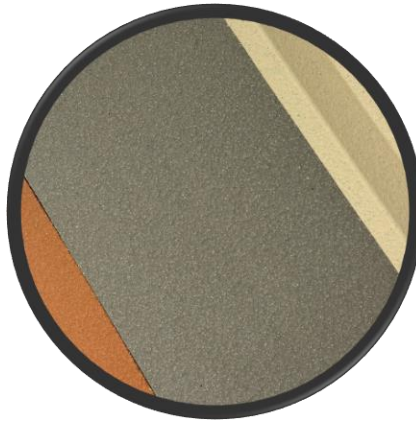




*Pallet Tag Program
Laboratory Report*

Acme Brick Company
Fort Worth, TX



Project No. 2308-04 PTP

Prepared For:



PROSOCO

Prepared By:

J. Lucas Comadoll

J. Lucas Comadoll
Project Testing Technician
AMT Laboratories

January 2024



Laboratory Report

AMT Laboratories • 3741 Greenway Circle • Lawrence, Kansas 66046 • (888) 376-3600

FOR: Bob Carter, Acme Brick Company
cc: Bob Holmes, RK Holmes Company
Zak Wilske, PROSOCO, Inc.
Jake Boyer, PROSOCO, Inc.
Clay Witt, PROSOCO, Inc.

SUBJECT: Acme Brick Company
Fort Worth, TX
Pallet Tag Evaluation

DATE: January 26, 2024
PROJECT: 2308-04 PTP

SAMPLES SUBMITTED: Three types of Agrob Buchtal KeraTwin Panels

Type	Label	Finish	Color	Coating	Size
Terracotta Panel	396	Smooth	Red	None	12" x 12" x ¾"
Terracotta Panel	409	Smooth	Gray	*Hytect Photoceramic Coating	12" x 12" x ¾"
Terracotta Panel	410	Irregular Grooves	Buff	*Hytect Photoceramic Coating	12" x 12" x ¾"

SUBMITTED BY: Bob Carter
Acme Brick Company
3024 Acme Brick Plaza
Fort Worth, TX 76109

*NOTE: It was indicated that the "409" and "410" terracotta panels incorporated a "Hytect photoceramic coating" where titanium dioxide is permanently baked onto the ceramic surface.

PURPOSE OF TEST:

- To determine the most appropriate PROSOCO, Inc. new construction cleaner(s) for the submitted terracotta panels.
- To compare the stain resistance of the cleaned and uncleaned “409” and “410” terracotta panels using a modified ISO 10545-14 test method (Ceramic Tiles: Determination of Resistance To Stains) to determine if the new construction cleaners alter the properties of the titanium dioxide coated terracotta panels.
- To evaluate the color and sheen enhancement characteristics of specific PROSOCO, Inc. products on the “396” terracotta panel. The “409” and “410” terracotta panels were omitted from testing due to the titanium dioxide coating.
- To determine the most appropriate PROSOCO, Inc. water repellent(s) for the “396” terracotta panel. The water repellency of the untreated “409” and “410” terracotta panels was also tested.
- To determine the effectiveness of appropriate PROSOCO, Inc. products in preventing the penetration of, and simplifying the removal of, graffiti staining on the “396” terracotta panel. The graffiti resistance of the untreated “409” and “410” terracotta panels was also tested.
- To determine the effectiveness of appropriate PROSOCO, Inc. products in preventing food and oil staining on the “396” terracotta panel. The stain resistance of the untreated “409” terracotta panel was also tested. The stain resistance of the untreated “410” terracotta panel was omitted from testing due to its irregular surface.

PRODUCTS EVALUATED:

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

Water Repellency: "396" Terracotta Panel	Dilution:
PROSOCO Saltguard® VOC	N/A*
Sure Klean® Weather Seal Siloxane PD	N/A*
Sure Klean® Weather Seal Siloxane WB Concentrate	1:14
Sure Klean® Weather Seal Blok-Guard® & Graffiti Control VOC 9	N/A*
Sure Klean® Weather Seal Blok-Guard® & Graffiti Control VOC 15	N/A*

Graffiti Resistance: "396" Terracotta Panel	Dilution:
Sure Klean® Weather Seal Blok-Guard® & Graffiti Control VOC 9	N/A*
Sure Klean® Weather Seal Blok-Guard® & Graffiti Control VOC 15	N/A*
Sure Klean® Weather Seal Sacrificial Coating SC-1	N/A*

Color and Sheen Enhancement/Stain Resistance: "396" Terracotta Panel	Dilution:
Sure Klean® Weather Seal Satin Guard WB	N/A*
Sure Klean® Weather Seal Gloss 'N Guard	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 submitted terracotta panels.

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

Substrate Deterioration is the visual examination of the sample comparing the uncleaned surface to surfaces cleaned with selected product(s) at given dilutions looking for any potential erosion/digestion of the sample.

Color Change is the visual examination comparing the color of the uncleaned surface to the color of surfaces cleaned with selected products at given dilutions.

Staining is the visual examination for changes that are the result of a chemical reaction that leaves a staining precipitate.

