner	1:10	0	0	0	0		
Klean 'N Release Cleaner	1:10	0	0	0	0		

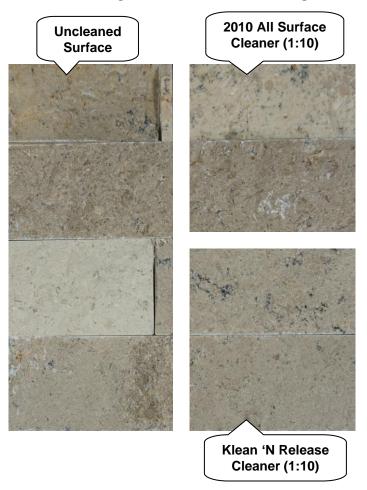
## "Latte Honed Panel" After Cleaning





Substrate: Travertine	Name: "L	Name: "Latte Ledgestone Panel"					
Product	Dilution	Surface Finish Removal	Substrate Deterioration	Color Change	Staining		
2010 All Surface Cleaner	1:10	0	0	0	0		
Klean 'N Release Cleaner	1:10	0	0	0	0		

## "Latte Ledgestone Panel" After Cleaning





Substrate: Quartzite	Name: "B	Name: "Berkshire Buff Honed Tile"					
Product	Dilution	Surface Finish Removal	Substrate Deterioration	Color Change	Staining		
2010 All Surface Cleaner	1:10	0	0	0	0		
Klean 'N Release Cleaner	1:10	0	0	0	0		

## "Berkshire Buff Honed Tile" After Cleaning





Substrate: Quartzite	Name: "A	Name: "Arctic White Shadowstone Panel"					
Product	Dilution	Surface Finish Removal	Substrate Deterioration	Color Change	Staining		
2010 All Surface Cleaner	1:10	0	0	0	0		
Klean 'N Release Cleaner	1:10	0	0	0	0		

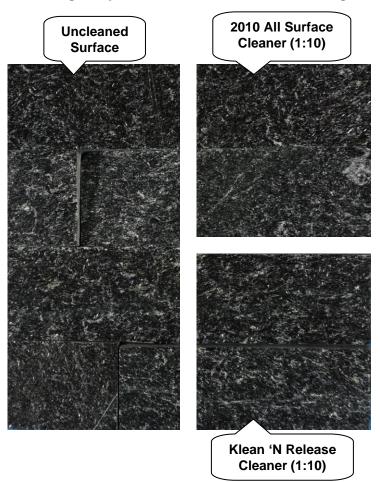
## "Arctic White Shadowstone Panel" After Cleaning





Substrate: Quartzite	Name: "N	Name: "Midnight Sky Shadowstone Panel"					
Product	Dilution	Surface Finish Removal	Substrate Deterioration	Color Change	Staining		
2010 All Surface Cleaner	1:10	0	0	0	0		
Klean 'N Release Cleaner	1:10	0	0	0	0		

## "Midnight Sky Shadowstone Panel" After Cleaning





Substrate: Quartzite	Name: "N	Name: "New York Blue Shadowstone Panel"					
Product	Dilution	Surface Finish Removal	Substrate Deterioration	Color Change	Staining		
2010 All Surface Cleaner	1:10	0	0	0	0		
Klean 'N Release Cleaner	1:10	0	0	0	0		

## "New York Blue Shadowstone Panel" After Cleaning





Substrate: Quartzite	Name: "S	Name: "Silver Alabaster Shadowstone Panel"					
Product	Dilution	Surface Finish Removal	Substrate Deterioration	Color Change	Staining		
2010 All Surface Cleaner	1:10	0	0	0	0		
Klean 'N Release Cleaner	1:10	0	0	0	0		

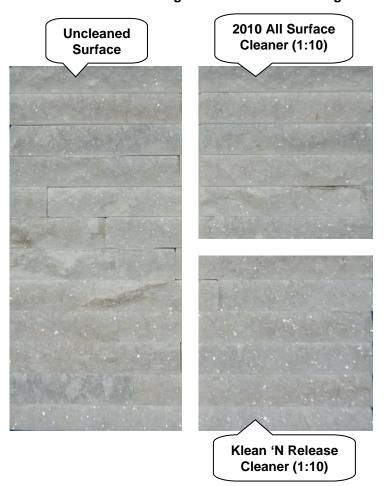
### "Silver Alabaster Shadowstone Panel" After Cleaning





Substrate: Quartzite	Name: "T	Name: "Thin Arctic White Angled Panel"					
Product	Dilution	Surface Finish Removal	Substrate Deterioration	Color Change	Staining		
2010 All Surface Cleaner	1:10	0	0	0	0		
Klean 'N Release Cleaner	1:10	0	0	0	0		

## "Thin Arctic White Angled Panel" After Cleaning





Substrate: Quartzite	Name: "S	Name: "Sierra Accentstone Panel"					
Product	Dilution	Surface Finish Removal	Substrate Deterioration	Color Change	Staining		
2010 All Surface Cleaner	1:10	0	0	0	0		
Klean 'N Release Cleaner	1:10	0	0	0	0		

## "Sierra Accentstone Panel" After Cleaning





Substrate: Quartzite	Name: "N	Name: "Mountain Rust Ledgestone Panel"					
Product	Dilution	Surface Finish Removal	Substrate Deterioration	Color Change	Staining		
2010 All Surface Cleaner	1:10	0	0	0	0		
Klean 'N Release Cleaner	1:10	0	0	0	0		

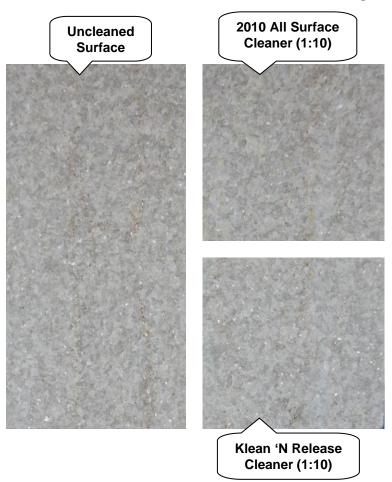
## "Mountain Rust Ledgestone Panel" After Cleaning





Substrate: Quartzite	Name: "B	Name: "Berkshire Buff Sandblasted Tile Plank"					
Product	Dilution	Surface Finish Removal	Substrate Deterioration	Color Change	Staining		
2010 All Surface Cleaner	1:10	0	0	0	0		
Klean 'N Release Cleaner	1:10	0	0	0	0		

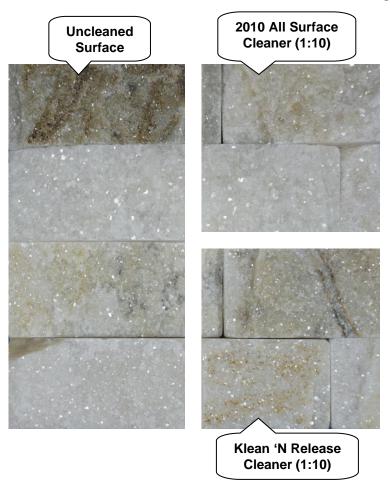
## "Berkshire Buff Sandblasted Tile Plank" After Cleaning





Substrate: Quartzite	Name: "C	Name: "Chiseled Silver Alabaster Shadowstone Panel"					
Product	Dilution	Surface Finish Removal	Substrate Deterioration	Color Change	Staining		
2010 All Surface Cleaner	1:10	0	0	0	0		
Klean 'N Release Cleaner	1:10	0	0	0	0		

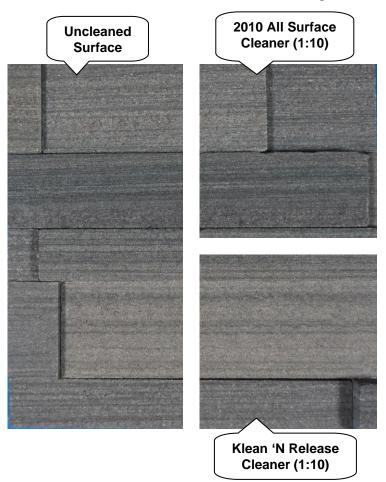
## "Chiseled Silver Alabaster Shadowstone Panel" After Cleaning





Substrate: Sandstone	Name: "N	Name: "Mocha Birch Honed Panel"					
Product	Dilution	Surface Finish Removal	Substrate Deterioration	Color Change	Staining		
2010 All Surface Cleaner	1:10	0	0	0	0		
Klean 'N Release Cleaner	1:10	0	0	0	0		

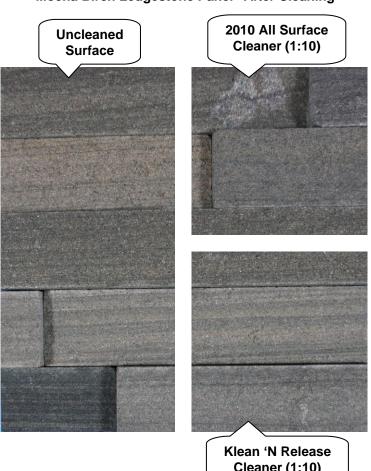
## "Mocha Birch Honed Panel" After Cleaning





Substrate: Sandstone	Name: "N	Name: "Mocha Birch Ledgestone Panel"					
Product	Dilution	Surface Finish Removal	Substrate Deterioration	Color Change	Staining		
2010 All Surface Cleaner	1:10	0	0	0	0		
Klean 'N Release Cleaner	1:10	0	0	0	0		

## "Mocha Birch Ledgestone Panel" After Cleaning

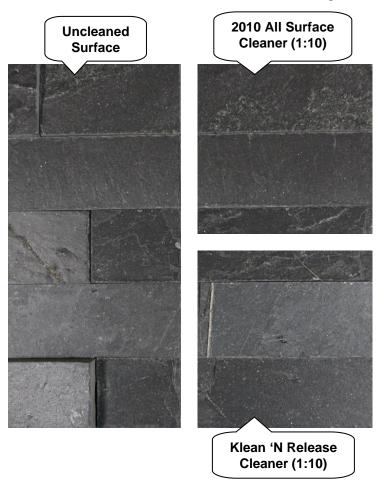


**Cleaner (1:10)** 



Substrate: Slate	Name: "C	Name: "Charcoal Shadowstone Panel"					
Product	Dilution	Surface Finish Removal	Substrate Deterioration	Color Change	Staining		
2010 All Surface Cleaner	1:10	0	0	0	0		
Klean 'N Release Cleaner	1:10	0	0	0	0		

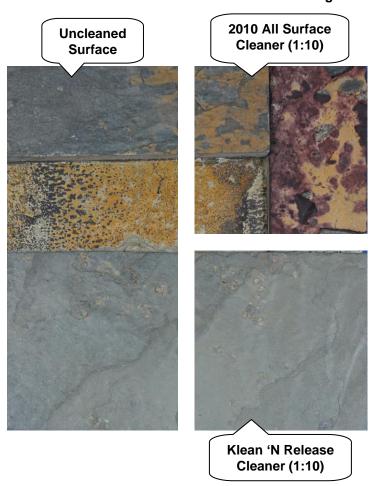
## "Charcoal Shadowstone Panel" After Cleaning





Substrate: Slate	Name: "T	Name: "Terracotta Accentstone Panel"					
Product	Dilution	Surface Finish Removal	Substrate Deterioration	Color Change	Staining		
2010 All Surface Cleaner	1:10	0	0	0	0		
Klean 'N Release Cleaner	1:10	0	0	0	0		

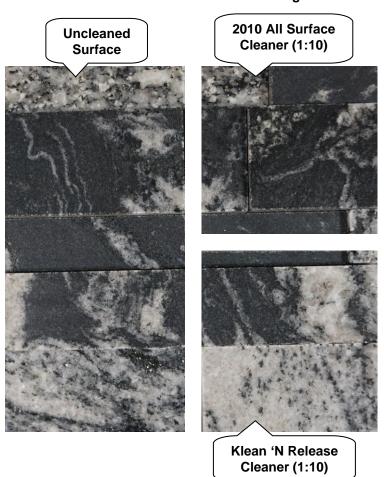
## "Terracotta Accentstone Panel" After Cleaning





Substrate: Granite	Name: "N	Name: "Nero Honed Panel"					
Product	Dilution	Surface Finish Removal	Substrate Deterioration	Color Change	Staining		
2010 All Surface Cleaner	1:10	0	0	0	0		
Klean 'N Release Cleaner	1:10	0	0	0	0		

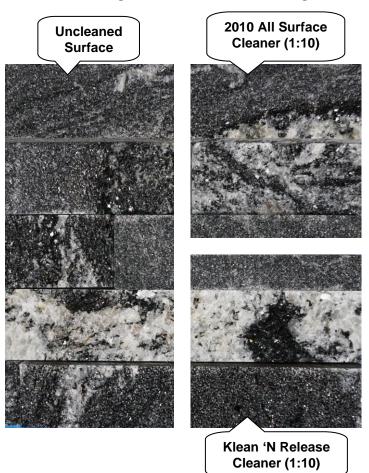
## "Nero Honed Panel" After Cleaning





Substrate: Granite	Name: "N	Name: "Nero Ledgestone Panel"					
Product	Dilution	Surface Finish Removal	Substrate Deterioration	Color Change	Staining		
2010 All Surface Cleaner	1:10	0	0	0	0		
Klean 'N Release Cleaner	1:10	0	0	0	0		

## "Nero Ledgestone Panel" After Cleaning





#### **CONCLUSIONS: Maintenance Cleaning**

Neither Enviro Klean® 2010 All Surface Cleaner nor Enviro Klean® Klean 'N Release Cleaner caused any change in appearance to any of the submitted natural stone panels.

