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Pallet Tag Program Laboratory Report

Bassco Cast Stone

Elkmont, AL



Project No. 2304-02 PTP

Prepared For:



PROSOCO

Prepared By:

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AMT Laboratories

July 2023



Laboratory Report

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FOR: David Owen, Bassco Cast Stone
cc: Lance Escue, M. W. Escue Company, Inc.
Clay Witt, PROSOCO, Inc.
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Al Morris, PROSOCO, Inc.

SUBJECT: Bassco Cast Stone
Elkmont, AL
Pallet Tag Evaluation

DATE: July 13, 2023
PROJECT: 2304-02 PTP

SAMPLES SUBMITTED: 5 types of cast stone (dry cast and wet cast)

Block	Name	Color	Size
(4) Cast Stone – Dry Cast	“Brushed Buff”	Light Brown	12” x 12”
(2) Cast Stone – Wet Cast	“Brushed Buff”	Light Brown	12” x 12”
(2) Cast Stone – Wet Cast	“Natural Buff”	Buff	12” x 12”
(4) Cast Stone – Dry Cast	“Pearly White”	White	12” x 12”
(2) Cast Stone – Wet Cast	“Pearly White”	White	12” x 12”

SUBMITTED BY: David Owen
Bassco Cast Stone
18786 Carters Circle
Elkmont, AL 35620

PURPOSE OF TEST:

- To determine the most appropriate PROSOCO, Inc. new construction cleaner(s) for the submitted samples.
- To evaluate the color and sheen enhancement characteristics of the requested PROSOCO, Inc. treatments on the submitted samples.
- To determine the most appropriate PROSOCO, Inc. water repellent for the submitted samples.
- To determine the effectiveness of appropriate PROSOCO, Inc. products in preventing the penetration of, and simplifying the removal of, graffiti staining on the submitted samples.
- To determine the effectiveness of appropriate PROSOCO, Inc. products in preventing food and oil staining on the submitted samples.

PRODUCTS EVALUATED:

New Construction Cleaning	Dilution:
Sure Klean® Light Duty Concrete Cleaner	1:2, 1:3
Sure Klean® Vana Trol®	1:6, 1:8

Color and Sheen Enhancement/Stain Resistance (Horizontal Application)	Dilution:
Sure Klean® Weather Seal Gloss 'N Guard	N/A*
Sure Klean® Weather Seal Satin Guard WB	N/A*

Water Repellency (Vertical Application)	Dilution:
Sure Klean® Weather Seal Siloxane PD	N/A*
Sure Klean® Weather Seal Blok-Guard® & Graffiti Control 9	N/A*
Sure Klean® Weather Seal Blok-Guard® & Graffiti Control WB 15	N/A*

Graffiti Resistance (Vertical Application)	Dilution:
Sure Klean® Weather Seal Blok-Guard® & Graffiti Control 9	N/A*
Sure Klean® Weather Seal Blok-Guard® & Graffiti Control WB 15	N/A*

Graffiti Removal	Dilution:
Enviro Klean® SafStrip® 8	N/A*
Sure Klean® Graffiti Remover	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® Light Duty Concrete Cleaner and Sure Klean® Vana Trol® were evaluated on the submitted samples to determine the optimal concentration of cleaner which leaves the external surface looking most like the uncleaned surface of the cast stone.

Color uniformity was evaluated by comparing aggregate exposure and surface pigment alteration/removal of each cleaned surface compared to the uncleaned surface of the cast stone.

Aggregate Exposure is the visual examination comparing aggregate exposure of the uncleaned surface of the cast stone to surfaces cleaned with selected product(s) at given dilutions.

Surface Pigment Alteration/Removal is the visual examination comparing the pigmentation of the uncleaned surface of the cast stone to surfaces cleaned with selected product(s) at given dilutions.

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 Guide instructions.
2. Allow for an appropriate dwell time and periodically agitate:
Light Duty Concrete Cleaner5 minutes
Vana Trol®5 minutes
3. Reapply cleaning solution; do not let cleaner dry into masonry.
4. Rinse thoroughly with plenty of fresh water.*
5. Allow the sample to dry for at least 18 hours and visually examine.
6. Compare the uncleaned surfaces to the cleaned surfaces for the best match.

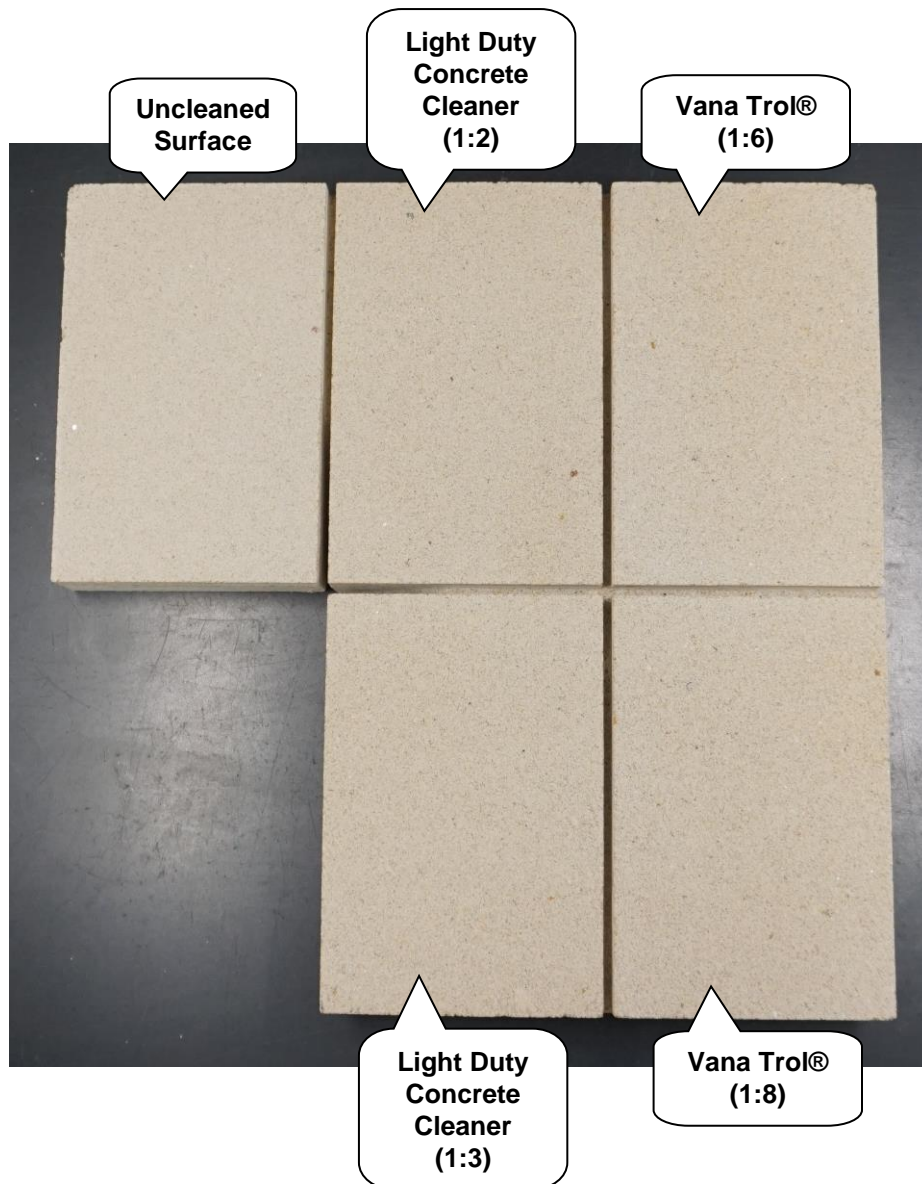
***Rinsing Equipment** – Masonry washing equipment generating approximately 700-800 psi with a water flow rate of 8 gallons per minute delivered through a 40-degree fan spray tip was used for rinsing.