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

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

Cleaning Procedure:

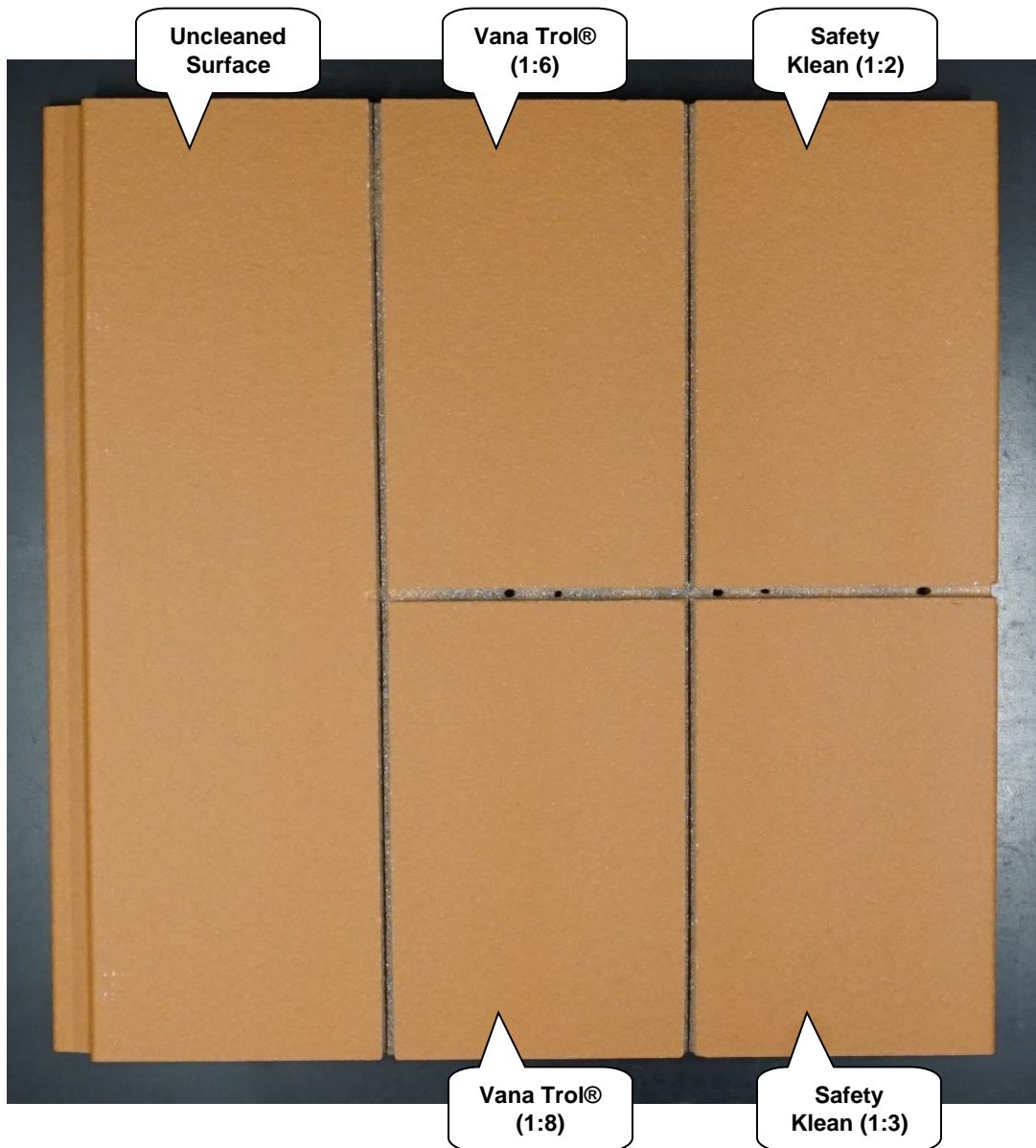
1. Pre-wet the surface and apply diluted cleaning solution according to PROSOCO, Inc. Product Data Sheet.
2. Allow for an appropriate dwell time and periodically agitate:
Vana Trol®.....5 minutes
Safety Klean.....5 minutes
3. Reapply cleaning solution; do not let cleaner dry into sample.
4. Rinse thoroughly 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: "396" Terracotta 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