It is recommended that the selected cleaners always be used in the lowest possible concentration.



#### **RECOMMENDATIONS: Maintenance Cleaning**

Recommendations for cleaning for each type of natural stone panel submitted by Realstone Systems, Troy, MI 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
"Alesio Crème Honed Panel" – Honed Marble	5
"Alesio Frost Honed Panel" – Honed Marble	
"Alesio Smoky Beige Honed Panel" – Honed Marble	
"Alesio Crème Ledgestone" – Split Face Marble	
"Alesio Smoky Beige Ledgestone Panel" – Split Face Marble	
"Alesio Frost Ledgestone Panel" – Rough Split Face Marble	
"Carbon Honed Accentstone Panel" – Honed Limestone	
"Pewter Honed Panel" – Honed Limestone	
"Smoky Birch Dimensional Panel" – Honed Limestone	
"White Birch Honed Panel" – Honed Limestone	
"Carbon Ledgestone Panel" – Rough Split Face Limestone	
"Pewter Ledgestone Panel" – Rough Split Face Limestone	
"White Birch Ledgestone Panel" - Rough Split Face Limestone	
"Latte Honed Panel" - Honed Travertine	Enviro Klean® 2010 All Surface
"Latte Ledgestone Panel" – Rough Split Face Travertine	Cleaner (1:10)
"Berkshire Buff Honed Tile" – Honed Quartzite	OR
"Arctic White Shadowstone Panel" – Split Face Quartzite	Enviro Klean® Klean 'N Release
"Midnight Sky Shadowstone Panel" – Split Face Quartzite	Cleaner (1:10)
"New York Blue Shadowstone Panel" – Split Face Quartzite	
"Silver Alabaster Shadowstone Panel" – Split Face Quartzite	
"Thin Arctic White Angled Panel" – Split Face Quartzite	
"Sierra Accentstone Panel" – Split Face Quartzite	
"Mountain Rust Ledgestone Panel" – Rough Split Face Quartzite	
"Berkshire Buff Sandblasted Tile Plank" – Sand Blasted Quartzite	
"Chiseled Silver Alabaster Shadowstone Panel" - Chiseled Quartzite	
"Mocha Birch Honed Panel" – Honed Sandstone	
"Mocha Birch Ledgestone Panel" – Rough Split Face Sandstone	
"Charcoal Shadowstone Panel" – Split Face Slate	
"Terracotta Accentstone Panel" - Split Face Slate	
"Nero Honed Panel" – Honed Granite	
"Nero Ledgestone Panel" – Rough Split Face Granite	

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: Acid Solubility**

An acid solubility test was performed in order to determine the most appropriate treatments for the various types of natural stone. Calcareous stones (e.g., limestone, marble, and travertine) will react when exposed to hydrochloric acid, while siliceous stones (e.g., quartzite, sandstone, slate, and granite) will not react when exposed to hydrochloric acid.

Each sample submitted was exposed to a drop of dilute hydrochloric acid in order to develop a preliminary hypothesis of each stone's composition. As expected, the samples labeled "limestone", "marble", and "travertine" all reacted when exposed to the dilute acid. However, most of the samples labeled "quartzite" also reacted to the dilute hydrochloric acid. Therefore, an acid solubility test was performed on each of the "quartzite" samples to determine the percent acid solubility.

A crushed, oven dried specimen of known weight was placed in a 10% solution of hydrochloric acid for 24 hours to allow for dissolution of acid soluble materials. The solution was filtered and the precipitate weighed after oven drying. The acid-soluble content is calculated based on a comparison of the weight of the precipitate to that of the original specimen. Ten percent (10%) or greater acid solubility indicates that the sample contains acid-soluble materials. A high acid soluble content indicates that the masonry is composed of acid soluble materials (e.g., a calcareous cementing matrix).

#### **TEST RESULTS: Acid Solubility**

Sample	Acid Soluble Content (% Weight)		
"Berkshire Buff Honed Tile" – Honed Quartzite	66.78%		
"Arctic White Shadowstone Panel" – Split Face Quartzite	96.48%		
"Midnight Sky Shadowstone Panel" – Split Face Quartzite	00.67%		
"New York Blue Shadowstone Panel" – Split Face Quartzite	69.40%		
"Silver Alabaster Shadowstone Panel" - Split Face Quartzite	94.24%		
"Thin Arctic White Angled Panel" – Split Face Quartzite	74.31%		
"Sierra Accentstone Panel" – Split Face Quartzite	81.32%		
"Mountain Rust Ledgestone Panel" – Rough Split Face Quartzite	80.50%		
"Berkshire Buff Sandblasted Tile Plank" – Sand Blasted Quartzite	62.50%		
"Chiseled Silver Alabaster Shadowstone Panel" - Chiseled Quartzite	96.44%		

#### **CONCLUSION: Acid Solubility**

All of the samples labeled "quartzite", except "Midnight Sky Shadowstone Panel", had an acid solubility greater than 10%. The high acid solubility of these samples indicates that the stones are composed of acid-soluble materials (e.g., a calcareous cementing matrix). Due to the high percentage of acid-soluble materials, all of the samples labeled "quartzite" (with the exception of the "Midnight Sky Shadowstone Panel") were deemed calcareous stones when determining appropriate treatments.

Sure Klean® Weather Seal Natural Stone Treatment, Sure Klean® Weather Seal Natural Stone Treatment WB Plus, Stand Off® Limestone & Marble Protector, and Enviro Klean® SafStrip® 8 are appropriate to be tested on calcareous samples, while Sure Klean® Weather Seal Siloxane PD, Sure Klean® Weather Seal Siloxane WB Concentrate, PROSOCO® SLX100® Water & Oil Repellent, and Enviro Klean® SafStrip® are appropriate to be tested on siliceous stones.



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

Prior to treatment application, the submitted natural stone panels were rinsed using 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. After the samples were allowed to dry for at least 24 hours, the treatments were applied in a brushing application in accordance with the current PROSOCO, Inc. Product Data Sheet instructions.

#### **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 panels.

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

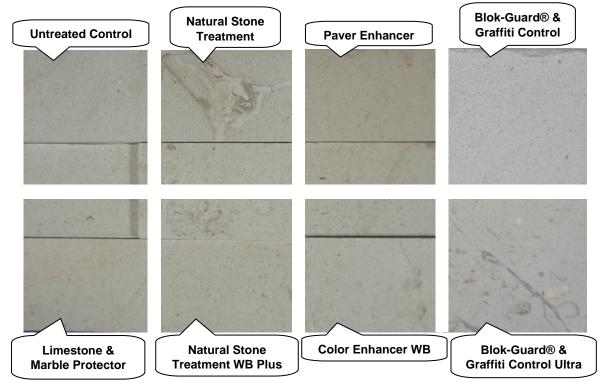
**NOTE:** Due to the surface irregularities and varying nature of the natural stone, the substrate's color and sheen enhancement may vary from one area of the sample to another, as well as from sample to sample.



Scale used for reporting results of both categories:	
0 - No enhancement compared to untreated control	
1 - Slight enhancement compared to untreated control	
2 – <b>Moderate enhancement</b> compared to untreated control	
3 - Significant enhancement compared to untreated control	

"Alesio Crème Honed Panel" – Honed Marble	Color Enhancement	Sheen Enhancement
Sure Klean® Weather Seal Natural Stone Treatment	0	0
Sure Klean® Weather Seal Natural Stone Treatment WB Plus	0	1
Stand Off® Limestone & Marble Protector	0	0
Paver Kare® Paver Enhancer	2	0
Sure Klean® Weather Seal Color Enhancer WB	1	0
Sure Klean® Weather Seal Blok-Guard® & Graffiti Control	0	0
Sure Klean® Weather Seal Blok-Guard® & Graffiti Control Ultra	1	0

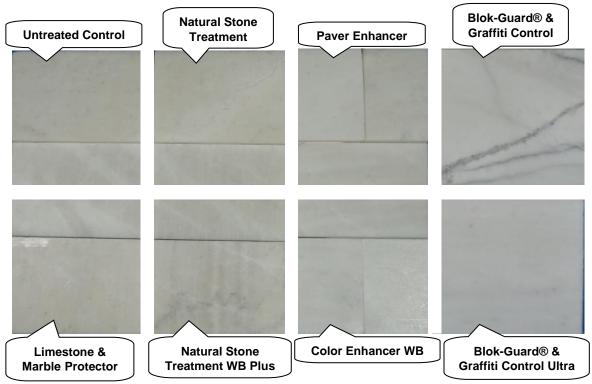
#### "Alesio Crème Honed Panel" - Honed Marble With Treatments





"Alesio Frost Honed Panel" – Honed Marble	Color Enhancement	Sheen Enhancement
Sure Klean® Weather Seal Natural Stone Treatment	0	0
Sure Klean® Weather Seal Natural Stone Treatment WB Plus	0	0
Stand Off® Limestone & Marble Protector	0	0
Paver Kare® Paver Enhancer	0	0
Sure Klean® Weather Seal Color Enhancer WB	0	0
Sure Klean® Weather Seal Blok-Guard® & Graffiti Control	0	0
Sure Klean® Weather Seal Blok-Guard® & Graffiti Control Ultra	0	0

#### "Alesio Frost Honed Panel" - Honed Marble With Treatments

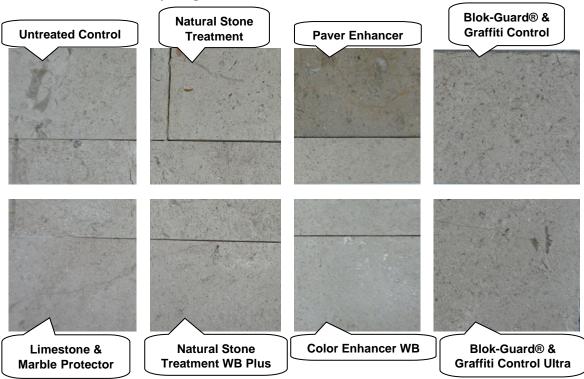




"Alesio Smoky Beige Honed Panel" – Honed Marble	Color Enhancement	Sheen Enhancement
Sure Klean® Weather Seal Natural Stone Treatment	0	0
Sure Klean® Weather Seal Natural Stone Treatment WB Plus	0	0
Stand Off® Limestone & Marble Protector	0	0
Paver Kare® Paver Enhancer	2	0
Sure Klean® Weather Seal Color Enhancer WB	0	0
Sure Klean® Weather Seal Blok-Guard® & Graffiti Control	1*	0
Sure Klean® Weather Seal Blok-Guard® & Graffiti Control Ultra	1*	0

\*NOTE: Very slight change compared to untreated surface.

"Alesio Smoky Beige Honed Panel" - Honed Marble With Treatments

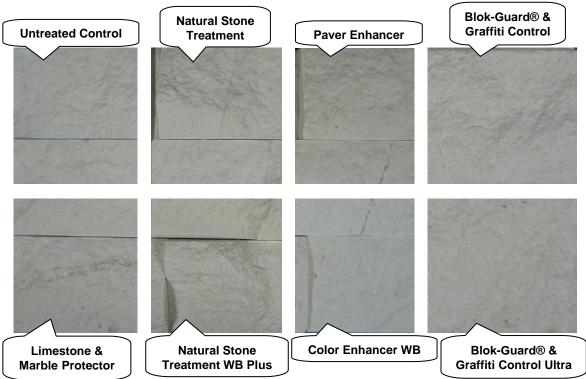




"Alesio Crème Ledgestone" – Split Face Marble	Color Enhancement	Sheen Enhancement
Sure Klean® Weather Seal Natural Stone Treatment	0	0
Sure Klean® Weather Seal Natural Stone Treatment WB Plus	1*	0
Stand Off® Limestone & Marble Protector	0	0
Paver Kare® Paver Enhancer	2	0
Sure Klean® Weather Seal Color Enhancer WB	0	0
Sure Klean® Weather Seal Blok-Guard® & Graffiti Control	1*	0
Sure Klean® Weather Seal Blok-Guard® & Graffiti Control Ultra	1	0

\*NOTE: Very slight change compared to untreated surface.