TEST RESULTS AND PHOTOGRAPHS: New Construction Cleaning

Name: "Brushed Buff" Cast Stone – Dry Cast			
Product	Dilution	Aggregate Exposure	Surface Pigment Alteration/Removal
Light Duty Concrete Cleaner	1:2	1*	1*
Light Duty Concrete Cleaner	1:3	1*	1*
Vana Trol®	1:6	1*	1*
Vana Trol®	1:8	1*	1*

***NOTE: Very slight change compared to uncleaned surface.**

"Brushed Buff" Cast Stone – Dry Cast After Cleaning

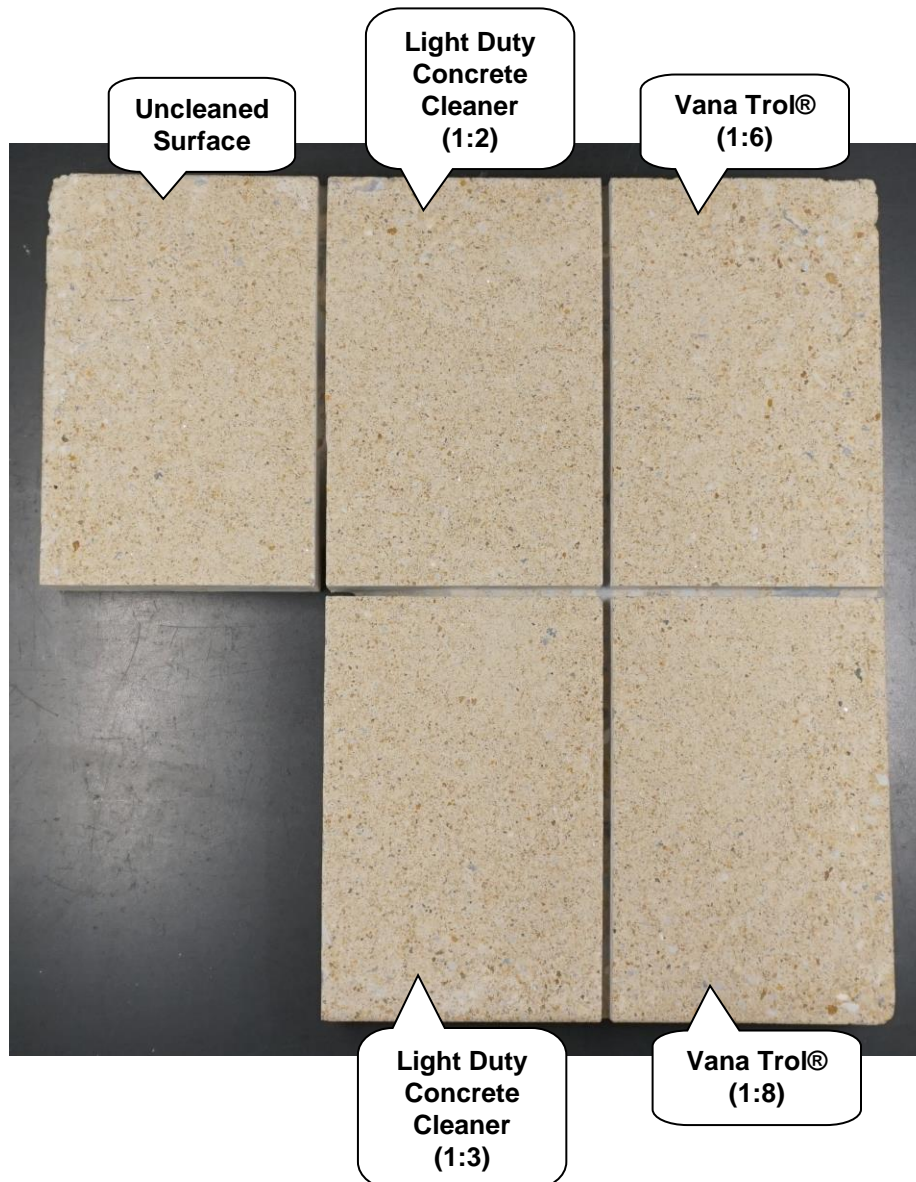


TEST RESULTS AND PHOTOGRAPHS: New Construction Cleaning (cont.)

Name: "Brushed Buff" Cast Stone – Wet Cast			
Product	Dilution	Aggregate Exposure	Surface Pigment Alteration/Removal
Light Duty Concrete Cleaner	1:2	1*	1*
Light Duty Concrete Cleaner	1:3	1*	1*
Vana Trol®	1:6	1*	1*
Vana Trol®	1:8	1*	1*

***NOTE: Very slight change compared to uncleaned surface.**

"Brushed Buff" Cast Stone – Wet Cast After Cleaning

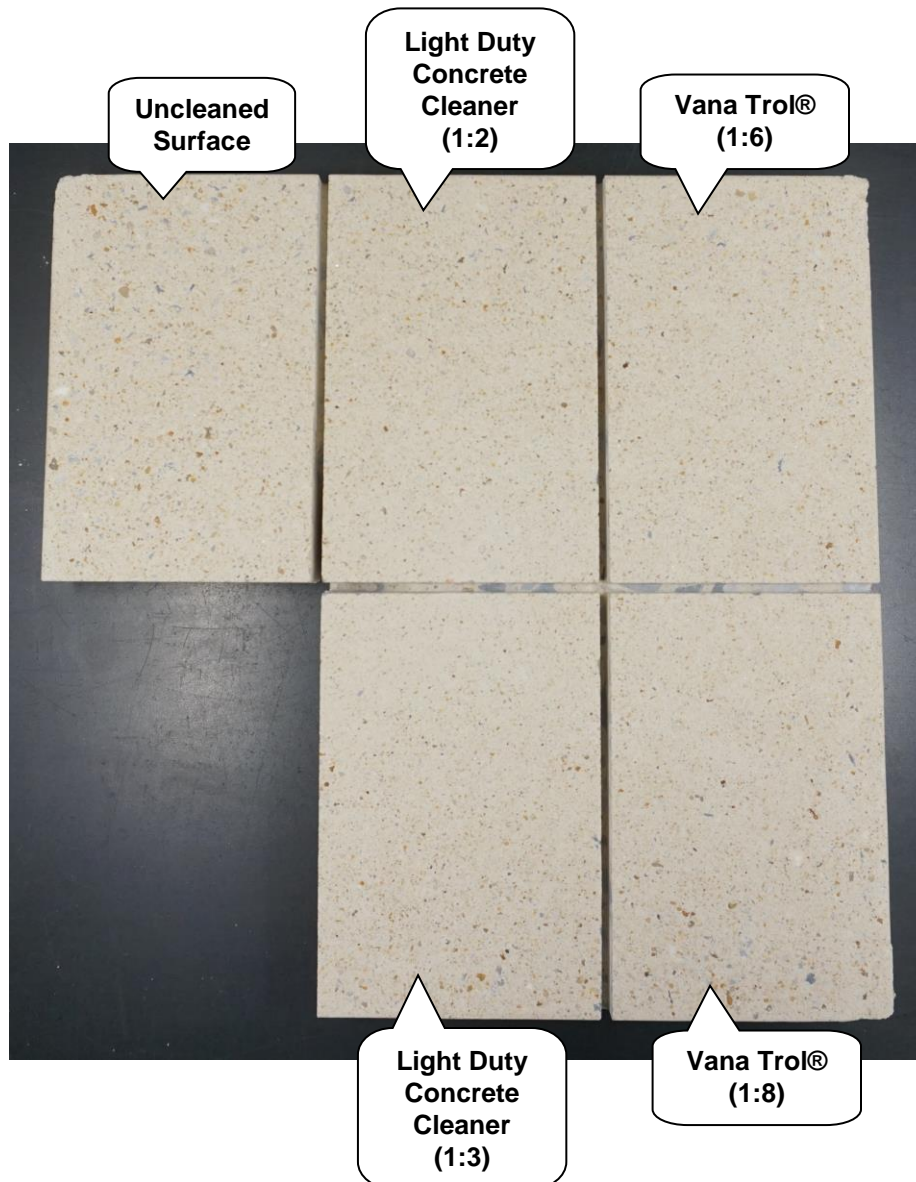


TEST RESULTS AND PHOTOGRAPHS: New Construction Cleaning (cont.)