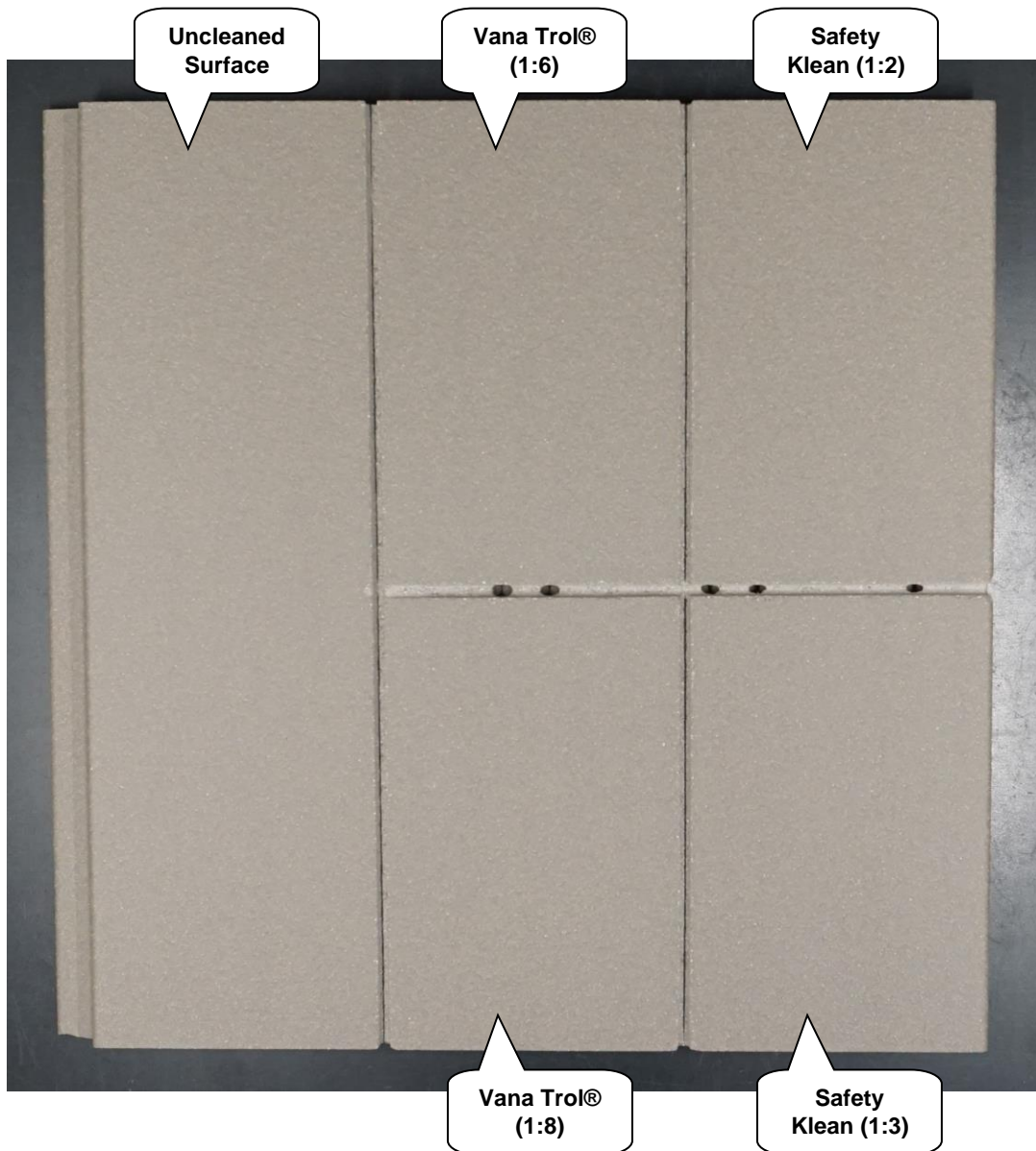
"396" Terracotta Panel After Cleaning



TEST RESULTS AND PHOTOGRAPHS: New Construction Cleaning

Name: "409" Terracotta 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

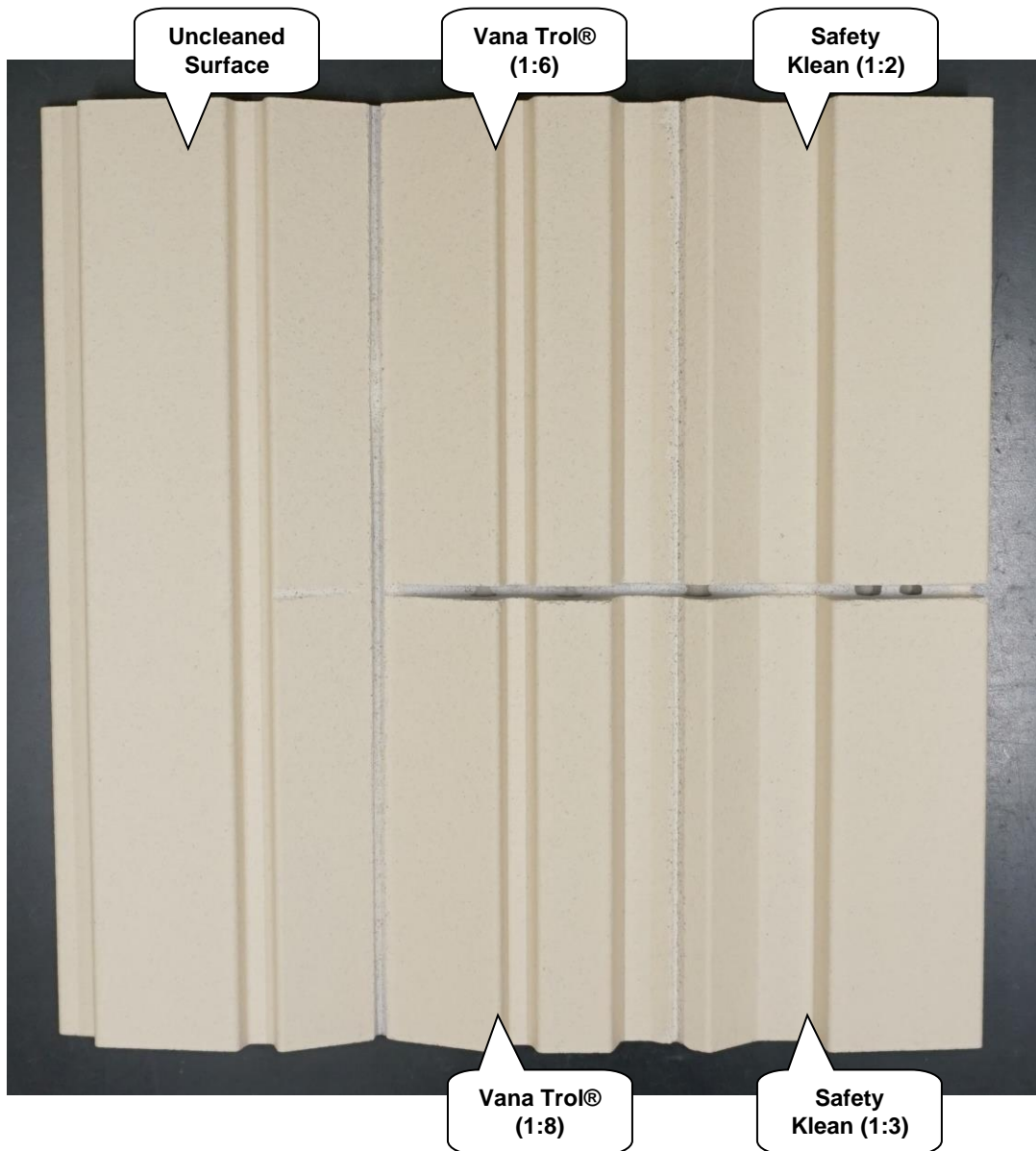
"409" Terracotta Panel After Cleaning



TEST RESULTS AND PHOTOGRAPHS: New Construction Cleaning

Name: "410" Terracotta 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

"410" Terracotta Panel After Cleaning



CONCLUSIONS: New Construction Cleaning

In the cleaning tests conducted, neither Sure Klean® Vana Trol® nor Enviro Klean® Safety Klean caused any change to the appearance of the submitted terracotta panels.