"Alesio Crème Ledgestone" – Split Face Marble With Treatments





"Alesio Smoky Beige Ledgestone Panel" – Split Face Marble	Color Enhancement	Sheen Enhancement
Sure Klean® Weather Seal Natural Stone Treatment	0	0
Sure Klean® Weather Seal Natural Stone Treatment WB Plus	0	0
Stand Off® Limestone & Marble Protector	0	0
Paver Kare® Paver Enhancer	2	1
Sure Klean® Weather Seal Color Enhancer WB	0	0
Sure Klean® Weather Seal Blok-Guard® & Graffiti Control	0	0
Sure Klean® Weather Seal Blok-Guard® & Graffiti Control Ultra	2	2

# "Alesio Smoky Beige Ledgestone Panel" - Split Face Marble With Treatments





"Alesio Frost Ledgestone Panel" – Rough Split Face Marble	Color Enhancement	Sheen Enhancement
Sure Klean® Weather Seal Natural Stone Treatment	0	0
Sure Klean® Weather Seal Natural Stone Treatment WB Plus	0	0
Stand Off® Limestone & Marble Protector	0	0
Paver Kare® Paver Enhancer	1	0
Sure Klean® Weather Seal Color Enhancer WB	0	0
Sure Klean® Weather Seal Blok-Guard® & Graffiti Control	0	0
Sure Klean® Weather Seal Blok-Guard® & Graffiti Control Ultra	0	0

## "Alesio Frost Ledgestone Panel" - Rough Split Face Marble With Treatments





"Carbon Honed Accentstone Panel" – Honed Limestone	Color Enhancement	Sheen Enhancement
Sure Klean® Weather Seal Natural Stone Treatment	0	0
Sure Klean® Weather Seal Natural Stone Treatment WB Plus	0	0
Stand Off® Limestone & Marble Protector	0	0
Paver Kare® Paver Enhancer	2	0
Sure Klean® Weather Seal Color Enhancer WB	1	0
Sure Klean® Weather Seal Blok-Guard® & Graffiti Control	1	0
Sure Klean® Weather Seal Blok-Guard® & Graffiti Control Ultra	2	0

## "Carbon Honed Accentstone Panel" - Honed Limestone With Treatments

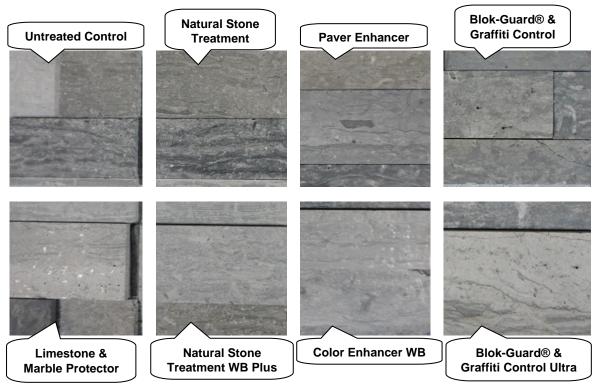




"Pewter Honed Panel" – Honed Limestone	Color Enhancement	Sheen Enhancement
Sure Klean® Weather Seal Natural Stone Treatment	0	0
Sure Klean® Weather Seal Natural Stone Treatment WB Plus	0	0
Stand Off® Limestone & Marble Protector	0	0
Paver Kare® Paver Enhancer	0	0
Sure Klean® Weather Seal Color Enhancer WB	0	0
Sure Klean® Weather Seal Blok-Guard® & Graffiti Control	1*	0
Sure Klean® Weather Seal Blok-Guard® & Graffiti Control Ultra	1*	0

\*NOTE: Very slight change compared to untreated surface.

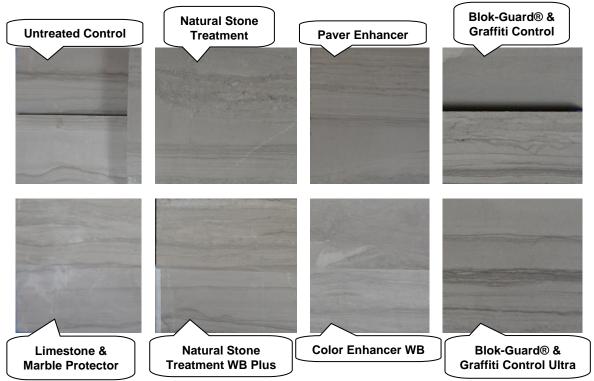
"Pewter Honed Panel" - Honed Limestone With Treatments





"Smoky Birch Dimensional Panel" – Honed Limestone	Color Enhancement	Sheen Enhancement
Sure Klean® Weather Seal Natural Stone Treatment	0	0
Sure Klean® Weather Seal Natural Stone Treatment WB Plus	0	0
Stand Off® Limestone & Marble Protector	0	0
Paver Kare® Paver Enhancer	2	0
Sure Klean® Weather Seal Color Enhancer WB	0	0
Sure Klean® Weather Seal Blok-Guard® & Graffiti Control	1	0
Sure Klean® Weather Seal Blok-Guard® & Graffiti Control Ultra	2	0

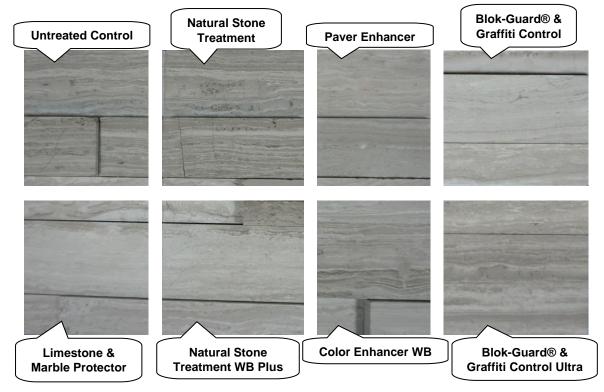
## "Smoky Birch Dimensional Panel" - Honed Limestone With Treatments





"White Birch Honed Panel" – Honed Limestone	Color Enhancement	Sheen Enhancement
Sure Klean® Weather Seal Natural Stone Treatment	0	0
Sure Klean® Weather Seal Natural Stone Treatment WB Plus	0	0
Stand Off® Limestone & Marble Protector	0	0
Paver Kare® Paver Enhancer	1	0
Sure Klean® Weather Seal Color Enhancer WB	0	0
Sure Klean® Weather Seal Blok-Guard® & Graffiti Control	0	0
Sure Klean® Weather Seal Blok-Guard® & Graffiti Control Ultra	1	0

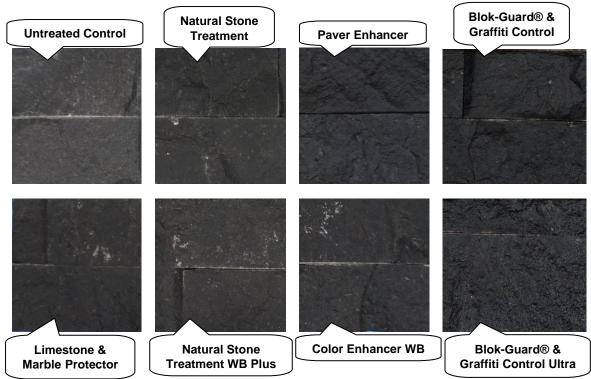
#### "White Birch Honed Panel" - Honed Limestone With Treatments





"Carbon Ledgestone Panel" – Rough Split Face Limestone	Color Enhancement	Sheen Enhancement
Sure Klean® Weather Seal Natural Stone Treatment	2	0
Sure Klean® Weather Seal Natural Stone Treatment WB Plus	2	0
Stand Off® Limestone & Marble Protector	3	0
Paver Kare® Paver Enhancer	3	1
Sure Klean® Weather Seal Color Enhancer WB	3	0
Sure Klean® Weather Seal Blok-Guard® & Graffiti Control	2	0
Sure Klean® Weather Seal Blok-Guard® & Graffiti Control Ultra	3	1

# "Carbon Ledgestone Panel" - Rough Split Face Limestone With Treatments

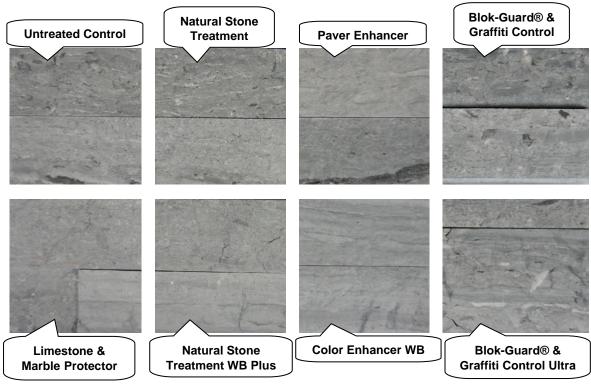




"Pewter Ledgestone Panel" – Rough Split Face Limestone	Color Enhancement	Sheen Enhancement
Sure Klean® Weather Seal Natural Stone Treatment	0	0
Sure Klean® Weather Seal Natural Stone Treatment WB Plus	0	0
Stand Off® Limestone & Marble Protector	0	0
Paver Kare® Paver Enhancer	1*	0
Sure Klean® Weather Seal Color Enhancer WB	0	0
Sure Klean® Weather Seal Blok-Guard® & Graffiti Control	0	0
Sure Klean® Weather Seal Blok-Guard® & Graffiti Control Ultra	0	0

\*NOTE: Very slight change compared to untreated surface.

"Pewter Ledgestone Panel" - Rough Split Face Limestone With Treatments

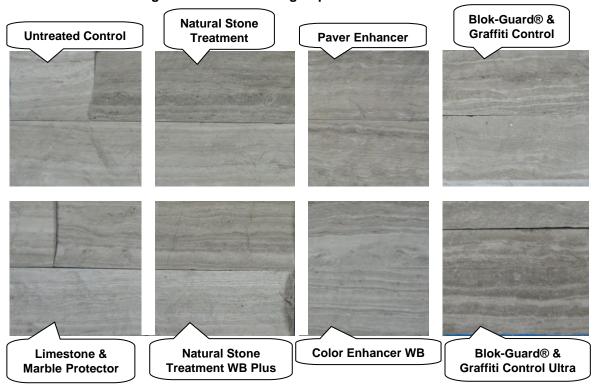




"White Birch Ledgestone Panel" – Rough Split Face Limestone	Color Enhancement	Sheen Enhancement
Sure Klean® Weather Seal Natural Stone Treatment	0	0
Sure Klean® Weather Seal Natural Stone Treatment WB Plus	0	0
Stand Off® Limestone & Marble Protector	0	0
Paver Kare® Paver Enhancer	2	0
Sure Klean® Weather Seal Color Enhancer WB	0	0
Sure Klean® Weather Seal Blok-Guard® & Graffiti Control	1*	0
Sure Klean® Weather Seal Blok-Guard® & Graffiti Control Ultra	1	0

\*NOTE: Very slight change compared to untreated surface.