Name: "Natural Buff" Cast Stone – Wet Cast			
Product	Dilution	Aggregate Exposure	Surface Pigment Alteration/Removal
Light Duty Concrete Cleaner	1:2	1*	1*
Light Duty Concrete Cleaner	1:3	1*	1*
Vana Trol®	1:6	1*	1*
Vana Trol®	1:8	1*	1*

***NOTE: Very slight change compared to uncleaned surface.**

"Natural Buff" Cast Stone – Wet Cast After Cleaning

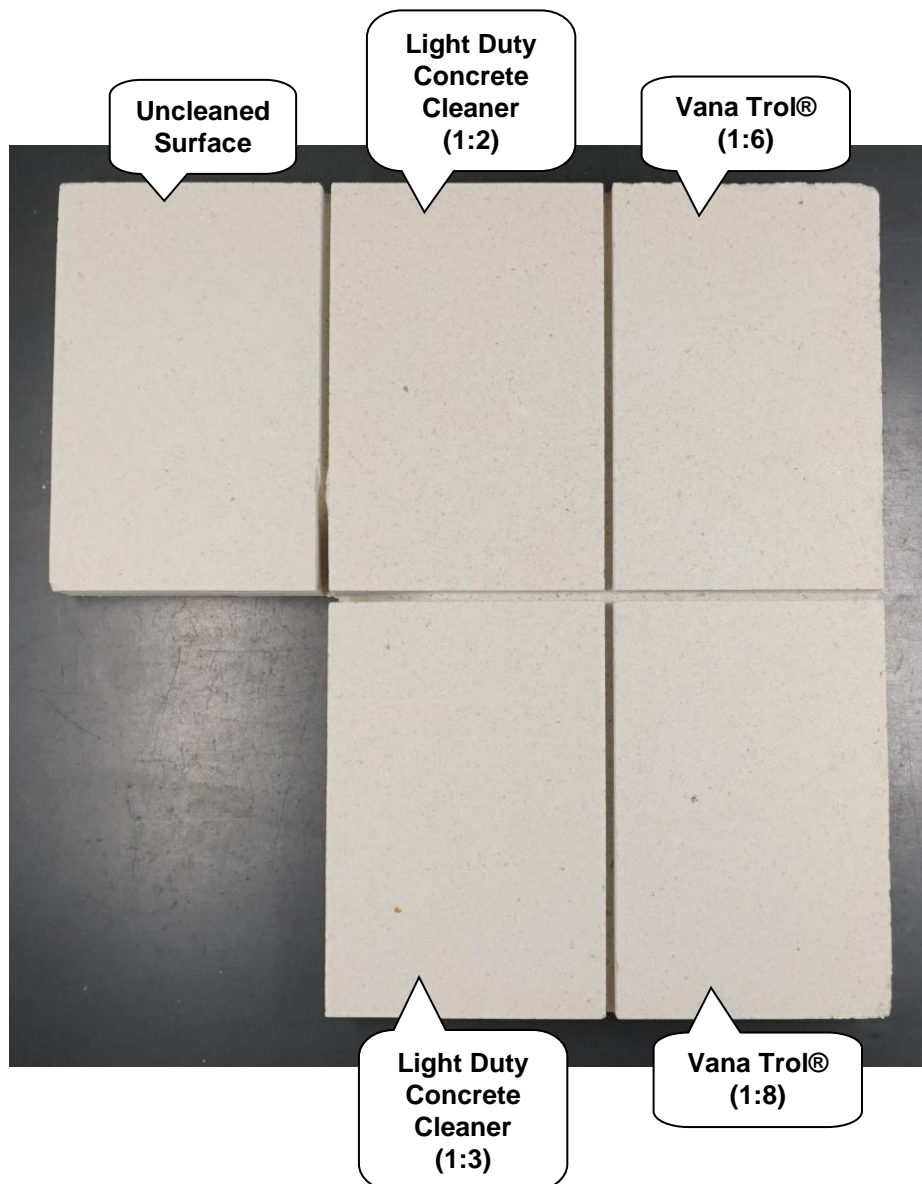


TEST RESULTS AND PHOTOGRAPHS: New Construction Cleaning (cont.)

Name: "Pearly White" Cast Stone – Dry Cast			
Product	Dilution	Aggregate Exposure	Surface Pigment Alteration/Removal
Light Duty Concrete Cleaner	1:2	1*	1*
Light Duty Concrete Cleaner	1:3	1*	1*
Vana Trol®	1:6	1*	1*
Vana Trol®	1:8	1*	1*

***NOTE: Very slight change compared to uncleaned surface.**

"Pearly White" Cast Stone – Dry Cast After Cleaning

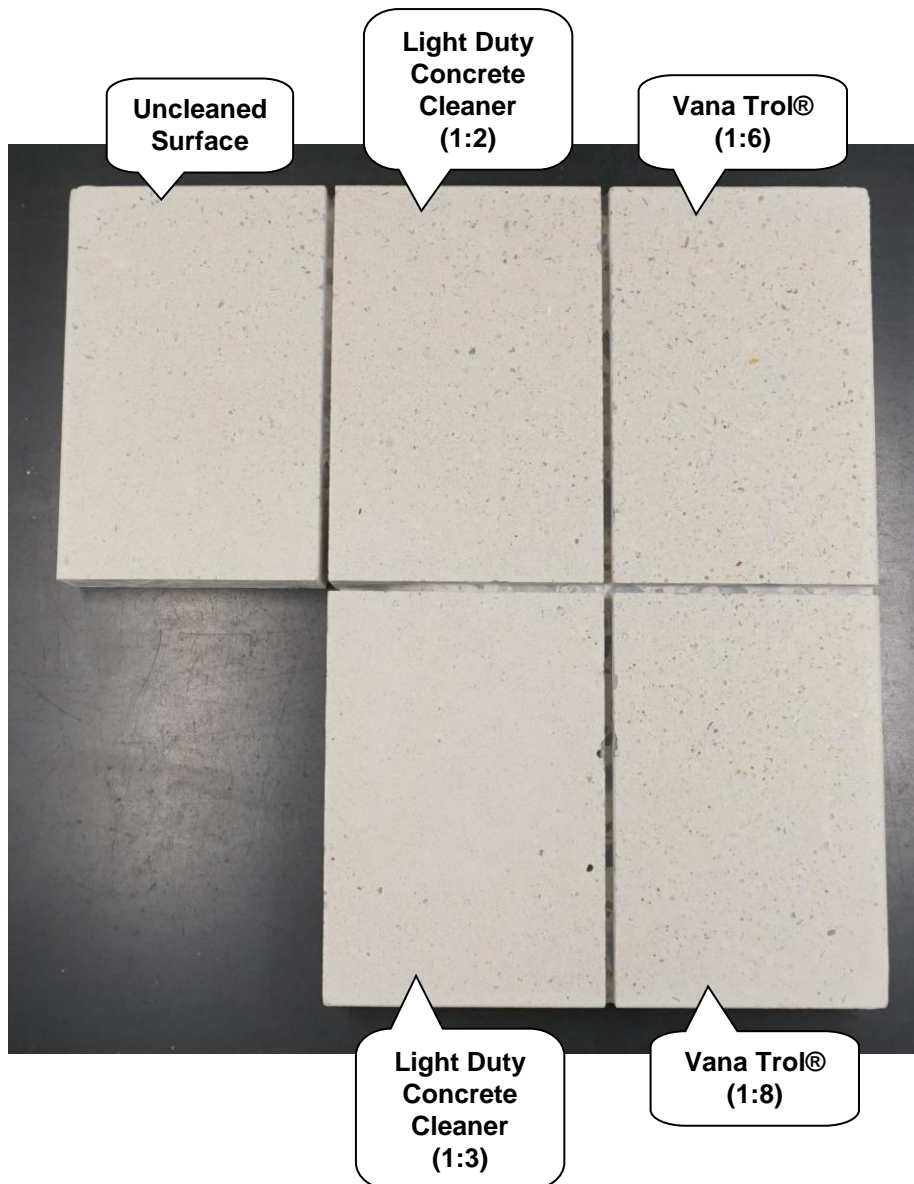


TEST RESULTS AND PHOTOGRAPHS: New Construction Cleaning (cont.)

Name: "Pearly White" Cast Stone – Wet Cast			
Product	Dilution	Aggregate Exposure	Surface Pigment Alteration/Removal
Light Duty Concrete Cleaner	1:2	1*	1*
Light Duty Concrete Cleaner	1:3	1*	1*
Vana Trol®	1:6	1*	1*
Vana Trol®	1:8	1*	1*

***NOTE: Very slight change compared to uncleaned surface.**

"Pearly White" Cast Stone – Wet Cast After Cleaning



CONCLUSIONS: New Construction Cleaning

In all of the cleaning tests conducted, both dilutions of Sure Klean® Light Duty Concrete Cleaner and Sure Klean® Vana Trol® removed a very slight amount of surface pigment, exposing a very slight amount of aggregate.