When choosing the most appropriate product for the desired result:

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

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

RECOMMENDATIONS: New Construction Cleaning

Recommendations for cleaning the terracotta panels submitted by Acme Brick Company, Fort Worth, TX 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
"396" Terracotta Panel	Sure Klean® Vana Trol® (1:6) or (1:8) OR Enviro Klean® Safety Klean (1:2) or (1:3)
"409" Terracotta Panel	
"410" Terracotta Panel	

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: ISO 10545-14 (Modified)

Per the client's request, the stain resistance of the cleaned and uncleaned "409" and "410" terracotta panels was compared using a modified version of the ISO 10545-14 test method (Ceramic tiles: Determination of Resistance to Stains). This was done to determine if the new construction cleaners alter the properties of the titanium dioxide coating.

The ISO 10545-14 test method outlines the composition of a red staining agent that is to be applied to the surface of the terracotta panels. The red staining agent consists of iron(III) oxide (Fe_2O_3) and a thin oil. The thin oil is defined as consisting of an ester of glycerol and organic acids(s) with the relative molecular mass of the ester in the range of 300 to 500. For the thin oil we utilized fractionated coconut oil. This oil meets the parameters specified in ISO 10545-14, however the molecular mass of the ester resides slightly outside of the specified range. These two components were mixed thoroughly into a paste consisting of a mass concentration of 40% Fe_2O_3 .

The paste was then applied to the cleaned and uncleaned surfaces of the terracotta panels using a wash bottle. The paste was allowed to dwell on the surface for approximately 30 seconds before being rinsed with a wash bottle containing only water. The stain resistance properties of the cleaned and uncleaned surfaces were visually evaluated while rinsing the samples.

TEST RESULTS AND PHOTOGRAPHS: ISO 10545-14 (Modified)

The stain resistance properties of the cleaned and uncleaned “409” and “410” terracotta panels were visually identical.

“409” Terracotta Panel With Red Stain



“409” Terracotta Panel Immediately After Water Rinse



KEY

- 1 = Uncleaned Surface
- 2 = Surface previously cleaned with Vana Trol® (1:6)
- 3 = Surface previously cleaned with Safety Klean (1:2)
- 4 = Surface previously cleaned with Vana Trol® (1:8)
- 5 = Surface previously cleaned with Safety Klean (1:3)

CONCLUSION: ISO 10545-14 (Modified)

Based on the laboratory evaluations, it appears neither Sure Klean® Vana Trol® nor Enviro Klean® Safety Klean altered the stain resistance properties of the “409” and “410” terracotta panels.

Worth noting, after the samples had dried for 24 hours, oil stains were visible on the surface of the cleaned and uncleaned “409” and “410” terracotta panels.

SAMPLE PREPARATION: Treatment Application

Prior to treatment application, the submitted terracotta panels were cleaned with Sure Klean® Vana Trol® diluted with eight parts water in accordance with the current PROSOCO, Inc. Product Data Sheet instructions. After the samples had dried for at least 24 hours, PROSOCO Saltguard® VOC, Sure Klean® Weather Seal Siloxane PD, Sure Klean® Weather Seal Siloxane WB Concentrate diluted with 14 parts water, Sure Klean® Weather Seal Blok-Guard® & Graffiti Control VOC 9, Sure Klean® Weather Seal Blok-Guard® & Graffiti Control VOC 15, Sure Klean® Weather Seal Sacrificial Coating SC-1, Sure Klean® Weather Seal Satin Guard WB, and Sure Klean® Weather Seal Gloss 'N Guard were applied in accordance with the current PROSOCO, Inc. Product Data Sheet instructions and allowed to cure for at least 72 hours prior to testing.