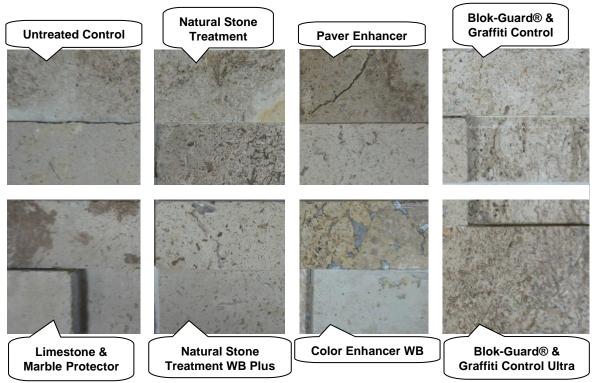
"White Birch Ledgestone Panel" - Rough Split Face Limestone With Treatments





"Latte Honed Panel" – Honed Travertine	Color Enhancement	Sheen Enhancement
Sure Klean® Weather Seal Natural Stone Treatment	0	0
Sure Klean® Weather Seal Natural Stone Treatment WB Plus	0	0
Stand Off® Limestone & Marble Protector	0	0
Paver Kare® Paver Enhancer	1	0
Sure Klean® Weather Seal Color Enhancer WB	0	0
Sure Klean® Weather Seal Blok-Guard® & Graffiti Control	0	0
Sure Klean® Weather Seal Blok-Guard® & Graffiti Control Ultra	0	0

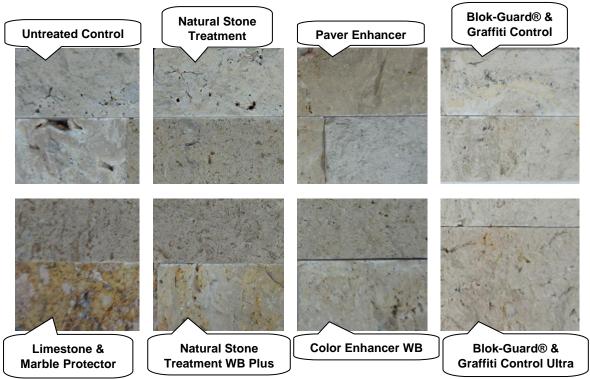
#### "Latte Honed Panel" - Honed Travertine With Treatments





"Latte Ledgestone Panel" – Rough Split Face Travertine	Color Enhancement	Sheen Enhancement
Sure Klean® Weather Seal Natural Stone Treatment	0	0
Sure Klean® Weather Seal Natural Stone Treatment WB Plus	0	0
Stand Off® Limestone & Marble Protector	0	0
Paver Kare® Paver Enhancer	2	0
Sure Klean® Weather Seal Color Enhancer WB	1	0
Sure Klean® Weather Seal Blok-Guard® & Graffiti Control	0	0
Sure Klean® Weather Seal Blok-Guard® & Graffiti Control Ultra	1	0

## "Latte Ledgestone Panel" - Rough Split Face Travertine With Treatments





"Berkshire Buff Honed Tile" – Honed Quartzite	Color Enhancement	Sheen Enhancement
Sure Klean® Weather Seal Natural Stone Treatment	0	0
Sure Klean® Weather Seal Natural Stone Treatment WB Plus	0	0
Stand Off® Limestone & Marble Protector	0	0
Paver Kare® Paver Enhancer	0	0
Sure Klean® Weather Seal Color Enhancer WB	0	0
Sure Klean® Weather Seal Blok-Guard® & Graffiti Control	1	0
Sure Klean® Weather Seal Blok-Guard® & Graffiti Control Ultra	1	0

# "Berkshire Buff Honed Tile" – Honed Quartzite With Treatments





"Arctic White Shadowstone Panel" – Split Face Quartzite	Color Enhancement	Sheen Enhancement
Sure Klean® Weather Seal Natural Stone Treatment	0	0
Sure Klean® Weather Seal Natural Stone Treatment WB Plus	0	0
Stand Off® Limestone & Marble Protector	0	0
Paver Kare® Paver Enhancer	1	0
Sure Klean® Weather Seal Color Enhancer WB	1*	0
Sure Klean® Weather Seal Blok-Guard® & Graffiti Control	0	0
Sure Klean® Weather Seal Blok-Guard® & Graffiti Control Ultra	0	0

\*NOTE: Very slight change compared to untreated surface.

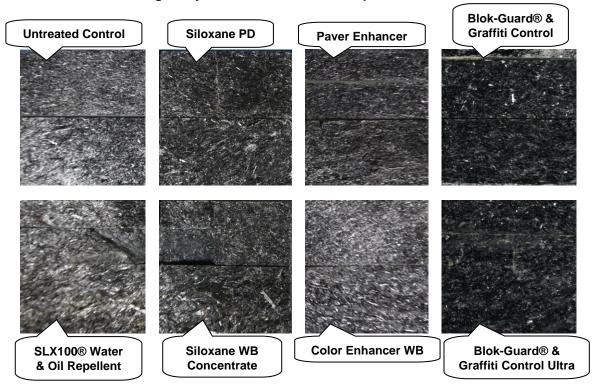
"Arctic White Shadowstone Panel" - Split Face Quartzite With Treatments





"Midnight Sky Shadowstone Panel" – Split Face Quartzite	Color Enhancement	Sheen Enhancement
Sure Klean® Weather Seal Siloxane PD	0	0
Sure Klean® Weather Seal Siloxane WB Concentrate	0	0
PROSOCO® SLX100® Water & Oil Repellent	0	0
Paver Kare® Paver Enhancer	2	0
Sure Klean® Weather Seal Color Enhancer WB	2	0
Sure Klean® Weather Seal Blok-Guard® & Graffiti Control	2	0
Sure Klean® Weather Seal Blok-Guard® & Graffiti Control Ultra	2	0

## "Midnight Sky Shadowstone Panel" - Split Face Quartzite





"New York Blue Shadowstone Panel" – Split Face Quartzite	Color Enhancement	Sheen Enhancement
Sure Klean® Weather Seal Natural Stone Treatment	0	0
Sure Klean® Weather Seal Natural Stone Treatment WB Plus	0	0
Stand Off® Limestone & Marble Protector	0	0
Paver Kare® Paver Enhancer	2	0
Sure Klean® Weather Seal Color Enhancer WB	0	0
Sure Klean® Weather Seal Blok-Guard® & Graffiti Control	2	0
Sure Klean® Weather Seal Blok-Guard® & Graffiti Control Ultra	2	0

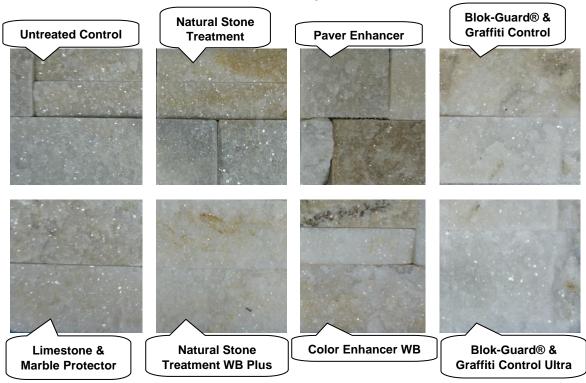
## "New York Blue Shadowstone Panel" - Split Face Quartzite With Treatments





"Silver Alabaster Shadowstone Panel" – Split Face Quartzite	Color Enhancement	Sheen Enhancement
Sure Klean® Weather Seal Natural Stone Treatment	0	0
Sure Klean® Weather Seal Natural Stone Treatment WB Plus	0	0
Stand Off® Limestone & Marble Protector	0	0
Paver Kare® Paver Enhancer	1	0
Sure Klean® Weather Seal Color Enhancer WB	0	0
Sure Klean® Weather Seal Blok-Guard® & Graffiti Control	1	0
Sure Klean® Weather Seal Blok-Guard® & Graffiti Control Ultra	1	0

## "Silver Alabaster Shadowstone Panel" - Split Face Quartzite With Treatments

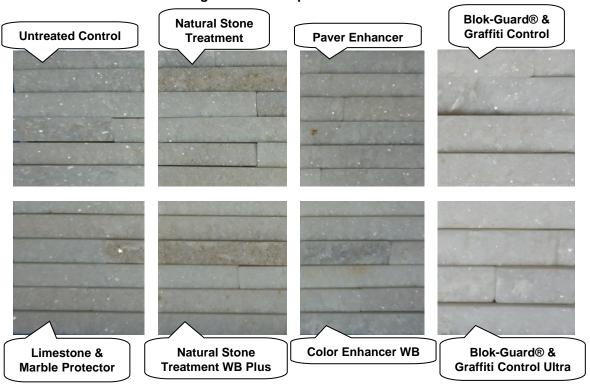




"Thin Arctic White Angled Panel" – Split Face Quartzite	Color Enhancement	Sheen Enhancement
Sure Klean® Weather Seal Natural Stone Treatment	0	0
Sure Klean® Weather Seal Natural Stone Treatment WB Plus	0	0
Stand Off® Limestone & Marble Protector	0	0
Paver Kare® Paver Enhancer	1*	0
Sure Klean® Weather Seal Color Enhancer WB	1*	0
Sure Klean® Weather Seal Blok-Guard® & Graffiti Control	1	0
Sure Klean® Weather Seal Blok-Guard® & Graffiti Control Ultra	1	0

\*NOTE: Very slight change compared to untreated surface.

"Thin Arctic White Angled Panel" - Split Face Quartzite With Treatments





"Sierra Accentstone Panel" – Split Face Quartzite	Color Enhancement	Sheen Enhancement
Sure Klean® Weather Seal Natural Stone Treatment	0	0
Sure Klean® Weather Seal Natural Stone Treatment WB Plus	0	0
Stand Off® Limestone & Marble Protector	0	0
Paver Kare® Paver Enhancer	1	0
Sure Klean® Weather Seal Color Enhancer WB	0	0
Sure Klean® Weather Seal Blok-Guard® & Graffiti Control	2	0
Sure Klean® Weather Seal Blok-Guard® & Graffiti Control Ultra	2	0

## "Sierra Accentstone Panel" - Split Face Quartzite With Treatments

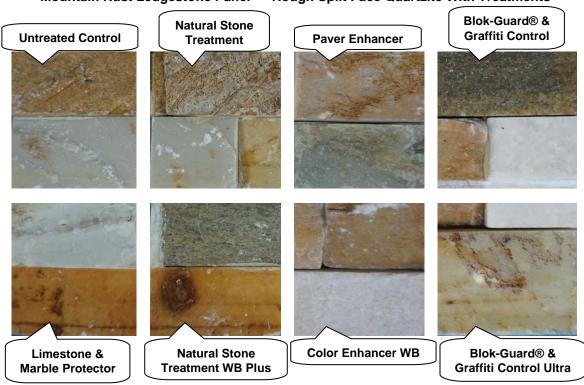




"Mountain Rust Ledgestone Panel" – Rough Split Face Quartzite	Color Enhancement	Sheen Enhancement
Sure Klean® Weather Seal Natural Stone Treatment	0	0
Sure Klean® Weather Seal Natural Stone Treatment WB Plus	0	0
Stand Off® Limestone & Marble Protector	0	0
Paver Kare® Paver Enhancer	1	0
Sure Klean® Weather Seal Color Enhancer WB	1*	0
Sure Klean® Weather Seal Blok-Guard® & Graffiti Control	2	0
Sure Klean® Weather Seal Blok-Guard® & Graffiti Control Ultra	2	0

\*NOTE: Very slight change compared to untreated surface.

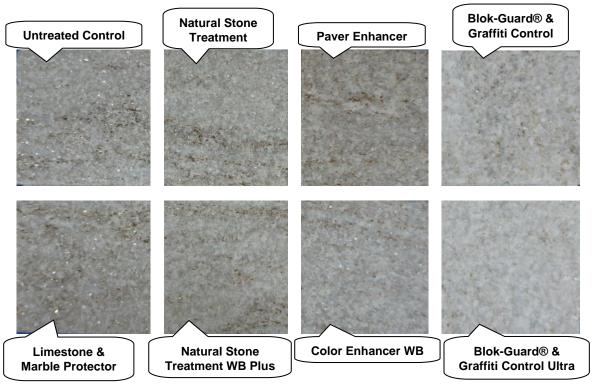
## "Mountain Rust Ledgestone Panel" - Rough Split Face Quartzite With Treatments





"Berkshire Buff Sandblasted Tile Plank" – Sand Blasted Quartzite	Color Enhancement	Sheen Enhancement
Sure Klean® Weather Seal Natural Stone Treatment	0	0
Sure Klean® Weather Seal Natural Stone Treatment WB Plus	0	0
Stand Off® Limestone & Marble Protector	0	0
Paver Kare® Paver Enhancer	1	0
Sure Klean® Weather Seal Color Enhancer WB	1*	0
Sure Klean® Weather Seal Blok-Guard® & Graffiti Control	1	0
Sure Klean® Weather Seal Blok-Guard® & Graffiti Control Ultra	1	0

## "Berkshire Buff Sandblasted Tile Plank" - Sand Blasted Quartzite With Treatments





"Chiseled Silver Alabaster Shadowstone Panel" – Chiseled Quartzite	Color Enhancement	Sheen Enhancement
Sure Klean® Weather Seal Natural Stone Treatment	0	0
Sure Klean® Weather Seal Natural Stone Treatment WB Plus	0	0
Stand Off® Limestone & Marble Protector	0	0
Paver Kare® Paver Enhancer	1	0
Sure Klean® Weather Seal Color Enhancer WB	1*	0
Sure Klean® Weather Seal Blok-Guard® & Graffiti Control	1	0
Sure Klean® Weather Seal Blok-Guard® & Graffiti Control Ultra	1	0

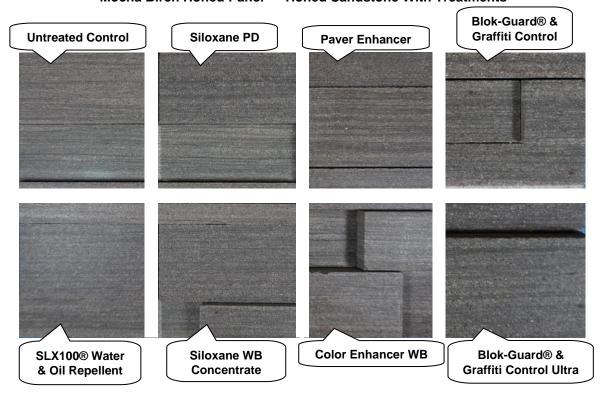
#### "Chiseled Silver Alabaster Shadowstone Panel" - Chiseled Quartzite With Treatments