When choosing the most appropriate product for the desired result:

- For common construction and atmospheric staining – Test Sure Klean® Light Duty Concrete Cleaner
- For new masonry surfaces that are subject to vanadium, manganese, and other metallic stains – Test Sure Klean® Vana Trol®

Use higher concentrations and surface agitation to maximize aggregate exposure. Use low concentrations and surface agitation to minimize aggregate exposure.

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

RECOMMENDATIONS: New Construction Cleaning

Recommendations for cleaning for each type of cast stone submitted by Bassco Cast Stone, Elkmont, AL 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
"Brushed Buff" Cast Stone – Dry Cast	Sure Klean® Light Duty Concrete Cleaner (1:2) or (1:3) OR Sure Klean® Vana Trol® (1:6) or (1:8)
"Brushed Buff" Cast Stone – Wet Cast	
"Natural Buff" Cast Stone – Wet Cast	
"Pearly White" Cast Stone – Dry Cast	
"Pearly White" Cast Stone – Wet Cast	

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.

SAMPLE PREPARATION: Treatment Application

Prior to treatment application, the submitted cast stone samples were cleaned with Sure Klean® Light Duty Concrete Cleaner diluted with three parts water in accordance with the current PROSOCO, Inc. Product Data Sheet instructions. After the samples had dried for at least 24 hours, all of the treatments were applied in a brushing application with the substrate in the intended orientation (horizontal or vertical) in accordance with the current PROSOCO, Inc. Product Data Sheet instructions. A second application was applied on the porous samples when recommended in the Product Data Sheet, specifically the dry cast stone. The treatments were allowed to cure for at least 72 hours prior to testing.

TEST METHODS: Color and Sheen Enhancement

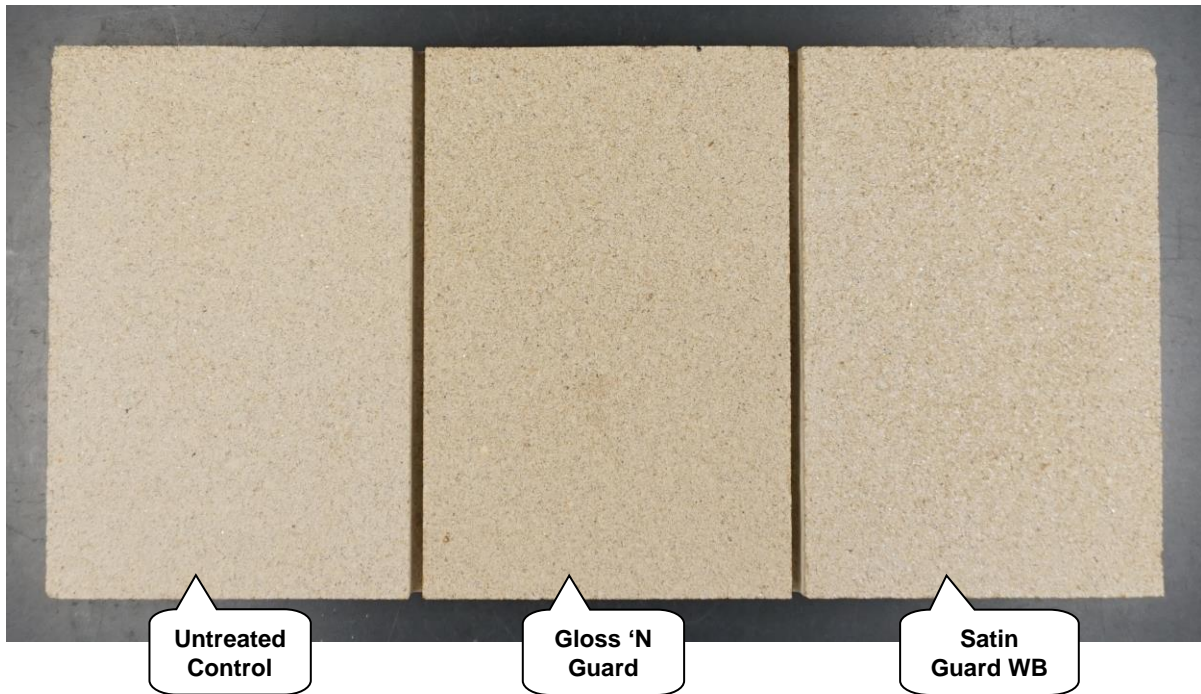
After 72 hours, a visual evaluation was made comparing the untreated control surface to the treated surface to determine the effectiveness of the evaluated products in providing color and/or sheen enhancement to the submitted samples.

The following scale was used for reporting results of both categories:
0 – No enhancement compared to untreated control
1 – Slight enhancement compared to untreated control
2 – Moderate enhancement compared to untreated control
3 – Significant enhancement compared to untreated control

TEST RESULTS AND PHOTOGRAPHS: Color and Sheen Enhancement

"Brushed Buff" Cast Stone – Dry Cast	Color Enhancement	Sheen Enhancement
Sure Klean® Weather Seal Gloss 'N Guard	2	0
Sure Klean® Weather Seal Satin Guard WB	1	2

"Brushed Buff" Cast Stone – Dry Cast With Treatments



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

"Brushed Buff" Cast Stone – Wet Cast	Color Enhancement	Sheen Enhancement
Sure Klean® Weather Seal Gloss 'N Guard	2	0
Sure Klean® Weather Seal Satin Guard WB	1	2

"Brushed Buff" Cast Stone – Wet Cast With Treatments



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

"Natural Buff" Cast Stone – Wet Cast	Color Enhancement	Sheen Enhancement
Sure Klean® Weather Seal Gloss 'N Guard	2	0
Sure Klean® Weather Seal Satin Guard WB	1	2

"Natural Buff" Cast Stone – Wet Cast With Treatments



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

"Pearly White" Cast Stone – Dry Cast	Color Enhancement	Sheen Enhancement
Sure Klean® Weather Seal Gloss 'N Guard	1	0
Sure Klean® Weather Seal Satin Guard WB	1	2

"Pearly White" Cast Stone – Dry Cast With Treatments



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

"Pearly White" Cast Stone – Wet Cast	Color Enhancement	Sheen Enhancement
Sure Klean® Weather Seal Gloss 'N Guard	1	0
Sure Klean® Weather Seal Satin Guard WB	1	2

"Pearly White" Cast Stone – Wet Cast With Treatments



CONCLUSIONS: Color and Sheen Enhancement

The treatments evaluated provided a range of color enhancement results, from a slight change in appearance to a moderate change depending on the sample and treatment.

Sure Klean® Weather Seal Gloss 'N Guard did not provide any sheen enhancement to the submitted samples.

Sure Klean® Weather Seal Satin Guard WB provided moderate sheen enhancement to all of the submitted samples.

Enhancement levels may vary by substrate color, lighting, orientation application method, and other variables. Always test in the field to confirm intended results.

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

RECOMMENDATIONS: Color and Sheen Enhancement

Recommendations for color and sheen enhancement for each type of cast stone submitted by Bassco Cast Stone, Elkmont, AL are provided in the chart below. Recommendations are based on the treatment(s) that proved most effective.

Sample	Color and Sheen Enhancement
"Brushed Buff" Cast Stone – Dry Cast	Please refer to pages 12-19 of the report for individual recommendations based on the desired result.
"Brushed Buff" Cast Stone – Wet Cast	
"Natural Buff" Cast Stone – Wet Cast	
"Pearly White" Cast Stone – Dry Cast	
"Pearly White" Cast Stone – Wet Cast	

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.

TEST METHODS: Protective Water Repellents

Water Absorption Tube Test: RILEM II.4, 60 mph, 20 Minutes

The water absorption tube test simulating wind driven rain conditions was performed. This test simulates 60 mile per hour wind driven rain conditions for a period of 20 minutes.