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

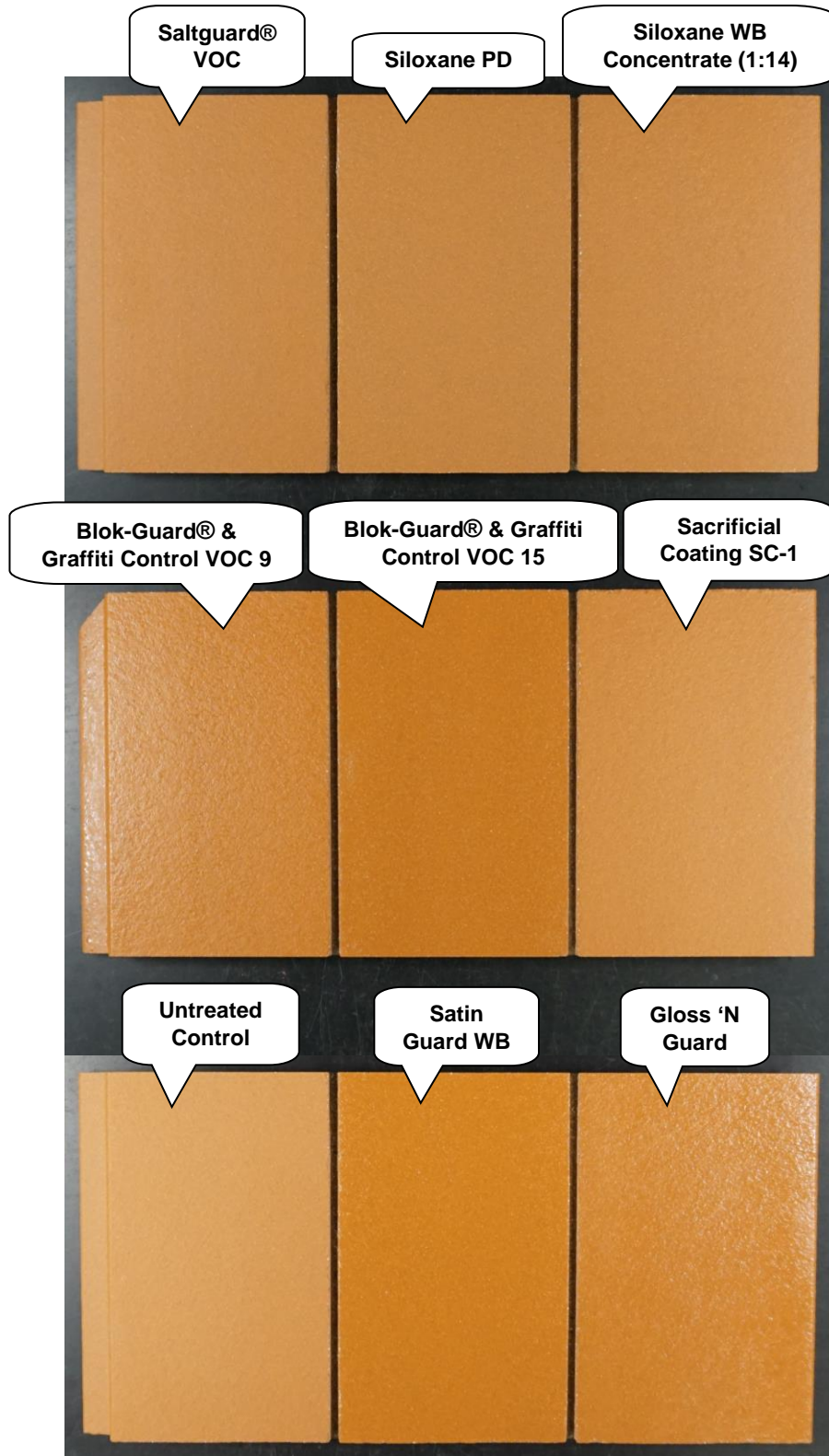
TEST RESULTS AND PHOTOGRAPHS: Color and Sheen Enhancement

“396” Terracotta Panel	Color Enhancement	Sheen Enhancement
PROSOCO Saltguard® VOC	0	0
Sure Klean® Weather Seal Siloxane PD	0	0
Sure Klean® Weather Seal Siloxane WB Concentrate	0	0
Sure Klean® Weather Seal Blok-Guard® & Graffiti Control VOC 9	*N/D	*N/D
Sure Klean® Weather Seal Blok-Guard® & Graffiti Control VOC 15	*N/D	*N/D
Sure Klean® Weather Seal Sacrificial Coating SC-1	1	0
Sure Klean® Weather Seal Gloss ‘N Guard	2	3
Sure Klean® Weather Seal Satin Guard WB	2	2

*Due to the density of the “396” terracotta panel, Sure Klean® Weather Seal Blok-Guard® & Graffiti Control VOC 9 and Sure Klean® Weather Seal Blok-Guard® & Graffiti Control VOC 15 were unable to penetrate the surface of the sample. Therefore, the treatments were not evaluated.

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

“396” Terracotta Panel After Treatment Application



CONCLUSIONS: Color and Sheen Enhancement

The treatments evaluated provided a range of color and sheen enhancement results, from no change in appearance to a significant change depending on the treatment.

Due to the density of the “396” terracotta panel, Sure Klean® Weather Seal Blok-Guard® & Graffiti Control VOC 9 and Sure Klean® Weather Seal Blok-Guard® & Graffiti Control VOC 15 were unable to penetrate the surface of the sample. Therefore, the treatments were not evaluated.

Please refer to pages 11-14 of the report for individual recommendations based on the desired result.

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 the “396” terracotta panel submitted by Acme Brick Company, Fort Worth, TX are provided in the chart below. Recommendations are based on the treatment(s) that proved most effective.

Sample	Color and Sheen Enhancement
“396” Terracotta Panels	Please refer to pages 12-14 of the report for individual recommendations based on the desired result.
“409” Terracotta Panels	Not applicable due to the titanium dioxide coating.
“410” Terracotta Panels	

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: Vertical 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 98 mph dynamic wind pressure. See RILEM II.4 Tech Note for additional information.

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

AA = “Above Average” correlates to less than or equal to 20% of the maximum untreated absorption.

A = “Average” correlates to less than or equal to 50% of the maximum untreated absorption.

BA = “Below Average” correlates to greater than 50% of the maximum untreated absorption.

EXAMPLE: If RILEM tubes applied to an untreated sample result in loss of 5.0 ml of water or more, then:

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

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

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

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

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

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



TEST RESULTS AND PHOTOGRAPHS: Protective Water Repellents

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

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

"396" Terracotta Panel	Results in mL loss	<u>Ranking</u>
Untreated Control	0.2	--
PROSOCO Saltguard® VOC	-0.0	<u>AA</u>
Sure Klean® Weather Seal Siloxane PD	-0.0	<u>AA</u>
Sure Klean® Weather Seal Siloxane WB Concentrate (1:14)	-0.0	<u>AA</u>

"409" Terracotta Panel	Results in mL loss	<u>Ranking</u>
Untreated Control	0.0	--

"410" Terracotta Panel	Results in mL loss	<u>Ranking</u>
Untreated Control	0.2	--

CONCLUSIONS: Protective Water Repellents

"396" Terracotta Panel

Based on the laboratory evaluations, all of the treatments provided good water repellent protection to the submitted "396" terracotta panel.