"Mocha Birch Honed Panel" – Honed Sandstone	Color Enhancement	Sheen Enhancement
Sure Klean® Weather Seal Siloxane PD	0	0
Sure Klean® Weather Seal Siloxane WB Concentrate	0	0
PROSOCO® SLX100® Water & Oil Repellent	0	0
Paver Kare® Paver Enhancer	1	0
Sure Klean® Weather Seal Color Enhancer WB	1	0
Sure Klean® Weather Seal Blok-Guard® & Graffiti Control	1	0
Sure Klean® Weather Seal Blok-Guard® & Graffiti Control Ultra	2	0

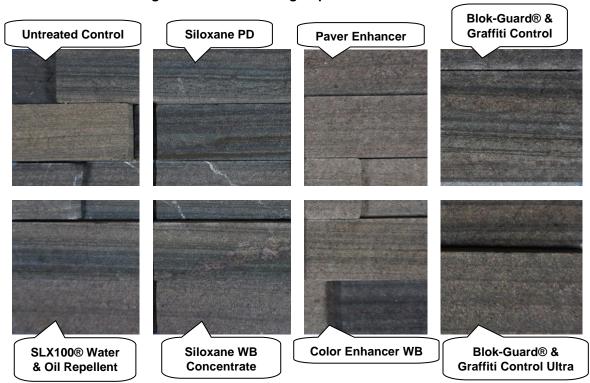
#### "Mocha Birch Honed Panel" - Honed Sandstone With Treatments





"Mocha Birch Ledgestone Panel" – Rough Split Face Sandstone	Color Enhancement	Sheen Enhancement
Sure Klean® Weather Seal Siloxane PD	0	0
Sure Klean® Weather Seal Siloxane WB Concentrate	0	0
PROSOCO® SLX100® Water & Oil Repellent	0	0
Paver Kare® Paver Enhancer	1	0
Sure Klean® Weather Seal Color Enhancer WB	1	0
Sure Klean® Weather Seal Blok-Guard® & Graffiti Control	2	0
Sure Klean® Weather Seal Blok-Guard® & Graffiti Control Ultra	2	0

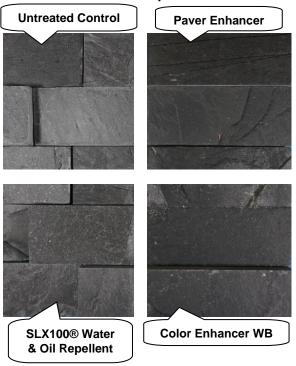
## "Mocha Birch Ledgestone Panel" - Rough Split Face Sandstone With Treatments





"Charcoal Shadowstone Panel" – Split Face Slate	Color Enhancement	Sheen Enhancement
PROSOCO® SLX100® Water & Oil Repellent	0	0
Paver Kare® Paver Enhancer	2	0
Sure Klean® Weather Seal Color Enhancer WB	2	0

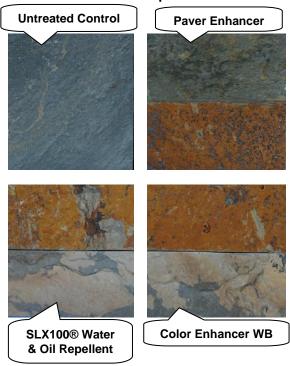
"Charcoal Shadowstone Panel" - Split Face Slate With Treatments





"Terracotta Accentstone Panel" – Split Face Slate	Color Enhancement	Sheen Enhancement
PROSOCO® SLX100® Water & Oil Repellent	0	0
Paver Kare® Paver Enhancer	1	0
Sure Klean® Weather Seal Color Enhancer WB	1	0

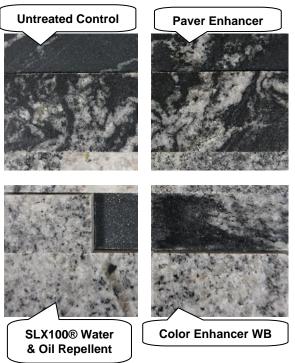
"Terracotta Accentstone Panel" - Split Face Slate With Treatments





"Nero Honed Panel" – Honed Granite	Color Enhancement	Sheen Enhancement
PROSOCO® SLX100® Water & Oil Repellent	0	0
Paver Kare® Paver Enhancer	2	0
Sure Klean® Weather Seal Color Enhancer WB	1	0

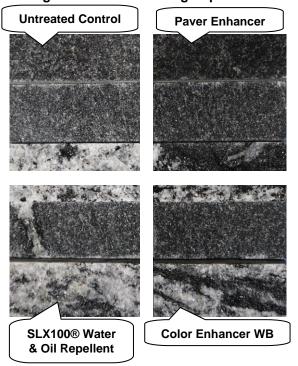
"Nero Honed Panel" - Honed Granite With Treatments





"Nero Ledgestone Panel" – Rough Split Face Granite	Color Enhancement	Sheen Enhancement
PROSOCO® SLX100® Water & Oil Repellent	0	0
Paver Kare® Paver Enhancer	2	0
Sure Klean® Weather Seal Color Enhancer WB	1	0

"Nero Ledgestone Panel" - Rough Split Face Granite





#### **CONCLUSIONS - Color and Sheen Enhancement**

The treatments evaluated provided a range of color and sheen enhancement results, from no change to a significant change depending on the treatment and the sample. Color enhancement was often observed when the samples were treated with Paver Kare® Paver Enhancer, Sure Klean® Weather Seal Color Enhancer WB, Sure Klean® Weather Seal Blok-Guard® & Graffiti Control, and Sure Klean® Weather Seal Blok-Guard® & Graffiti Control Ultra.

Note: Due to the surface texture and porosity of certain samples, specifically the samples labeled "Alesio Frost Honed Panel", "Alesio Smoky Beige Honed Panel", "Carbon Honed Accentstone Panel", "Pewter Honed Panel", "Latte Honed Panel", "Berkshire Buff Honed Tile", Mocha Birch Honed Panel", and the "Nero Honed Panel", less treatment was required during application. Excess material was removed using a microfiber cloth to ensure overapplication did not occur.

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.



#### **TEST METHODS: Protective Water Repellents**

Water repellency was evaluated where applicable. The treatments evaluated will not prevent water penetration through structural cracks, defects, or open joints. Therefore, the "Berkshire Buff Honed Tile" and "Berkshire Buff Sandblasted Tile Plank" were the only samples appropriate for testing.

#### 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 <u>AA</u> Above Average water repellent performance would be reported for treatments which result in a loss of no more than:

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

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

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

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

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





### **TEST RESULTS AND PHOTOGRAPHS: Protective Water Repellents**

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

 $\underline{\mathbf{AA}}$  = Above Average  $\underline{\mathbf{A}}$  = Average  $\underline{\mathbf{BA}}$  = Below Average

"Berkshire Buff Honed Tile" – Honed Quartzite	Results in mL loss	Ranking
Untreated Control	-0.0	
Sure Klean® Weather Seal Natural Stone Treatment	-0.0	<u>AA</u>
Sure Klean® Weather Seal Natural Stone Treatment WB Plus	-0.0	<u>AA</u>
Stand Off® Limestone & Marble Protector	-0.0	<u>AA</u>
Sure Klean® Weather Seal Paver Enhancer	-0.0	<u>AA</u>
Sure Klean® Weather Seal Color Enhancer WB	-0.0	<u>AA</u>
Sure Klean® Weather Seal Blok-Guard® & Graffiti Control	-0.0	<u>AA</u>
Sure Klean® Weather Seal Blok-Guard® & Graffiti Control Ultra	-0.0	<u>AA</u>

 $\underline{\mathbf{AA}}$  = Above Average  $\underline{\mathbf{A}}$  = Average  $\underline{\mathbf{BA}}$  = Below Average

"Berkshire Buff Sandblasted Tile Plank" – Sand Blasted Quartzite	Results in mL loss	<u>Ranking</u>
Untreated Control	-0.0	
Sure Klean® Weather Seal Natural Stone Treatment	-0.0	<u>AA</u>
Sure Klean® Weather Seal Natural Stone Treatment WB Plus	-0.0	<u>AA</u>
Stand Off® Limestone & Marble Protector	-0.0	<u>AA</u>
Sure Klean® Weather Seal Paver Enhancer	-0.0	<u>AA</u>
Sure Klean® Weather Seal Color Enhancer WB	-0.0	<u>AA</u>
Sure Klean® Weather Seal Blok-Guard® & Graffiti Control	-0.0	<u>AA</u>
Sure Klean® Weather Seal Blok-Guard® & Graffiti Control Ultra	-0.0	<u>AA</u>

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

Based on the laboratory evaluations, all of the treatments provided good water repellent protection to the "Berkshire Buff Honed Tile" and "Berkshire Buff Sandblasted Tile Plank". The remaining samples could not be tested because the applied treatments will not prevent water penetration through structural cracks, defects, or open joints.

Refer to the color and sheen enhancement tests results on pages 75 through 107 to select desired treatment.



#### **RECOMMENDATIONS: Water Repellency**

Recommendations for water repellency for each applicable type of natural stone panel submitted by Realstone Systems, Troy, MI are provided in the chart below. Recommendations are based on the treatment(s) that proved most effective.

Sample	Water Repellency
"Berkshire Buff Honed Tile" – Honed Quartzite	Sure Klean® Weather Seal Natural Stone Treatment OR Sure Klean® Weather Seal Natural Stone Treatment WB Plus OR Stand Off® Limestone & Marble Protector OR
"Berkshire Buff Sandblasted Tile Plank" – Sand Blasted Quartzite	Sure Klean® Weather Seal Paver Enhancer OR Sure Klean® Weather Seal Color Enhancer WB OR Sure Klean® Weather Seal Blok-Guard® & Graffiti Control OR Sure Klean® Weather Seal Blok-Guard® & Graffiti Control Ultra

Please refer to the Product Data Sheet or visit <a href="www.prosoco.com/voccompliance">www.prosoco.com/voccompliance</a> to confirm VOC compliance with individual district or state regulations.

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: Graffiti Resistance**

This evaluation compares the effectiveness of graffiti control treatments in preventing staining of enamel spray paint and permanent markers. The product data sheet for Sure Klean® Weather Seal Blok-Guard® & Graffiti Control and Sure Klean® Weather Seal Blok-Guard® & Graffiti Control Ultra does not recommend using the treatments on granite or slate. Therefore, the samples labeled as "granite" or "slate" were omitted for testing. Sure Klean® Weather Seal Blok-Guard® & Graffiti Control and Sure Klean® Weather Seal Blok-Guard® & Graffiti Control Ultra, as stated in the product data sheets, are only appropriate for vertical application. Therefore, the graffiti resistance testing was conducted only on the samples used in vertical installation.

Spray paint and markers were applied as graffiti agents to the untreated and treated surfaces five days after application of Sure Klean® Weather Seal Blok-Guard® & Graffiti Control and Sure Klean® Weather Seal Blok-Guard® & Graffiti Control Ultra. Removal of the graffiti agents was attempted 24 hours after application of the graffiti agents, using Enviro Klean® SafStrip® 8 on the calcareous samples, Enviro Klean® SafStrip® on the siliceous samples and Defacer Eraser® Graffiti Remover on both types of samples.

Chemical cleaners were evaluated using the following procedure:

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

SafStrip® 8	30 minutes
SafStrip®	30 minutes
Graffiti Remover	

- 3. 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.