TEST RESULTS AND PHOTOGRAPHS: Protective Water Repellents

Water Absorption Tube Test: RILEM II.4, 60 mph, 20 Minutes

“Brushed Buff” Cast Stone – Dry Cast	
Untreated Control	<40 mph
Sure Klean® Weather Seal Siloxane PD	60 mph
Sure Klean® Weather Seal Blok-Guard® & Graffiti Control 9	60 mph
Sure Klean® Weather Seal Blok-Guard® & Graffiti Control WB 15	60 mph

“Brushed Buff” Cast Stone – Dry Cast With Treatments



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

Water Absorption Tube Test: RILEM II.4, 60 mph, 20 Minutes

“Brushed Buff” Cast Stone – Wet Cast	
Untreated Control	60 mph
Sure Klean® Weather Seal Siloxane PD	60 mph
Sure Klean® Weather Seal Blok-Guard® & Graffiti Control 9	60 mph
Sure Klean® Weather Seal Blok-Guard® & Graffiti Control WB 15	60 mph

“Brushed Buff” Cast Stone – Wet Cast With Treatments



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

Water Absorption Tube Test: RILEM II.4, 60 mph, 20 Minutes

“Natural Buff” Cast Stone – Wet Cast	
Untreated Control	60 mph
Sure Klean® Weather Seal Siloxane PD	60 mph
Sure Klean® Weather Seal Blok-Guard® & Graffiti Control 9	60 mph
Sure Klean® Weather Seal Blok-Guard® & Graffiti Control WB 15	60 mph

“Natural Buff” Cast Stone – Wet Cast With Treatments



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

Water Absorption Tube Test: RILEM II.4, 60 mph, 20 Minutes

“Pearly White” Cast Stone – Dry Cast	
Untreated Control	56 mph
Sure Klean® Weather Seal Siloxane PD	60 mph
Sure Klean® Weather Seal Blok-Guard® & Graffiti Control 9	60 mph
Sure Klean® Weather Seal Blok-Guard® & Graffiti Control WB 15	60 mph

“Pearly White” Cast Stone – Dry Cast With Treatments



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

Water Absorption Tube Test: RILEM II.4, 60 mph, 20 Minutes

“Pearly White” Cast Stone – Wet Cast	
Untreated Control	60 mph
Sure Klean® Weather Seal Siloxane PD	60 mph
Sure Klean® Weather Seal Blok-Guard® & Graffiti Control 9	60 mph
Sure Klean® Weather Seal Blok-Guard® & Graffiti Control WB 15	60 mph

“Pearly White” Cast Stone – Wet Cast With Treatments



CONCLUSIONS: Protective Water Repellents

Based on the laboratory evaluations, all of the treatments provided good water repellent protection to the submitted cast stone. Although some of the untreated areas in the 20 minute RILEM test absorbed no water, the treatments will likely provide long-term water repellent protection and help to prevent water-related staining.

Application of Sure Klean® Weather Seal Siloxane PD provided no change in appearance to the submitted cast stone.

Application of Sure Klean® Weather Seal Blok-Guard® & Graffiti Control 9 provided slight to moderate color enhancement to the submitted cast stone.

Application of Sure Klean® Weather Seal Blok-Guard® & Graffiti Control WB 15 provided slight color enhancement to the submitted cast stone.

None of the treatments provided any sheen enhancement to the submitted samples.

RECOMMENDATIONS: Protective Water Repellents

Recommendations for water repellency for each type of cast stone submitted by Bassco Cast Stone, Elkmont, AL are provided in the chart below. Recommendations are based on the treatment(s) that proved most effective.

Sample	Water Repellency
"Brushed Buff" Cast Stone – Dry Cast	Sure Klean® Weather Seal Siloxane PD OR Sure Klean® Weather Seal Blok-Guard® & Graffiti Control 9 OR Sure Klean® Weather Seal Blok-Guard® & Graffiti Control WB 15
"Brushed Buff" Cast Stone – Wet Cast	
"Natural Buff" Cast Stone – Wet Cast	
"Pearly White" Cast Stone – Dry Cast	
"Pearly White" Cast Stone – Wet Cast	

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.

TEST METHODS: Graffiti Resistance

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

Graffiti comes in many forms, many of which are low quality, readily available spray paints and markers. While those forms of graffiti are most common and may be easier to remove, the testing below was conducted with the graffiti types we have found to be the most resilient and hardest to remove in order to provide you with a “worst-case scenario.” Always test in field conditions to verify intended performance.

Spray paint and marker were applied as graffiti agents to the untreated and treated surfaces five days after application of the graffiti resistant products. Removal of the graffiti agents was attempted 24 hours after application of the graffiti agents, using Enviro Klean® SafStrip® 8 and Sure Klean® Graffiti Remover.

Chemical cleaners were evaluated using the following procedure:

1. Apply the product to a dry surface, soiled with graffiti.
2. Allow appropriate dwell time and periodically agitate:
 SafStrip® 8..... 30 minutes
 Graffiti Remover 5 minutes
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 40-degree fan spray tip was used for rinsing.

Graffiti removal was evaluated visually using a scale from 0 to 10, with 0 indicating no removal of the graffiti agent and 10 indicating complete removal of the graffiti agent.

TEST RESULTS AND PHOTOGRAPHS: Graffiti Resistance

“Brushed Buff” Cast Stone – Dry Cast				
Untreated Control	Red Paint	Blue Paint	Black Marker	Avg. Rating
SafStrip® 8	4	4	7	5.0
Graffiti Remover	5	5	7	5.7
Blok-Guard® & Graffiti Control 9	Red Paint	Blue Paint	Black Marker	Avg. Rating
SafStrip® 8	7	6	10	7.7
Graffiti Remover	7	7	10	8.0
Blok-Guard® & Graffiti Control WB 15	Red Paint	Blue Paint	Black Marker	Avg. Rating
SafStrip® 8	8	8	10	8.7
Graffiti Remover	9	9	10	9.3

“Brushed Buff” Cast Stone – Wet Cast				
Untreated Control	Red Paint	Blue Paint	Black Marker	Avg. Rating
SafStrip® 8	4	4	5	4.3
Graffiti Remover	5	5	5	5.0
Blok-Guard® & Graffiti Control 9	Red Paint	Blue Paint	Black Marker	Avg. Rating
SafStrip® 8	7	7	10	8.0
Graffiti Remover	7	7	10	8.0
Blok-Guard® & Graffiti Control WB 15	Red Paint	Blue Paint	Black Marker	Avg. Rating
SafStrip® 8	8	8	10	8.7
Graffiti Remover	9	9	10	9.3

TEST RESULTS AND PHOTOGRAPHS: Graffiti Resistance (cont.)

“Natural Buff” Cast Stone – Wet Cast				
Untreated Control	Red Paint	Blue Paint	Black Marker	Avg. Rating
SafStrip® 8	3	3	5	3.7
Graffiti Remover	4	4	6	4.7
Blok-Guard® & Graffiti Control 9	Red Paint	Blue Paint	Black Marker	Avg. Rating
SafStrip® 8	6	6	10	7.3
Graffiti Remover	7	7	10	8.0
Blok-Guard® & Graffiti Control WB 15	Red Paint	Blue Paint	Black Marker	Avg. Rating
SafStrip® 8	8	8	10	8.7
Graffiti Remover	9	9	10	9.3