"409" and "410" Terracotta Panel

The "409" and "410" terracotta panels absorbed little to no water in the 20 minute RILEM test. No treatments were evaluated on either of these terracotta panels due to the titanium dioxide coating.

RECOMMENDATIONS: Protective Water Repellents

Recommendations for water repellency for the “396” terracotta panel submitted by Acme Brick Company, Fort Worth, TX are provided in the chart below. Recommendations are based on the treatment(s) that proved most effective.

Sample	Water Repellency
“396” Terracotta Panel	PROSOCO Saltguard® VOC OR Sure Klean® Weather Seal Siloxane PD OR Sure Klean® Weather Seal Siloxane WB Concentrate (1:14)
“409” Terracotta Panel	Not applicable due to the titanium dioxide coating.
“410” Terracotta Panel	

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.

Please refer to the Product Data Sheet or visit www.prosoco.com/voccompliance to confirm VOC compliance with individual district or state regulations.

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® 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®..... 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

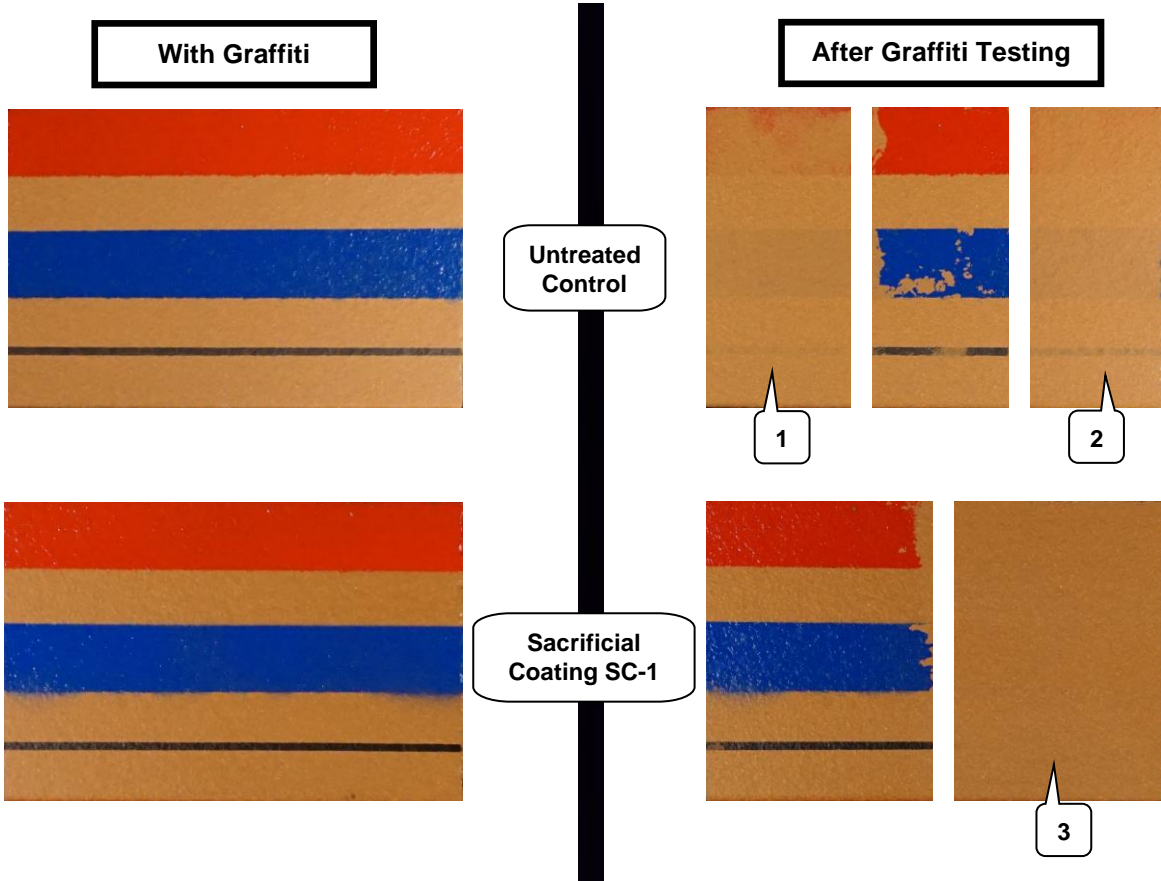
“396” Terracotta Panel				
Untreated Control	Red Paint	Blue Paint	Black Marker	Avg. Rating
SafStrip®	8	9	9	8.7
Graffiti Remover	9	9	8	8.7
Sacrificial Coating SC-1	Red Paint	Blue Paint	Black Marker	Avg. Rating
Hot Water Only	10	10	10	10.0

“409” Terracotta Panel				
Untreated Control	Red Paint	Blue Paint	Black Marker	Avg. Rating
SafStrip®	8	9	9	8.7
Graffiti Remover	9	9	8	8.7

“410” Terracotta Panel				
Untreated Control	Red Paint	Blue Paint	Black Marker	Avg. Rating
SafStrip®	5	9	8	7.3
Graffiti Remover	9	9	7	8.3

TEST RESULTS AND PHOTOGRAPHS: Graffiti Resistance (cont.)