"Alesio Crème Honed Panel" – Honed Marble						
Untreated Control	Red Paint	Black Marker	Red Marker	Blue Marker	% Avg. Removal	
SafStrip® 8	50%	70%	30%	30%	45%	
Graffiti Remover	80%	40%	30%	30%	45%	
Blok-Guard® & Graffiti Control	Red Paint	Black Marker	Red Marker	Blue Marker	% Avg. Removal	
SafStrip® 8	70%	70%	40%	40%	55%	
Graffiti Remover	90%	50%	40%	40%	55%	
Blok-Guard® & Graffiti Control Ultra	Red Paint	Black Marker	Red Marker	Blue Marker	% Avg. Removal	
SafStrip® 8	90%	60%	60%	60%	68%	
Graffiti Remover	98%	60%	60%	60%	70%	

"Alesio Frost Honed Panel" – Honed Marble						
Untreated Control	Red Paint	Black Marker	Red Marker	Blue Marker	% Avg. Removal	
SafStrip® 8	70%	95%	80%	90%	84%	
Graffiti Remover	90%	100%	90%	98%	95%	
Blok-Guard® & Graffiti Control	Red Paint	Black Marker	Red Marker	Blue Marker	% Avg. Removal	
SafStrip® 8	90%	100%	100%	100%	98%	
Graffiti Remover	100%	100%	100%	100%	100%	
Blok-Guard® & Graffiti Control Ultra	Red Paint	Black Marker	Red Marker	Blue Marker	% Avg. Removal	
SafStrip® 8	90%	100%	100%	100%	98%	
Graffiti Remover	100%	100%	100%	100%	100%	



"Alesio Smoky Beige Honed Panel" – Honed Marble					
Untreated Control	Red Paint	Black Marker	Red Marker	Blue Marker	% Avg. Removal
SafStrip® 8	80%	80%	60%	80%	75%
Graffiti Remover	80%	60%	60%	80%	70%
Blok-Guard® & Graffiti Control	Red Paint	Black Marker	Red Marker	Blue Marker	% Avg. Removal
SafStrip® 8	70%	95%	90%	95%	88%
Graffiti Remover	95%	100%	98%	100%	98%
Blok-Guard® & Graffiti Control Ultra	Red Paint	Black Marker	Red Marker	Blue Marker	% Avg. Removal
SafStrip® 8	95%	100%	100%	100%	99%
Graffiti Remover	98%	100%	100%	100%	100%

"Alesio Crème Ledgestone" – Split Face Marble						
Untreated Control	Red Paint	Black Marker	Red Marker	Blue Marker	% Avg. Removal	
SafStrip® 8	20%	50%	50%	50%	100%	
Graffiti Remover	20%	50%	50%	50%	100%	
Blok-Guard® & Graffiti Control	Red Paint	Black Marker	Red Marker	Blue Marker	% Avg. Removal	
SafStrip® 8	50%	50%	50%	50%	100%	
Graffiti Remover	50%	50%	50%	50%	100%	
Blok-Guard® & Graffiti Control Ultra	Red Paint	Black Marker	Red Marker	Blue Marker	% Avg. Removal	
SafStrip® 8	70%	50%	50%	50%	100%	
Graffiti Remover	80%	50%	50%	50%	100%	



"Alesio Smoky Beige Ledgestone Panel" – Split Face Marble					
Untreated Control	Red Paint	Black Marker	Red Marker	Blue Marker	% Avg. Removal
SafStrip® 8	60%	40%	40%	40%	100%
Graffiti Remover	80%	40%	40%	40%	100%
Blok-Guard® & Graffiti Control	Red Paint	Black Marker	Red Marker	Blue Marker	% Avg. Removal
SafStrip® 8	75%	90%	90%	90%	100%
Graffiti Remover	85%	90%	90%	95%	100%
Blok-Guard® & Graffiti Control Ultra	Red Paint	Black Marker	Red Marker	Blue Marker	% Avg. Removal
SafStrip® 8	90%	100%	95%	100%	100%
Graffiti Remover	95%	100%	98%	100%	100%

"Alesio Frost Ledges	T	Bleet	Red Black Red Blue % Avg.						
Untreated Control	Red Paint	Black Marker	Red Marker	Blue Marker	% Avg. Removal				
SafStrip® 8	50%	60%	50%	50%	43%				
Graffiti Remover	60%	50%	50%	50%	53%				
Blok-Guard® & Graffiti Control	Red Paint	Black Marker	Red Marker	Blue Marker	% Avg. Removal				
SafStrip® 8	70%	95%	95%	95%	89%				
Graffiti Remover	80%	95%	90%	90%	89%				
Blok-Guard® & Graffiti Control Ultra	Red Paint	Black Marker	Red Marker	Blue Marker	% Avg. Removal				
SafStrip® 8	80%	100%	95%	95%	93%				
Graffiti Remover	90%	100%	95%	95%	95%				



"Carbon Honed Accentstone Panel" – Honed Limestone						
Untreated Control	Red Paint	Black Marker	Red Marker	Blue Marker	% Avg. Removal	
SafStrip® 8	90%	100%	100%	100%	98%	
Graffiti Remover	95%	100%	100%	100%	99%	
Blok-Guard® & Graffiti Control	Red Paint	Black Marker	Red Marker	Blue Marker	% Avg. Removal	
SafStrip® 8	100%	100%	100%	100%	100%	
Graffiti Remover	100%	100%	100%	100%	100%	
Blok-Guard® & Graffiti Control Ultra	Red Paint	Black Marker	Red Marker	Blue Marker	% Avg. Removal	
SafStrip® 8	100%	100%	100%	100%	100%	
Graffiti Remover	100%	100%	100%	100%	100%	

"Pewter Honed Panel" – Honed Limestone						
Untreated Control	Red Paint	Black Marker	Red Marker	Blue Marker	% Avg. Removal	
SafStrip® 8	60%	40%	40%	40%	45%	
Graffiti Remover	70%	80%	50%	80%	70%	
Blok-Guard® & Graffiti Control	Red Paint	Black Marker	Red Marker	Blue Marker	% Avg. Removal	
SafStrip® 8	75%	90%	80%	80%	81%	
Graffiti Remover	85%	100%	98%	100%	96%	
Blok-Guard® & Graffiti Control Ultra	Red Paint	Black Marker	Red Marker	Blue Marker	% Avg. Removal	
SafStrip® 8	80%	100%	98%	98%	94%	
Graffiti Remover	90%	98%	98%	100%	97%	



"Smoky Birch Dimensional Panel" – Honed Limestone									
Untreated Control	Red Paint	Black Marker	Red Marker	Blue Marker	% Avg. Removal				
SafStrip® 8	60%	90%	50%	50%	63%				
Graffiti Remover	75%	80%	80%	50%	71%				
Blok-Guard® & Graffiti Control	Red Paint	Black Marker	Red Marker	Blue Marker	% Avg. Removal				
SafStrip® 8	60%	80%	70%	50%	65%				
Graffiti Remover	75%	95%	90%	50%	78%				
Blok-Guard® & Graffiti Control Ultra	Red Paint	Black Marker	Red Marker	Blue Marker	% Avg. Removal				
SafStrip® 8	60%	90%	60%	60%	68%				
Graffiti Remover	75%	98%	90%	90%	88%				

"White Birch Honed Panel" - Honed Limestone									
Untreated Control	Red Paint	Black Marker	Red Marker	Blue Marker	% Avg. Removal				
SafStrip® 8	30%	50%	50%	50%	45%				
Graffiti Remover	50%	50%	50%	50%	50%				
Blok-Guard® & Graffiti Control	Red Paint	Black Marker	Red Marker	Blue Marker	% Avg. Removal				
SafStrip® 8	50%	90%	60%	60%	65%				
Graffiti Remover	60%	95%	60%	60%	69%				
Blok-Guard® & Graffiti Control Ultra	Red Paint	Black Marker	Red Marker	Blue Marker	% Avg. Removal				
SafStrip® 8	70%	95%	90%	80%	84%				
Graffiti Remover	80%	95%	80%	90%	86%				



"Carbon Ledgestone Panel" – Rough Split Face Limestone								
Untreated Control	Red Paint	Black Marker	Red Marker	Blue Marker	% Avg. Removal			
SafStrip® 8	70%	100%	100%	100%	93%			
Graffiti Remover	80%	100%	100%	100%	95%			
Blok-Guard® & Graffiti Control	Red Paint	Black Marker	Red Marker	Blue Marker	% Avg. Removal			
SafStrip® 8	80%	100%	100%	100%	95%			
Graffiti Remover	90%	100%	100%	100%	98%			
Blok-Guard® & Graffiti Control Ultra	Red Paint	Black Marker	Red Marker	Blue Marker	% Avg. Removal			
SafStrip® 8	90%	100%	100%	100%	98%			
Graffiti Remover	95%	100%	100%	100%	99%			

"Pewter Ledgestone Panel" – Rough Split Face Limestone								
Untreated Control	Red Paint	Black Marker	Red Marker	Blue Marker	% Avg. Removal			
SafStrip® 8	20%	50%	50%	50%	43%			
Graffiti Remover	50%	50%	50%	50%	50%			
Blok-Guard® & Graffiti Control	Red Paint	Black Marker	Red Marker	Blue Marker	% Avg. Removal			
SafStrip® 8	80%	80%	60%	60%	70%			
Graffiti Remover	80%	90%	60%	80%	78%			
Blok-Guard® & Graffiti Control Ultra	Red Paint	Black Marker	Red Marker	Blue Marker	% Avg. Removal			
SafStrip® 8	70%	90%	70%	80%	78%			
Graffiti Remover	80%	90%	70%	80%	80%			



"White Birch Ledgestone Panel" – Rough Split Face Limestone								
Untreated Control	Red Paint	Black Marker	Red Marker	Blue Marker	% Avg. Removal			
SafStrip® 8	10%	80%	60%	50%	50%			
Graffiti Remover	10%	80%	50%	50%	48%			
Blok-Guard® & Graffiti Control	Red Paint	Black Marker	Red Marker	Blue Marker	% Avg. Removal			
SafStrip® 8	30%	80%	60%	60%	58%			
Graffiti Remover	60%	60%	60%	60%	60%			
Blok-Guard® & Graffiti Control Ultra	Red Paint	Black Marker	Red Marker	Blue Marker	% Avg. Removal			
SafStrip® 8	60%	90%	70%	70%	73%			
Graffiti Remover	80%	90%	80%	90%	85%			

"Latte Honed Panel" – Honed Travertine								
Untreated Control	Red Paint	Black Marker	Red Marker	Blue Marker	% Avg. Removal			
SafStrip® 8	60%	40%	40%	40%	45%			
Graffiti Remover	90%	40%	40%	40%	53%			
Blok-Guard® & Graffiti Control	Red Paint	Black Marker	Red Marker	Blue Marker	% Avg. Removal			
SafStrip® 8	80%	60%	50%	50%	60%			
Graffiti Remover	80%	90%	70%	70%	78%			
Blok-Guard® & Graffiti Control Ultra	Red Paint	Black Marker	Red Marker	Blue Marker	% Avg. Removal			
SafStrip® 8	80%	90%	90%	90%	88%			
Graffiti Remover	90%	95%	95%	95%	94%			



"Latte Ledgestone Panel" – Rough Split Face Travertine									
Untreated Control	Red Paint	Black Marker	Red Marker	Blue Marker	% Avg. Removal				
SafStrip® 8	50%	50%	30%	60%	48%				
Graffiti Remover	70%	60%	30%	50%	53%				
Blok-Guard® & Graffiti Control	Red Paint	Black Marker	Red Marker	Blue Marker	% Avg. Removal				
SafStrip® 8	80%	90%	85%	85%	85%				
Graffiti Remover	90%	90%	85%	85%	88%				
Blok-Guard® & Graffiti Control Ultra	Red Paint	Black Marker	Red Marker	Blue Marker	% Avg. Removal				
SafStrip® 8	70%	95%	95%	95%	89%				
Graffiti Remover	90%	95%	95%	95%	94%				

"Berkshire Buff Honed Tile" – Honed Quartzite								
Untreated Control	Red Paint	Black Marker	Red Marker	Blue Marker	% Avg. Removal			
SafStrip® 8	80%	80%	70%	80%	78%			
Graffiti Remover	90%	80%	70%	80%	80%			
Blok-Guard® & Graffiti Control	Red Paint	Black Marker	Red Marker	Blue Marker	% Avg. Removal			
SafStrip® 8	100%	100%	100%	100%	100%			
Graffiti Remover	100%	100%	100%	100%	100%			
Blok-Guard® & Graffiti Control Ultra	Red Paint	Black Marker	Red Marker	Blue Marker	% Avg. Removal			
SafStrip® 8	100%	100%	100%	100%	100%			
Graffiti Remover	100%	100%	100%	100%	100%			



"Arctic White Shadowstone Panel" - Split Face Quartzite									
Untreated Control	Red Paint	Black Marker	Red Marker	Blue Marker	% Avg. Removal				
SafStrip® 8	70%	50%	30%	30%	45%				
Graffiti Remover	70%	50%	30%	30%	45%				
Blok-Guard® & Graffiti Control	Red Paint	Black Marker	Red Marker	Blue Marker	% Avg. Removal				
SafStrip® 8	80%	90%	80%	80%	83%				
Graffiti Remover	80%	90%	90%	95%	89%				
Blok-Guard® & Graffiti Control Ultra	Red Paint	Black Marker	Red Marker	Blue Marker	% Avg. Removal				
SafStrip® 8	80%	95%	95%	95%	91%				
Graffiti Remover	90%	100%	95%	100%	96%				