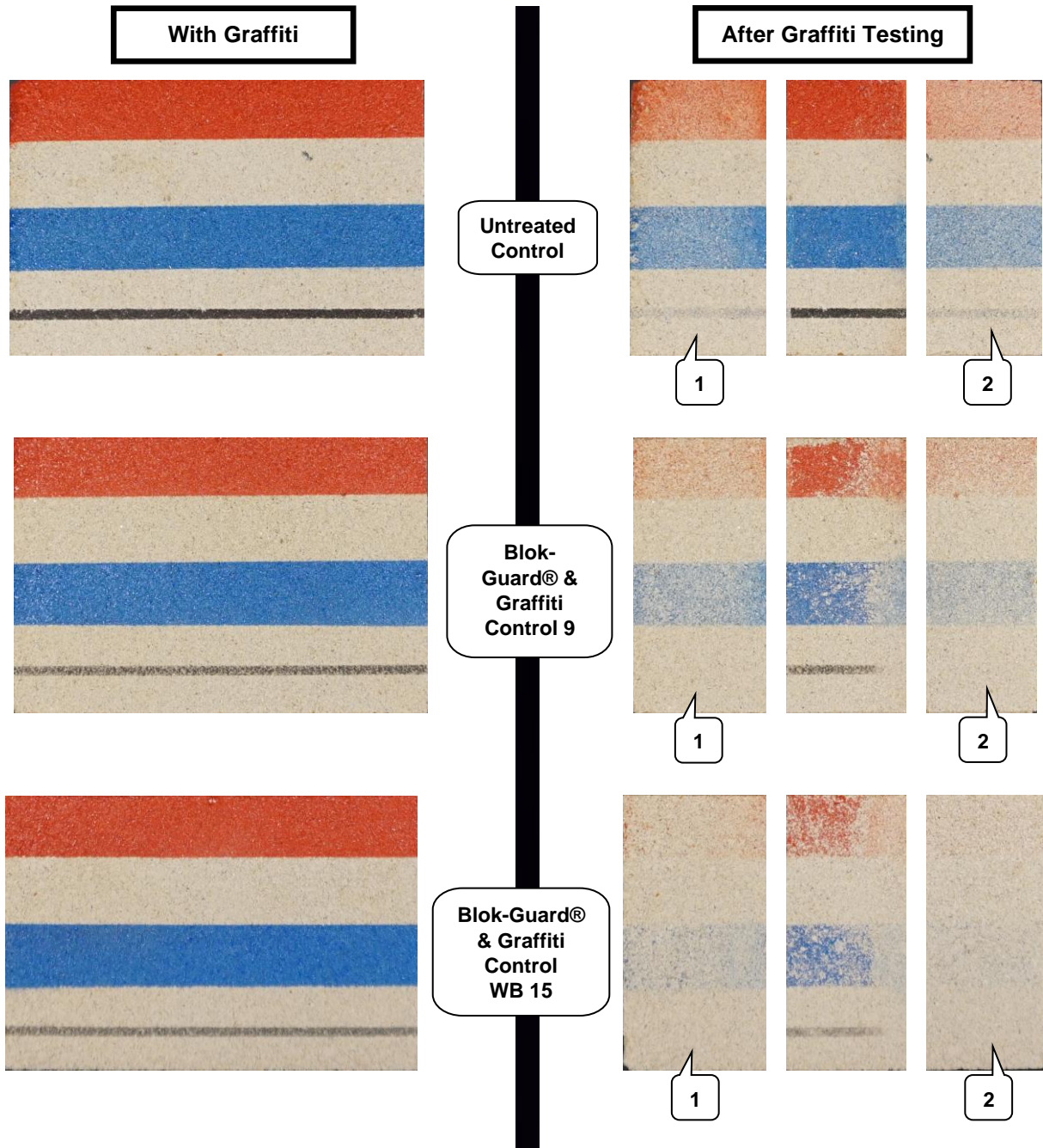
“Pearly White” Cast Stone – Dry Cast				
Untreated Control	Red Paint	Blue Paint	Black Marker	Avg. Rating
SafStrip® 8	4	4	5	4.3
Graffiti Remover	5	5	4	4.7
Blok-Guard® & Graffiti Control 9	Red Paint	Blue Paint	Black Marker	Avg. Rating
SafStrip® 8	6	6	10	7.3
Graffiti Remover	6	6	10	7.3
Blok-Guard® & Graffiti Control WB 15	Red Paint	Blue Paint	Black Marker	Avg. Rating
SafStrip® 8	8	8	10	8.7
Graffiti Remover	8	8	10	8.7

TEST RESULTS AND PHOTOGRAPHS: Graffiti Resistance (cont.)

“Pearly White” Cast Stone – Wet Cast				
Untreated Control	Red Paint	Blue Paint	Black Marker	Avg. Rating
SafStrip® 8	3	3	5	3.7
Graffiti Remover	4	4	5	4.3
Blok-Guard® & Graffiti Control 9	Red Paint	Blue Paint	Black Marker	Avg. Rating
SafStrip® 8	7	7	10	8.0
Graffiti Remover	7	7	9	7.7
Blok-Guard® & Graffiti Control WB 15	Red Paint	Blue Paint	Black Marker	Avg. Rating
SafStrip® 8	8	8	10	8.7
Graffiti Remover	9	9	10	9.3

TEST RESULTS AND PHOTOGRAPHS: Graffiti Resistance (cont.)

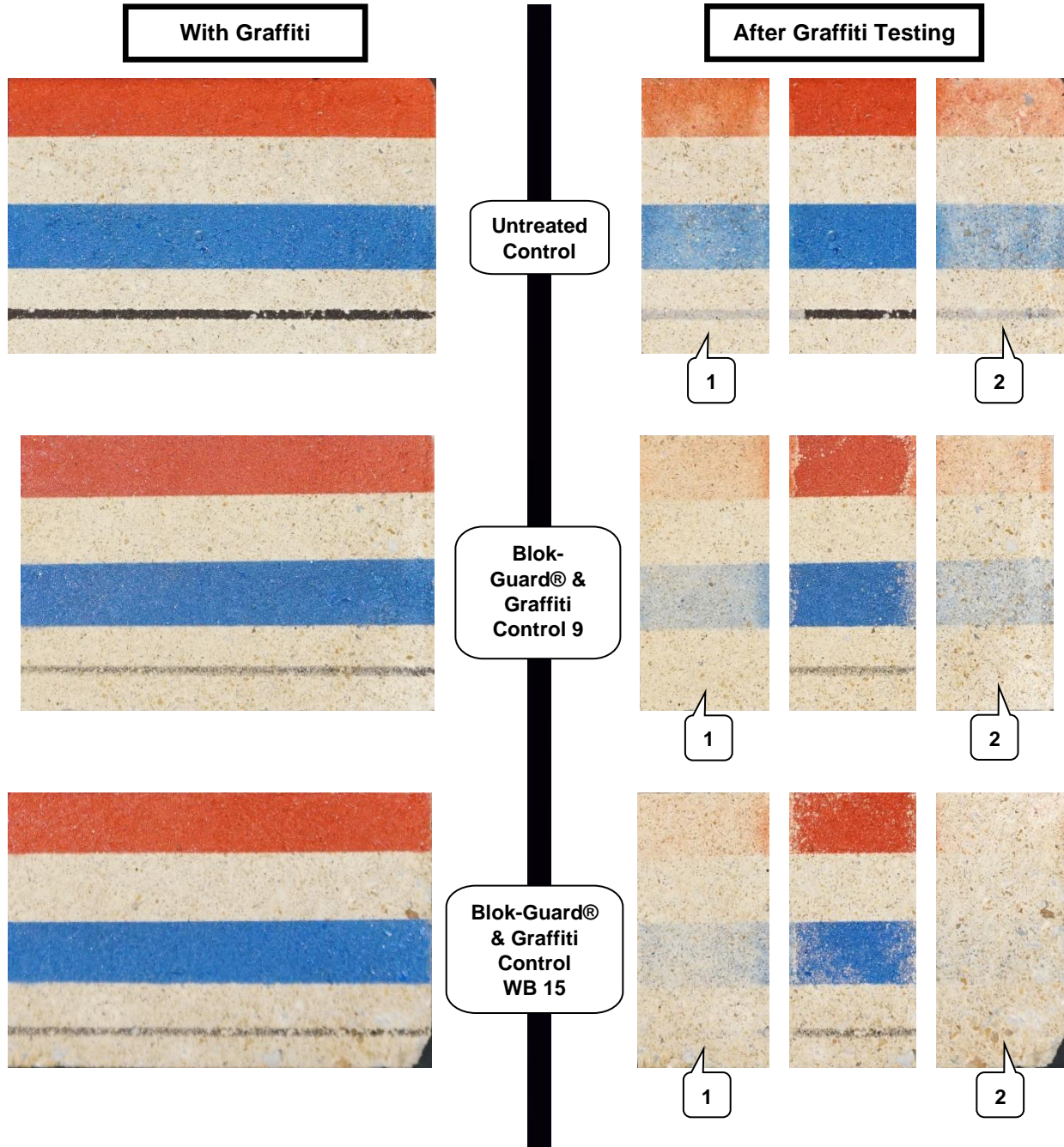
“Brushed Buff” Cast Stone – Dry Cast



KEY
1 = SafStrip® 8
2 = Graffiti Remover

TEST RESULTS AND PHOTOGRAPHS: Graffiti Resistance (cont.)

“Brushed Buff” Cast Stone – Wet Cast



KEY
1 = SafStrip® 8
2 = Graffiti Remover

CONCLUSIONS: Graffiti Resistance

Based on the laboratory evaluations, graffiti removal was improved with both of the tested treatments. However, Sure Klean® Weather Seal Blok-Guard® & Graffiti Control WB 15 was the most effective treatment.

Enviro Klean® SafStrip® 8 and Sure Klean® Graffiti Remover were both effective in removing graffiti from the submitted samples. However, Sure Klean® Graffiti Remover was the most effective.