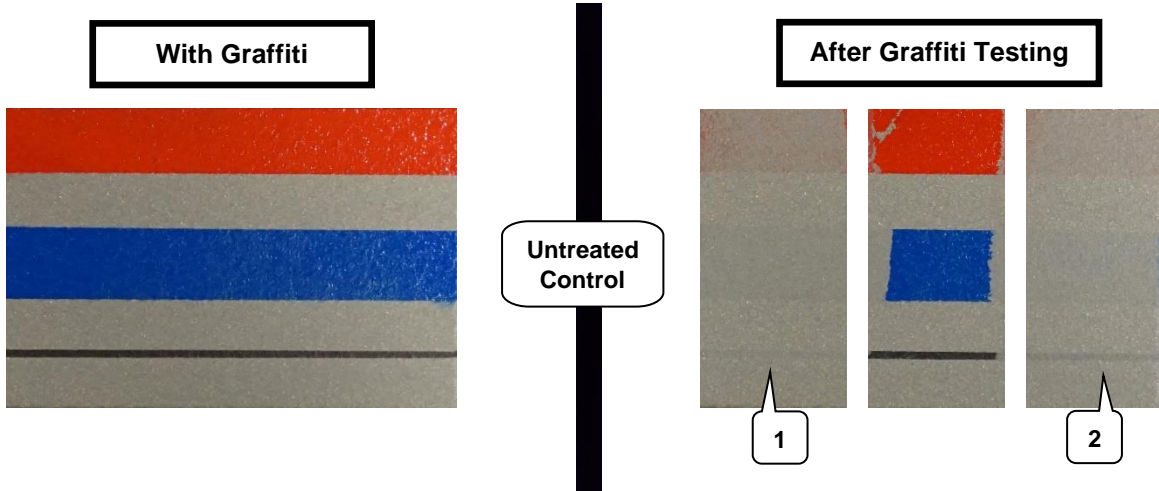
“396” Terracotta Panel



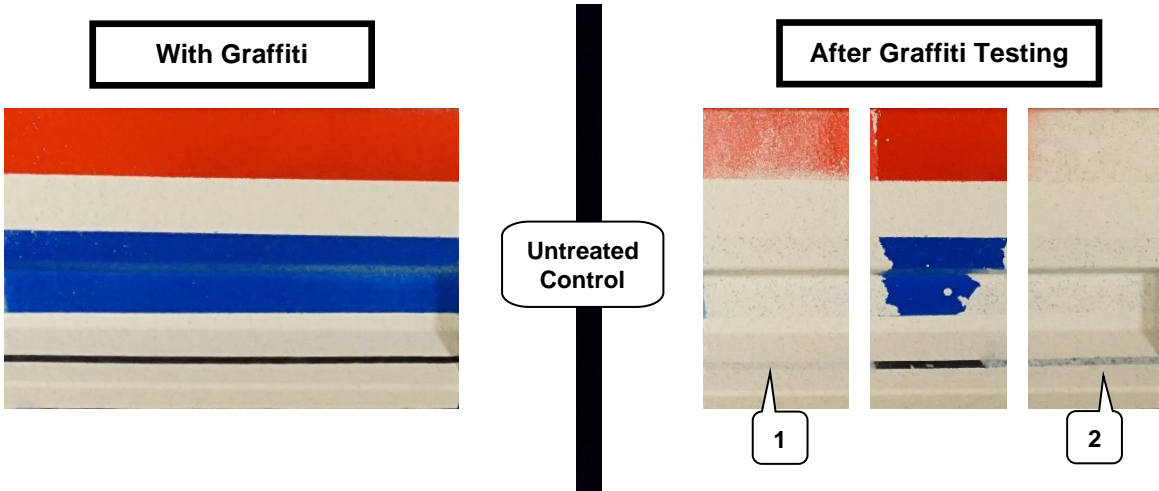
KEY
1 = SafStrip®
2 = Graffiti Remover
3 = Hot Water Only

TEST RESULTS AND PHOTOGRAPHS: Graffiti Resistance (cont.)

“409” Terracotta Panel



“410” Terracotta Panel



KEY
1 = SafStrip®
2 = Graffiti Remover

CONCLUSIONS: Graffiti Resistance

Based on the laboratory evaluations, graffiti removal was improved with Sure Klean® Weather Seal Sacrificial Coating SC-1.

Enviro Klean® SafStrip® and Sure Klean® Graffiti Remover were both effective in removing graffiti from the submitted samples.

Little to no difference was observed between the untreated control with and without the titanium dioxide coating.

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 the terracotta panels submitted by Acme Brick Company, Fort Worth, TX 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 Resistance
"396" Terracotta Panel	<p style="text-align: center;"><u>Graffiti Repellents</u> Sure Klean® Weather Seal Sacrificial Coating SC-1</p> <p style="text-align: center;"><u>Graffiti Removers</u> Hot Water Only</p>
"409" Terracotta Panel	<p style="text-align: center;"><u>Graffiti Repellents</u> Not applicable due to the titanium dioxide coating.</p> <p style="text-align: center;"><u>Graffiti Removers</u> Enviro Klean® SafStrip® OR Sure Klean® Graffiti Remover</p>
"410" Terracotta Panel	

Please refer to the Product Data Sheet or visit www.prosoco.com/voccompliance 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.

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

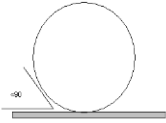
The food and oil products were applied to the test areas by using a dropper creating a bead 0.5 – 1.0 cm in diameter. The beading properties of the oils and liquids were visually evaluated within two minutes after application. The results are reported as a rating based on the angle of contact between 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.

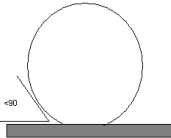
TEST METHODS: Surface Beading Evaluation (cont.)

Rating System (1-5)

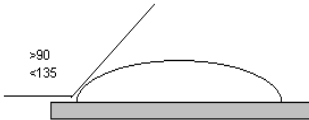
1. No wetting of contact area (no darkening); angle less than 90°



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.