"Midnight Sky Shadowstone Panel" – Split Face Quartzite									
Untreated Control	Red Paint	Black Marker	Red Marker	Blue Marker	% Avg. Removal				
SafStrip®	50%	100%	50%	60%	65%				
Graffiti Remover	80%	100%	50%	90%	80%				
Blok-Guard® & Graffiti Control	Red Paint	Black Marker	Red Marker	Blue Marker	% Avg. Removal				
SafStrip®	60%	100%	98%	100%	90%				
Graffiti Remover	95%	100%	98%	100%	98%				
Blok-Guard® & Graffiti Control Ultra	Red Paint	Black Marker	Red Marker	Blue Marker	% Avg. Removal				
SafStrip®	90%	100%	100%	100%	98%				
Graffiti Remover	95%	100%	100%	100%	99%				



"New York Blue Shadowstone Panel" - Split Face Quartzite									
Untreated Control	Red Paint	Black Marker	Red Marker	Blue Marker	% Avg. Removal				
SafStrip® 8	80%	60%	60%	60%	65%				
Graffiti Remover	50%	60%	60%	60%	58%				
Blok-Guard® & Graffiti Control	Red Paint	Black Marker	Red Marker	Blue Marker	% Avg. Removal				
SafStrip® 8	80%	98%	95%	95%	92%				
Graffiti Remover	80%	98%	100%	95%	93%				
Blok-Guard® & Graffiti Control Ultra	Red Paint	Black Marker	Red Marker	Blue Marker	% Avg. Removal				
SafStrip® 8	90%	100%	98%	98%	97%				
Graffiti Remover	95%	100%	98%	98%	98%				

"Silver Alabaster Sha	1	·	T	1	0/ 4
Untreated Control	Red Paint	Black Marker	Red Marker	Blue Marker	% Avg. Removal
SafStrip® 8	60%	60%	60%	60%	60%
Graffiti Remover	60%	60%	60%	60%	60%
Blok-Guard® & Graffiti Control	Red Paint	Black Marker	Red Marker	Blue Marker	% Avg. Removal
SafStrip® 8	80%	95%	90%	90%	89%
Graffiti Remover	90%	95%	90%	90%	91%
Blok-Guard® & Graffiti Control Ultra	Red Paint	Black Marker	Red Marker	Blue Marker	% Avg. Removal
SafStrip® 8	90%	100%	95%	100%	96%
Graffiti Remover	95%	100%	95%	100%	98%



"Thin Arctic White Angled Panel" – Split Face Quartzite								
Untreated Control	Red Paint	Black Marker	Red Marker	Blue Marker	% Avg. Removal			
SafStrip® 8	50%	40%	40%	40%	43%			
Graffiti Remover	60%	50%	50%	50%	53%			
Blok-Guard® & Graffiti Control	Red Paint	Black Marker	Red Marker	Blue Marker	% Avg. Removal			
SafStrip® 8	70%	90%	70%	90%	80%			
Graffiti Remover	80%	90%	80%	90%	85%			
Blok-Guard® & Graffiti Control Ultra	Red Paint	Black Marker	Red Marker	Blue Marker	% Avg. Removal			
SafStrip® 8	80%	100%	80%	95%	89%			
Graffiti Remover	90%	100%	80%	95%	91%			

"Sierra Accentstone Panel" – Split Face Quartzite								
Untreated Control	Red Paint	Black Marker	Red Marker	Blue Marker	% Avg. Removal			
SafStrip® 8	70%	60%	60%	60%	63%			
Graffiti Remover	80%	50%	50%	50%	58%			
Blok-Guard® & Graffiti Control	Red Paint	Black Marker	Red Marker	Blue Marker	% Avg. Removal			
SafStrip® 8	80%	100%	90%	90%	90%			
Graffiti Remover	90%	80%	80%	80%	83%			
Blok-Guard® & Graffiti Control Ultra	Red Paint	Black Marker	Red Marker	Blue Marker	% Avg. Removal			
SafStrip® 8	90%	100%	95%	95%	95%			
Graffiti Remover	90%	90%	90%	90%	90%			



"Mountain Rust Ledgestone Panel" – Rough Split Face Quartzite								
Untreated Control	Red Paint	Black Marker	Red Marker	Blue Marker	% Avg. Removal			
SafStrip® 8	20%	50%	70%	70%	53%			
Graffiti Remover	40%	50%	50%	90%	58%			
Blok-Guard® & Graffiti Control	Red Paint	Black Marker	Red Marker	Blue Marker	% Avg. Removal			
SafStrip® 8	70%	100%	90%	90%	88%			
Graffiti Remover	90%	100%	90%	90%	93%			
Blok-Guard® & Graffiti Control Ultra	Red Paint	Black Marker	Red Marker	Blue Marker	% Avg. Removal			
SafStrip® 8	50%	100%	100%	100%	88%			
Graffiti Remover	90%	100%	100%	100%	98%			

"Berkshire Buff Sandblasted Tile Plank" – Sand Blasted Quartzite								
Untreated Control	Red Paint	Black Marker	Red Marker	Blue Marker	% Avg. Removal			
SafStrip® 8	60%	50%	50%	50%	53%			
Graffiti Remover	70%	50%	50%	50%	55%			
Blok-Guard® & Graffiti Control	Red Paint	Black Marker	Red Marker	Blue Marker	% Avg. Removal			
SafStrip® 8	70%	80%	70%	70%	73%			
Graffiti Remover	80%	95%	90%	90%	89%			
Blok-Guard® & Graffiti Control Ultra	Red Paint	Black Marker	Red Marker	Blue Marker	% Avg. Removal			
SafStrip® 8	80%	80%	70%	70%	75%			
Graffiti Remover	90%	95%	90%	95%	93%			



"Chiseled Silver Alabaster Shadowstone Panel" – Chiseled Quartzite								
Untreated Control	Red Paint	Black Marker	Red Marker	Blue Marker	% Avg. Removal			
SafStrip® 8	60%	50%	50%	50%	53%			
Graffiti Remover	70%	50%	50%	50%	55%			
Blok-Guard® & Graffiti Control	Red Paint	Black Marker	Red Marker	Blue Marker	% Avg. Removal			
SafStrip® 8	80%	95%	95%	90%	90%			
Graffiti Remover	80%	90%	90%	90%	88%			
Blok-Guard® & Graffiti Control Ultra	Red Paint	Black Marker	Red Marker	Blue Marker	% Avg. Removal			
SafStrip® 8	90%	95%	90%	95%	93%			
Graffiti Remover	90%	95%	90%	95%	93%			

"Mocha Birch Honed Panel" – Honed Sandstone									
Untreated Control	Red Paint	Black Marker	Red Marker	Blue Marker	% Avg. Removal				
SafStrip®	70%	80%	70%	80%	75%				
Graffiti Remover	70%	80%	70%	80%	75%				
Blok-Guard® & Graffiti Control	Red Paint	Black Marker	Red Marker	Blue Marker	% Avg. Removal				
SafStrip®	90%	100%	90%	100%	95%				
Graffiti Remover	90%	100%	100%	100%	98%				
Blok-Guard® & Graffiti Control Ultra	Red Paint	Black Marker	Red Marker	Blue Marker	% Avg. Removal				
SafStrip®	90%	100%	100%	100%	98%				
Graffiti Remover	98%	100%	100%	100%	100%				



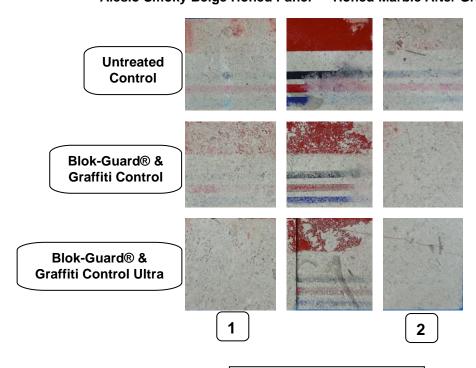
"Mocha Birch Ledgestone Panel" – Rough Split Face Sandstone								
Untreated Control	Red Paint	Black Marker	Red Marker	Blue Marker	% Avg. Removal			
SafStrip®	50%	60%	60%	60%	58%			
Graffiti Remover	70%	60%	60%	60%	63%			
Blok-Guard® & Graffiti Control	Red Paint	Black Marker	Red Marker	Blue Marker	% Avg. Removal			
SafStrip®	70%	100%	80%	80%	83%			
Graffiti Remover	80%	100%	90%	90%	90%			
Blok-Guard® & Graffiti Control Ultra	Red Paint	Black Marker	Red Marker	Blue Marker	% Avg. Removal			
SafStrip®	80%	100%	95%	100%	94%			
Graffiti Remover	90%	100%	100%	100%	98%			



## "Alesio Smoky Beige Honed Panel" - Honed Marble With Graffiti



## "Alesio Smoky Beige Honed Panel" - Honed Marble After Graffiti Testing

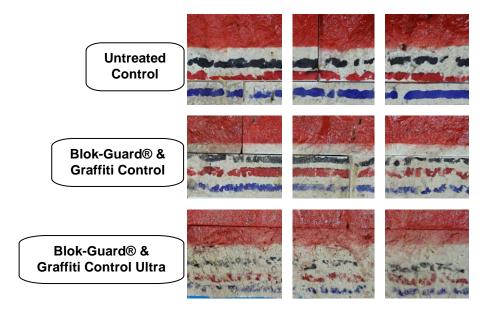


**KEY** 

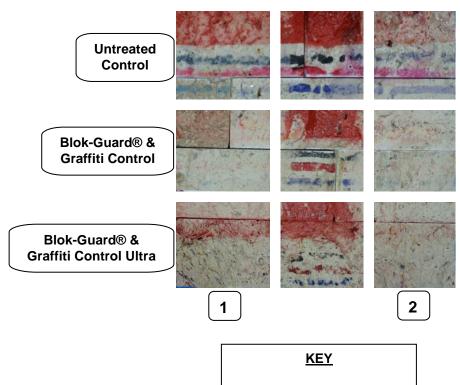
1 = SafStrip® 8



## "Latte Ledgestone Panel" - Rough Split Face Travertine With Graffiti



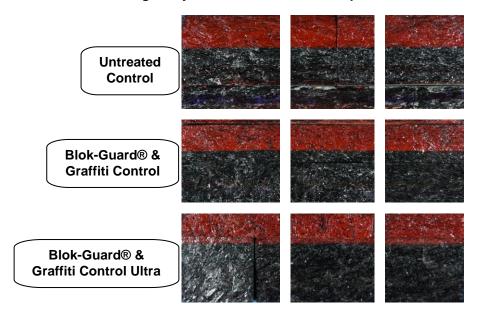
"Latte Ledgestone Panel" - Rough Split Face Travertine After Graffiti Testing



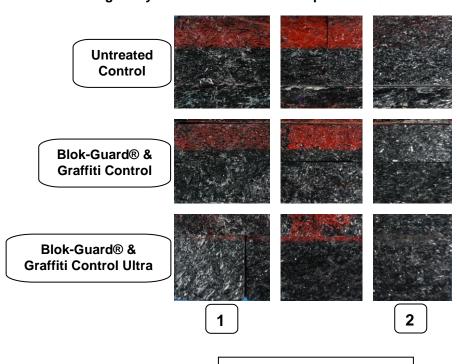
1 = SafStrip® 8



"Midnight Sky Shadowstone Panel" - Split Face Quartzite With Graffiti



"Midnight Sky Shadowstone Panel" - Split Face Quartzite After Graffiti Testing

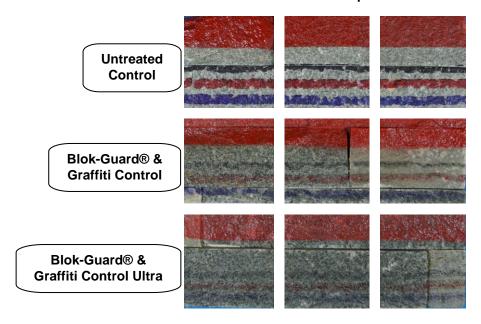


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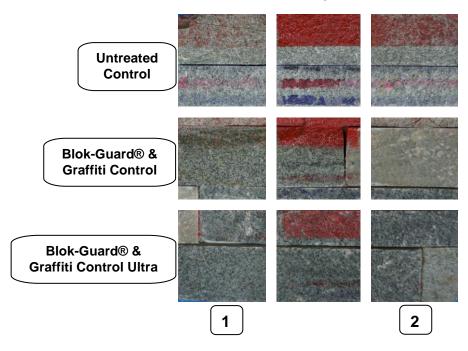
1 = SafStrip®



"New York Blue Shadowstone Panel" - Split Face Quartzite With Graffiti



"New York Blue Shadowstone Panel" - Split Face Quartzite After Graffiti Testing

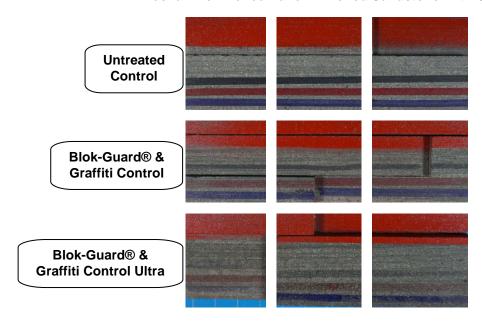


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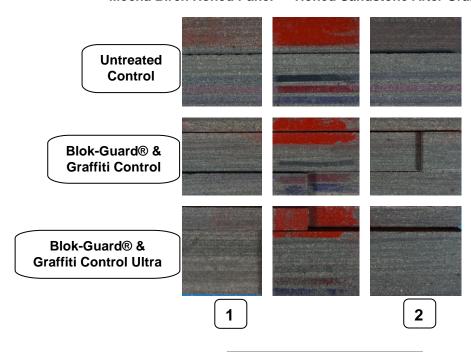
1 = SafStrip® 8



#### "Mocha Birch Honed Panel" - Honed Sandstone With Graffiti



## "Mocha Birch Honed Panel" - Honed Sandstone After Graffiti Testing



**KEY** 

1 = SafStrip®



#### **CONCLUSIONS: Graffiti Resistance**

Based on the laboratory evaluations, graffiti removal was improved when the submitted samples were treated with Sure Klean® Weather Seal Blok-Guard® & Graffiti Control and Sure Klean® Weather Seal Blok-Guard® & Graffiti Control Ultra, although Sure Klean® Weather Seal Blok-Guard® & Graffiti Control Ultra was the most effective treatment on the samples.