On-site testing is always recommended to ensure the desired result. Heavy graffiti staining may require more than one application of the graffiti remover.

RECOMMENDATIONS: Graffiti Resistance

Recommendations for graffiti resistance for each type of cast stone submitted by Bassco Cast Stone, Elkmont, AL 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. Heavy graffiti staining may require more than one application of the graffiti remover.

Sample	Graffiti Repellents	Graffiti Removers
"Brushed Buff" Cast Stone – Dry Cast	¹ Sure Klean® Weather Seal Blok-Guard® & Graffiti Control WB 15 OR ² Sure Klean® Weather Seal Blok-Guard® & Graffiti Control 9	¹ Sure Klean® Graffiti Remover OR ² Enviro Klean® SafStrip® 8
"Brushed Buff" Cast Stone – Wet Cast		
"Natural Buff" Cast Stone – Wet Cast		
"Pearly White" Cast Stone – Dry Cast		
"Pearly White" Cast Stone – Wet Cast		

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

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.

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

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

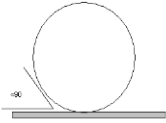
The food and oil products were applied to the test areas by using a dropper creating a bead 0.5 – 1.0 cm in diameter. The beading properties of the oils and liquids were visually evaluated within two minutes after application. The results are reported as a rating based on the angle of contact between the base of the droplet and the substrate. A rating of “1 or 2” indicated the smallest angle of contact (<90°) which correlates to “above average” repellency. A rating of “3 or 4” indicates “average” repellency. A rating of “5 or greater” indicated that the oils or liquids quickly absorbed into the substrate and correlates to “below average” repellency.

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

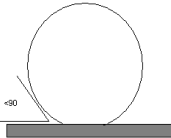
TEST METHODS: Surface Beading Evaluation (cont.)

Rating System (1-5)

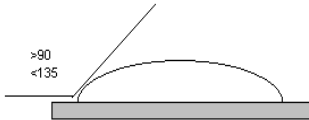
1. No wetting of contact area (no darkening); angle less than 90°



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

All Dry Cast Stone Samples			
	Untreated Control	Gloss 'N Guard	Satin Guard WB
Coca Cola	5	3	3
Ketchup	N/A	N/A	N/A
Mustard	N/A	N/A	N/A
Red Wine	5	3	3
Bals. Vin.	5	3	3
Soy Sauce	5	3	3
Olive Oil	5	4	4
Wesson Oil	5	4	4
Hot Coffee	5	3	3

All Wet Cast Stone Samples			
	Untreated Control	Gloss 'N Guard	Satin Guard WB
Coca Cola	5	3	3
Ketchup	N/A	N/A	N/A
Mustard	N/A	N/A	N/A
Red Wine	5	3	3
Bals. Vin.	5	3	3
Soy Sauce	5	3	3
Olive Oil	5	4	4
Wesson Oil	5	4	4
Hot Coffee	4	3	3

N/A – non-free flowing staining agent

TEST METHODS: Stain Resistance Evaluation

The soiling agents were allowed to dwell on the treated and untreated substrate for times of 24 hours, 4 hours, 1 hour, and 10 minutes. The test areas were then cleaned with Enviro Klean® Klean 'N Release Cleaner diluted with ten parts water and scrubbed under a stream of running water. The samples were allowed to dry for 24 hours. Evaluation consisted of a visual examination of the tested areas to determine the percentage of staining removal.

TEST RESULTS AND PHOTOGRAPHS: Stain Resistance Evaluation

“Brushed Buff” Cast Stone – Dry Cast

% Removal

Untreated Control									
	Cola	Ketch.	Must.	Red Wine	Bals. Vin.	Soy Sauce	Olive Oil	Wesson Oil	Coffee
24 hour	100%	100%*	20%	20%	20%	N/A*	0%	0%	N/A*
4 hour	100%	100%*	20%	20%	20%	N/A*	0%	0%	N/A*
1 hour	100%	100%*	50%	20%	100%	N/A*	0%	0%	N/A*
10 min.	100%	100%*	50%	10%	100%	N/A*	0%	0%	N/A*
Sure Klean® Weather Seal Gloss 'N Guard									
	Cola	Ketch.	Must.	Red Wine	Bals. Vin.	Soy Sauce	Olive Oil	Wesson Oil	Coffee
24 hour	100%	100%*	100%*	90%	100%*	100%	50%	50%	100%
4 hour	100%	100%*	100%*	100%	100%*	100%	50%	50%	100%
1 hour	100%	100%*	100%*	100%	100%*	100%	50%	50%	100%
10 min.	100%	100%*	100%*	100%	100%*	100%	50%	50%	100%
Sure Klean® Weather Seal Satin Guard WB									
	Cola	Ketch.	Must.	Red Wine	Bals. Vin.	Soy Sauce	Olive Oil	Wesson Oil	Coffee
24 hour	100%	100%	100%	100%	100%	100%	100%	100%	100%
4 hour	100%	100%	100%	100%	100%	100%	100%	100%	100%
1 hour	100%	100%	100%	100%	100%	100%	100%	100%	100%
10 min.	100%	100%	100%	100%	100%	100%	100%	100%	100%

% Removal of stain following maintenance cleaning.

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

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

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

“Brushed Buff” Cast Stone – Wet Cast

% Removal

Untreated Control									
	Cola	Ketch.	Must.	Red Wine	Bals. Vin.	Soy Sauce	Olive Oil	Wesson Oil	Coffee
24 hour	100%	100%*	70%*	20%	20%	20%	0%	0%	N/A*
4 hour	100%	100%*	90%*	20%	20%	N/A*	0%	0%	N/A*
1 hour	100%	100%*	100%	50%	50%	N/A*	0%	0%	N/A*
10 min.	100%	100%	100%	50%	50%	N/A*	0%	0%	N/A*
Sure Klean® Weather Seal Gloss ‘N Guard									
	Cola	Ketch.	Must.	Red Wine	Bals. Vin.	Soy Sauce	Olive Oil	Wesson Oil	Coffee
24 hour	100%	100%	100%	100%	100%	100%	100%	100%	100%
4 hour	100%	100%	100%	100%	100%	100%	100%	100%	100%
1 hour	100%	100%	100%	100%	100%	100%	100%	100%	100%
10 min.	100%	100%	100%	100%	100%	100%	100%	100%	100%
Sure Klean® Weather Seal Satin Guard WB									
	Cola	Ketch.	Must.	Red Wine	Bals. Vin.	Soy Sauce	Olive Oil	Wesson Oil	Coffee
24 hour	100%	100%	100%	100%	100%	100%	100%	100%	100%
4 hour	100%	100%	100%	100%	100%	100%	100%	100%	100%
1 hour	100%	100%	100%	100%	100%	100%	100%	100%	100%
10 min.	100%	100%	100%	100%	100%	100%	100%	100%	100%

% Removal of stain following maintenance cleaning.

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

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

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

“Natural Buff” Cast Stone – Wet Cast

% Removal

Untreated Control									
	Cola	Ketch.	Must.	Red Wine	Bals. Vin.	Soy Sauce	Olive Oil	Wesson Oil	Coffee
24 hour	100%	100%*	70%*	20%	20%	30%	0%	0%	N/A*
4 hour	100%	100%*	100%	20%	50%	30%	0%	0%	N/A*
1 hour	100%	100%*	70%*	50%	N/A*	N/A*	0%	0%	N/A*
10 min.	100%	100%	100%	50%	N/A*	N/A*	0%	0%	N/A*
Sure Klean® Weather Seal Gloss ‘N Guard									
	Cola	Ketch.	Must.	Red Wine	Bals. Vin.	Soy Sauce	Olive Oil	Wesson Oil	Coffee
24 hour	100%	100%	100%	100%	100%	100%	100%	100%	100%
4 hour	100%	100%	100%	100%	100%	100%	100%	100%	100%
1 hour	100%	100%	100%	100%	100%	100%	100%	100%	100%
10 min.	100%	100%	100%	100%	100%	100%	100%	100%	100%
Sure Klean® Weather Seal Satin Guard WB									
	Cola	Ketch.	Must.	Red Wine	Bals. Vin.	Soy Sauce	Olive Oil	Wesson Oil	Coffee
24 hour	100%	100%	100%	100%	100%	100%	100%	100%	100%
4 hour	100%	100%	100%	100%	100%	100%	100%	100%	100%
1 hour	100%	100%	100%	100%	100%	100%	100%	100%	100%
10 min.	100%	100%	100%	100%	100%	100%	100%	100%	100%

% Removal of stain following maintenance cleaning.