NO ANGLE



TEST RESULTS: Surface Beading Evaluation

Terracotta Panels				
	“396” Untreated Control	“396” Satin Guard WB	“396” Gloss ‘N Guard	“409” Untreated Control
Coca Cola	3	3	3	4
Ketchup	N/A	N/A	N/A	N/A
Mustard	N/A	N/A	N/A	N/A
Red Wine	3	3	3	4
Bals. Vin.	3	3	3	4
Soy Sauce	3	3	3	4
Olive Oil	4	4	4	5
Wesson Oil	4	4	4	5
Hot Coffee	3	3	3	4

N/A – non-free flowing staining agent

NOTE: The “410” terracotta panel was omitted from testing due to its irregular surface.

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

“396” Terracotta Panel

% Removal

Untreated Control									
	Cola	Ketch.	Must.	Red Wine	Bals. Vin.	Soy Sauce	Olive Oil	Wesson Oil	Coffee
24 hour	80%	80%	50%	70%	70%	70%	<1%	<1%	100%
4 hour	80%	100%	80%	70%	70%	70%	<1%	<1%	100%
1 hour	80%	100%	100%	70%	70%	70%	<1%	<1%	100%
10 min.	80%	100%	100%	100%	100%	100%	<1%	<1%	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%
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%	30%	30%	100%
4 hour	100%	100%	100%	100%	100%	100%	80%	80%	100%
1 hour	100%	100%	100%	100%	100%	100%	90%	90%	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.)

“409” Terracotta Panel

% Removal

Untreated Control									
	Cola	Ketch.	Must.	Red Wine	Bals. Vin.	Soy Sauce	Olive Oil	Wesson Oil	Coffee
24 hour	50%	50%	50%	70%	70%	70%	<1%	<1%	100%
4 hour	50%	80%	80%	70%	70%	70%	<1%	<1%	100%
1 hour	50%	100%	100%	70%	70%	70%	<1%	<1%	100%
10 min.	80%	100%	100%	100%	100%	100%	<1%	<1%	100%

% Removal of stain following maintenance cleaning.

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

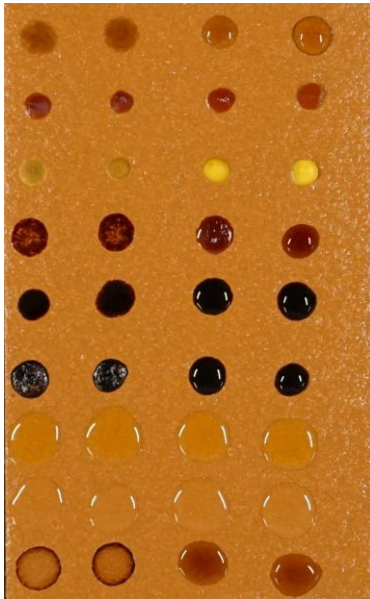
N/A* Indicates the removal of the stain, following maintenance cleaning, was unable to be determined due to olive oil or Wesson oil spreading, masking the area in question.

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

“396” Terracotta Panel With Stains



Untreated Control



Satin Guard WB



Gloss 'N Guard

“396” Terracotta Panel After Stain Testing



Untreated Control



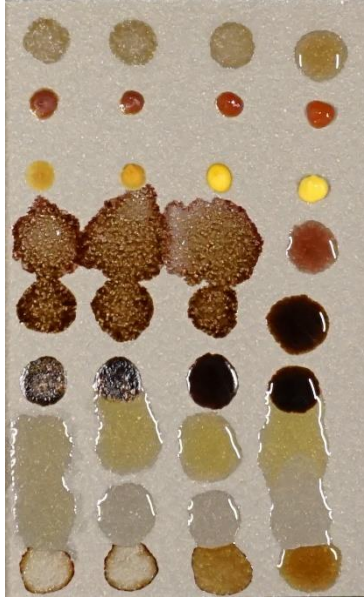
Satin Guard WB



Gloss 'N Guard

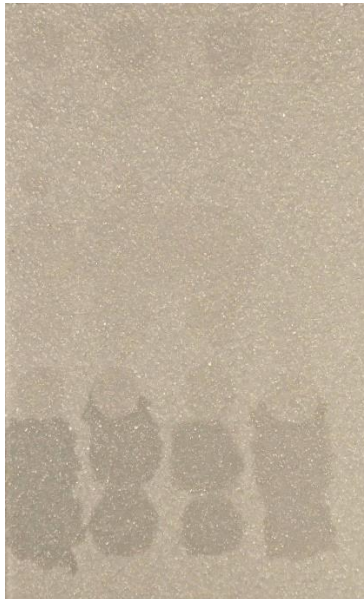
TEST RESULTS AND PHOTOGRAPHS: Stain Resistance Evaluation (cont.)

“409” Terracotta Panel With Stains



Untreated Control

“409” Terracotta Panel After Stain Testing



Untreated Control

CONCLUSIONS: Surface Beading and Stain Resistance

In the surface beading evaluation of the “396” terracotta panel, the surfaces treated with Sure Klean® Weather Seal Satin Guard WB and Sure Klean® Weather Seal Gloss ‘N Guard had comparable angles of contact with each stain when compared to those of the untreated control.

The untreated “409” terracotta panel (with the titanium dioxide coating) displayed greater angles of contact than those observed on the untreated “396” terracotta panel.

In the stain resistance tests conducted, Sure Klean® Weather Seal Satin Guard WB and Sure Klean® Weather Seal Gloss ‘N Guard proved effective at repelling the applied stains from the “396” terracotta panel. Sure Klean® Weather Seal Satin Guard WB was the most effective treatment.

RECOMMENDATIONS: Stain Resistance

Recommendations for stain resistance for the “396” terracotta panel submitted by Acme Brick Company, Fort Worth, TX are provided in the chart below.

Sample	Stain Resistance
“396” Terracotta Panel	<p style="text-align: center;"><u>Stain Repellents</u> 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> Enviro Klean® Klean ‘N Release Cleaner</p>
“409” Terracotta Panel	Not applicable due to the titanium dioxide coating.

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

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.