Enviro Klean® SafStrip® 8, Enviro Klean® SafStrip®, and Defacer Eraser® Graffiti Remover were all effective at removing the graffit from the submitted samples, although Defacer Eraser® Graffiti Remover was the most effective.

Refer to the color and sheen enhancement tests results on pages 75 through 107 to select desired treatment.



#### **RECOMMENDATIONS: Graffiti Resistance**

Recommendations for graffiti control for each applicable type of vertical natural stone panel submitted by Realstone Systems, Troy, MI are provided in the chart below. Recommendations are based on the treatment(s) that proved most effective on average for providing graffiti repellency and the product that was most effective on average at removing the graffiti on all types submitted.

Sample	Graffiti Resistance
"Alesio Crème Honed Panel" – Honed Marble	
"Alesio Frost Honed Panel" – Honed Marble	
"Alesio Smoky Beige Honed Panel" – Honed Marble	
"Alesio Crème Ledgestone" – Split Face Marble	
"Alesio Smoky Beige Ledgestone Panel" – Split Face Marble	
"Alesio Frost Ledgestone Panel" – Rough Split Face Marble	
"Carbon Honed Accentstone Panel" – Honed Limestone	
"Pewter Honed Panel" – Honed Limestone	Graffiti Repellents
"Smoky Birch Dimensional Panel" – Honed Limestone	<sup>2</sup> Sure Klean® Weather Seal Blok-
"White Birch Honed Panel" - Honed Limestone	Guard® & Graffiti Control
"Carbon Ledgestone Panel" – Rough Split Face Limestone	OR
"Pewter Ledgestone Panel" – Rough Split Face Limestone	<sup>1</sup> Sure Klean® Weather Seal Blok- Guard® & Graffiti Control Ultra
"White Birch Ledgestone Panel" - Rough Split Face Limestone	Guarde & Gramm Gormon Gua
"Latte Honed Panel" - Honed Travertine	<u>Graffiti Removers</u>
"Latte Ledgestone Panel" - Rough Split Face Travertine	<sup>2</sup> Enviro Klean® SafStrip® 8
"Berkshire Buff Honed Tile" – Honed Quartzite	(calcareous samples) OR
"Arctic White Shadowstone Panel" - Split Face Quartzite	<sup>2</sup> Enviro Klean® SafStrip®
"Midnight Sky Shadowstone Panel" - Split Face Quartzite	(siliceous samples)
"New York Blue Shadowstone Panel" – Split Face Quartzite	OR
"Silver Alabaster Shadowstone Panel" - Split Face Quartzite	<sup>1</sup> Defacer Eraser® Graffiti Remover
"Thin Arctic White Angled Panel" - Split Face Quartzite	
"Sierra Accentstone Panel" – Split Face Quartzite	
"Mountain Rust Ledgestone Panel" – Rough Split Face Quartzite	
"Berkshire Buff Sandblasted Tile Plank" – Sand Blasted Quartzite	
"Chiseled Silver Alabaster Shadowstone Panel" - Chiseled Quartzite	
"Mocha Birch Honed Panel" – Honed Sandstone	
"Mocha Birch Ledgestone Panel" – Rough Split Face Sandstone	

NOTE: "1" indicates the most effective product and "2" indicates the second most effective product.

Please refer to the Product Data Sheet or visit <a href="www.prosoco.com/voccompliance">www.prosoco.com/voccompliance</a> to confirm VOC compliance with individual district or state regulations.

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.



#### **SAMPLE PREPARATION: Treatments**

**Conducted on horizontal samples only.** Each stain repellent was applied in a brushing application 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.

#### **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 ( $<90^{\circ}$ ) which correlates to "above average" repellency. A rating of "3 or 4" indicates "average" repellency. A rating of "5 or greater" indicated that the oil quickly absorbed into the substrate and correlates to "below average" repellency.

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



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

#### 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.





# **TEST RESULTS: Surface Beading Evaluation**

"Berkshire Buff Honed Tile" – Quartzite						
	Untreated	LMP				
Coca Cola	3	2				
Ketchup	N/A	N/A				
Mustard	N/A	N/A				
Red Wine	3	2				
Bals. Vin.	3	2				
Soy Sauce	3	2				
Olive Oil	4	3				
Wesson Oil	4	3				
Hot Coffee	4	3				

"Berkshire Buff Sandblasted Tile Plank" – Quartzite					
	Untreated	LMP			
Coca Cola	3	2			
Ketchup	N/A	N/A			
Mustard	N/A	N/A			
Red Wine	3	2			
Bals. Vin.	3	2			
Soy Sauce	3	2			
Olive Oil	4	3			
Wesson Oil	4	3			
Hot Coffee	4	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® 2010 All Surface 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**

#### "Berkshire Buff Honed Tile" - Honed Quartzite

% Removal

									70 Kemova
Untreate	d Control								
	Cola	Ketch.	Must.	Red Wine	Bals. Vin.	Soy Sauce	Olive Oil	Wess. 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%
Stand Of	ff® Limes	tone & Ma	rble Prote	ector					
	Cola	Ketch.	Must.	Red Wine	Bals. Vin.	Soy Sauce	Olive O.	Wess. 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.)**

## "Berkshire Buff Sandblasted Tile Plank" - Sand Blasted Quartzite

% Removal

Untreated Control										
	Cola	Ketch.	Must.	Red Wine	Bals. Vin.	Soy Sauce	Olive Oil	Wess. Oil	Coffee	
24 hour	60%	100%	20%	60%	60%	90%	40%	40%	50%	
4 hour	60%	100%	95%	60%	60%	95%	60%	60%	90%	
1 hour	80%	100%	100%	80%	80%	100%	70%	80%	100%	
10 min.	95%	100%	100%	100%	100%	100%	80%	100%	100%	
Stand Off® Limestone & Marble Protector										
Stand Of	ff® Limes	tone & Ma	rble Prote	ector						
Stand Of	ff® Limes Cola	tone & Ma Ketch.	rble Prote	ector Red Wine	Bals. Vin.	Soy Sauce	Olive O.	Wess. Oil	Coffee	
Stand Of				Red		_	Olive O. 100%		Coffee 100%	
	Cola	Ketch.	Must.	Red Wine	Vin.	Sauce		Oil		
24 hour	<b>Cola</b> 100%	<b>Ketch.</b> 100%	<b>Must.</b> 100%	Red Wine 100%	<b>Vin.</b> 100%	<b>Sauce</b> 100%	100%	<b>Oil</b> 100%	100%	

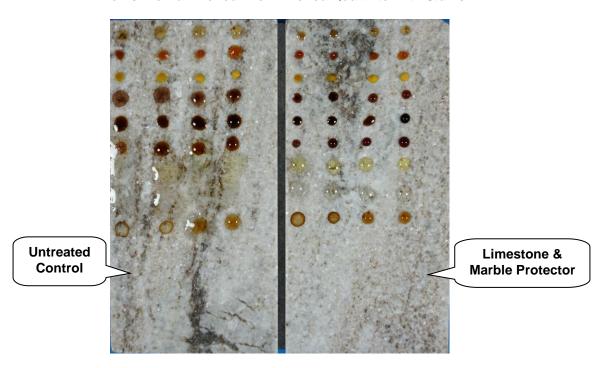
<sup>%</sup> Removal of stain following maintenance cleaning.

<sup>\*</sup> Indicates etching of surface treatment due to the acidic nature of the staining agent.

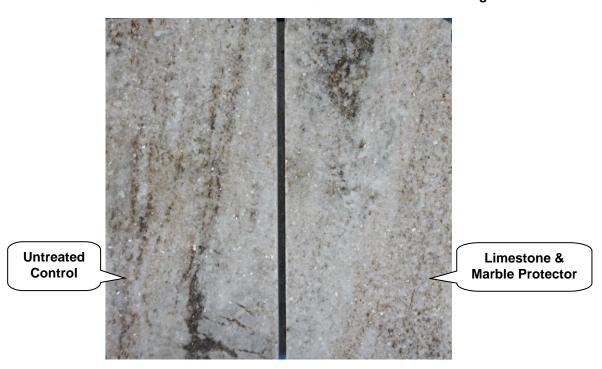


## **TEST RESULTS AND PHOTOGRAPHS: Stain Resistance Evaluation (cont.)**

## "Berkshire Buff Honed Tile" - Honed Quartzite With Stains



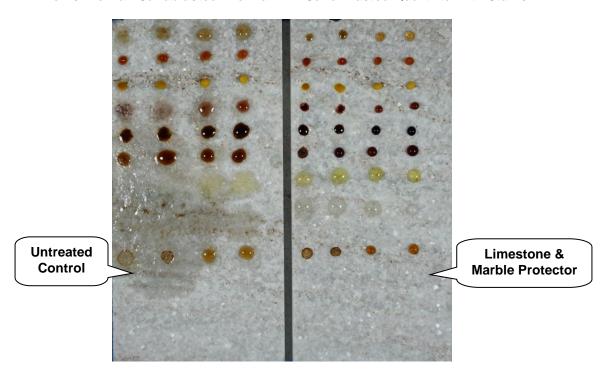
"Berkshire Buff Honed Tile" - Honed Quartzite After Stain Testing



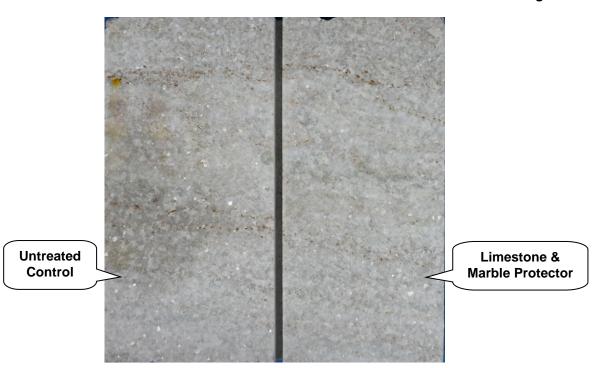


## **TEST RESULTS AND PHOTOGRAPHS: Stain Resistance Evaluation (cont.)**

"Berkshire Buff Sandblasted Tile Plank" - Sand Blasted Quartzite With Stains



"Berkshire Buff Sandblasted Tile Plank" - Sand Blasted Quartzite After Stain Testing





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

In the surface beading evaluation, Stand Off® Limestone & Marble Protector had the smallest angle of contact with each stain applied on the submitted samples. This small angle correlates to "above average" repellency.

In the stain resistance tests conducted, Stand Off® Limestone & Marble Protector proved effective at repelling the applied stains on the "Berkshire Buff Honed Tile" and "Berkshire Buff Sandblasted Tile Plank".

**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 applicable type of horizontal natural stone panel submitted by Realstone Systems, Troy, MI 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		
"Berkshire Buff Honed Tile" – Honed Quartzite	Stain Repellents Stand Off® Limestone & Marble Protector		
"Berkshire Buff Sandblasted Tile Plank" – Sand Blasted Quartzite	Maintenance Cleaner 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, 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. Dunas Conadoll

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.