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

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

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

“Pearly White” Cast Stone – Dry Cast

% Removal

Untreated Control									
	Cola	Ketch.	Must.	Red Wine	Bals. Vin.	Soy Sauce	Olive Oil	Wesson Oil	Coffee
24 hour	100%	100%*	20%	20%	40%	N/A*	0%	0%	20%
4 hour	100%	100%*	20%	20%	40%	N/A*	0%	0%	20%
1 hour	100%	100%*	50%	10%	40%	N/A*	0%	0%	20%
10 min.	100%	100%*	50%	10%	40%	N/A*	0%	0%	100%
Sure Klean® Weather Seal Gloss ‘N Guard									
	Cola	Ketch.	Must.	Red Wine	Bals. Vin.	Soy Sauce	Olive Oil	Wesson Oil	Coffee
24 hour	100%	100%*	90%*	60%	80%*	100%	50%	50%	50%
4 hour	100%	100%*	100%*	60%	90%*	100%	50%	50%	60%
1 hour	100%	100%*	100%*	90%	100%*	100%	50%	50%	100%
10 min.	100%	100%*	100%*	100%	100%*	100%	50%	50%	100%
Sure Klean® Weather Seal Satin Guard WB									
	Cola	Ketch.	Must.	Red Wine	Bals. Vin.	Soy Sauce	Olive Oil	Wesson Oil	Coffee
24 hour	100%	100%	100%	100%	100%	100%	100%	100%	100%
4 hour	100%	100%	100%	100%	100%	100%	100%	100%	100%
1 hour	100%	100%	100%	100%	100%	100%	100%	100%	100%
10 min.	100%	100%	100%	100%	100%	100%	100%	100%	100%

% Removal of stain following maintenance cleaning.

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

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

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

“Pearly White” Cast Stone – Wet Cast

% Removal

Untreated Control									
	Cola	Ketch.	Must.	Red Wine	Bals. Vin.	Soy Sauce	Olive Oil	Wesson Oil	Coffee
24 hour	100%	100%*	30%*	20%	20%	30%	0%	0%	10%
4 hour	100%	100%*	100%	20%	20%	30%	0%	0%	50%
1 hour	100%	100%*	90%*	30%	30%	100%	0%	0%	100%
10 min.	100%	100%*	100%	40%	40%	100%	0%	0%	100%
Sure Klean® Weather Seal Gloss ‘N Guard									
	Cola	Ketch.	Must.	Red Wine	Bals. Vin.	Soy Sauce	Olive Oil	Wesson Oil	Coffee
24 hour	100%	100%	100%	100%	100%	100%	100%	100%	100%
4 hour	100%	100%	100%	100%	100%	100%	100%	100%	100%
1 hour	100%	100%	100%	100%	100%	100%	100%	100%	100%
10 min.	100%	100%	100%	100%	100%	100%	100%	100%	100%
Sure Klean® Weather Seal Satin Guard WB									
	Cola	Ketch.	Must.	Red Wine	Bals. Vin.	Soy Sauce	Olive Oil	Wesson Oil	Coffee
24 hour	100%	100%	100%	100%	100%	100%	100%	100%	100%
4 hour	100%	100%	100%	100%	100%	100%	100%	100%	100%
1 hour	100%	100%	100%	100%	100%	100%	100%	100%	100%
10 min.	100%	100%	100%	100%	100%	100%	100%	100%	100%

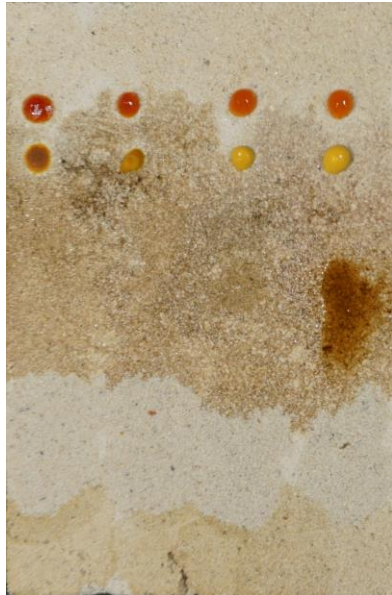
% Removal of stain following maintenance cleaning.

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

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

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

“Pearly White” Cast Stone – Dry Cast With Stains



Untreated Control



Gloss 'N Guard



Satin Guard WB

“Pearly White” Cast Stone – Dry Cast After Stain Testing



Untreated Control



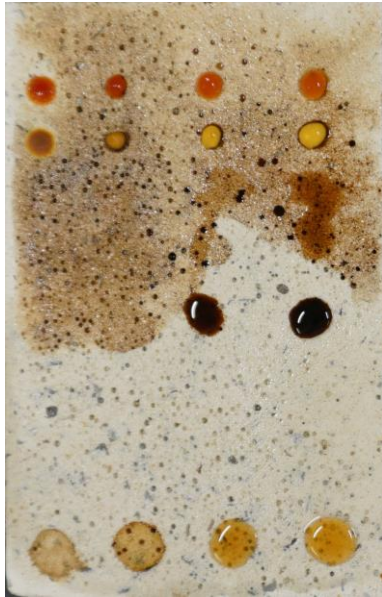
Gloss 'N Guard



Satin Guard WB

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

“Pearly White” Cast Stone – Wet Cast With Stains



Untreated Control

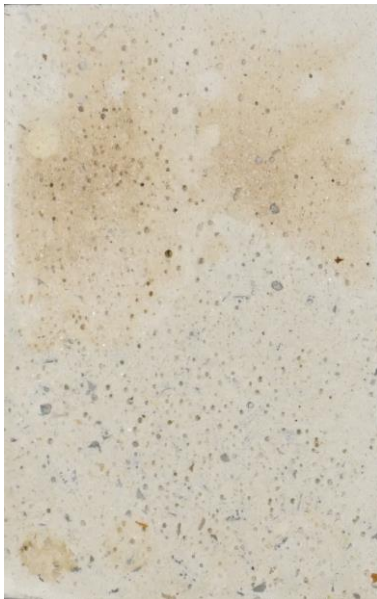


Gloss 'N Guard



Satin Guard WB

“Pearly White” Cast Stone – Wet Cast After Stain Testing



Untreated Control



Gloss 'N Guard



Satin Guard WB

CONCLUSIONS: Surface Beading and Stain Resistance

In the surface beading evaluation, Sure Klean® Weather Seal Gloss 'N Guard and Sure Klean® Weather Seal Satin Guard WB improved the surface beading characteristics of the submitted cast stone.

In the stain resistance tests conducted, Sure Klean® Weather Seal Gloss 'N Guard and Sure Klean® Weather Seal Satin Guard WB proved effective at repelling the applied stains from the submitted cast stone. However, Sure Klean® Weather Seal Satin Guard WB was the most effective treatment on the dry cast stone.

RECOMMENDATIONS: Stain Resistance

Recommendations for stain resistance for each type of cast stone submitted by Bassco Cast Stone, Elkmont, AL are provided in the chart below. Recommendations are based on the treatments that proved most effective for providing stain repellency on the submitted samples.

Sample	Stain Resistance
"Brushed Buff" Cast Stone – Dry Cast	<p style="text-align: center;"><u>Stain Repellents</u></p> <p>¹Sure Klean® Weather Seal Satin Guard WB OR ²Sure Klean® Weather Seal Gloss 'N Guard</p> <p style="text-align: center;"><u>Maintenance Cleaner</u></p> <p>Enviro Klean® Klean 'N Release Cleaner</p>
"Pearly White" Cast Stone – Dry Cast	
"Brushed Buff" Cast Stone – Wet Cast	<p style="text-align: center;"><u>Stain Repellents</u></p> <p>Sure Klean® Weather Seal Satin Guard WB OR Sure Klean® Weather Seal Gloss 'N Guard</p> <p style="text-align: center;"><u>Maintenance Cleaner</u></p> <p>Enviro Klean® Klean 'N Release Cleaner</p>
"Natural Buff" Cast Stone – Wet Cast	
"Pearly White" Cast Stone – Wet Cast	

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

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



J. Lucas Comadoll
 QC/Project Testing Technician

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

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