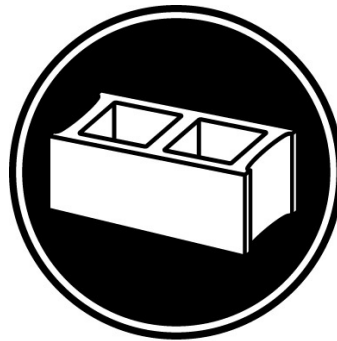




# *Pallet Tag Program Laboratory Report*

## Acme Brick Company Fort Worth, TX



*Project No. 1811-05 PTP*

***Prepared For:***



***Prepared By:***

*J. Lucas Comadoll*

J. Lucas Comadoll  
Project Testing Technician  
AMT Laboratories

January 2019



# LABORATORY REPORT

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**FOR:** Bob Carter, Acme Brick Company  
**cc:** Mike Dickey  
Jake Boyer, PROSOCO, Inc.  
Al Morris, PROSOCO, Inc.

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

**DATE:** January 2, 2019  
**PROJECT:** 1811-05 PTP

**SAMPLES SUBMITTED:**

Sample	Name	Color	Size
(5) Terracotta Panels	"Terracotta"	Red	12" x 8" x 0.75"
(5) Terracotta Panels	"Sable"	Gray	16" x 12" x 1.25"
(5) Terracotta Panels	"Linen"	White	24" x 12" x 0.5"

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

**PURPOSE OF TEST:**

- To determine the most appropriate PROSOCO, Inc. new construction cleaner(s) for the submitted terracotta panels.
- To evaluate the color and sheen enhancement characteristics of Sure Klean® Weather Seal Gloss 'N Guard WB on the submitted panels.
- To determine the most appropriate PROSOCO, Inc. water repellent(s) for the submitted panels.
- To determine the effectiveness of appropriate PROSOCO, Inc. products in preventing the penetration of, and simplifying the removal of, graffiti staining on the submitted panels.
- To determine the effectiveness of appropriate PROSOCO, Inc. products in preventing food and oil staining on the submitted panels.

**PRODUCTS EVALUATED:**

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

<b>Color and Sheen Enhancement</b>	<b>Dilution:</b>
Sure Klean® Weather Seal Gloss 'N Guard WB	Concentrate

<b>Water Repellency</b>	<b>Dilution:</b>
Sure Klean® Weather Seal Blok-Guard® & Graffiti Control	Concentrate
Sure Klean® Weather Seal Blok-Guard® & Graffiti Control II	Concentrate
PROSOCO® SL100 Water Repellent	Concentrate
PROSOCO® SLX100® Water & Oil Repellent	Concentrate

<b>Graffiti Resistance</b>	<b>Dilution:</b>
Sure Klean® Weather Seal Blok-Guard® & Graffiti Control	Concentrate
Sure Klean® Weather Seal Blok-Guard® & Graffiti Control II	Concentrate

<b>Graffiti Removal</b>	<b>Dilution:</b>
Defacer Eraser® Graffiti Remover	Concentrate
Enviro Klean® SafStrip® 8	Concentrate

<b>Stain Repellency</b>	<b>Dilution:</b>
Sure Klean® Weather Seal Gloss 'N Guard WB	Concentrate
PROSOCO® SLX100® Water & Oil Repellent	Concentrate
Stand Off® Stone, Tile & Masonry Protector (STMP)	Concentrate

## TEST METHODS: New Construction Cleaning

Enviro Klean® Safety Klean, Sure Klean® Light Duty Concrete Cleaner, and Sure Klean® Vana Trol® were evaluated to determine the optimal concentration of cleaner which leaves the external surface looking most like the uncleaned surface of the terracotta panel.

**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:
  - Safety Klean.....5 minutes
  - Light Duty Concrete Cleaner.....5 minutes
  - Vana Trol®.....5 minutes
3. Reapply cleaning solution; do not let cleaner dry into terracotta panel.
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.

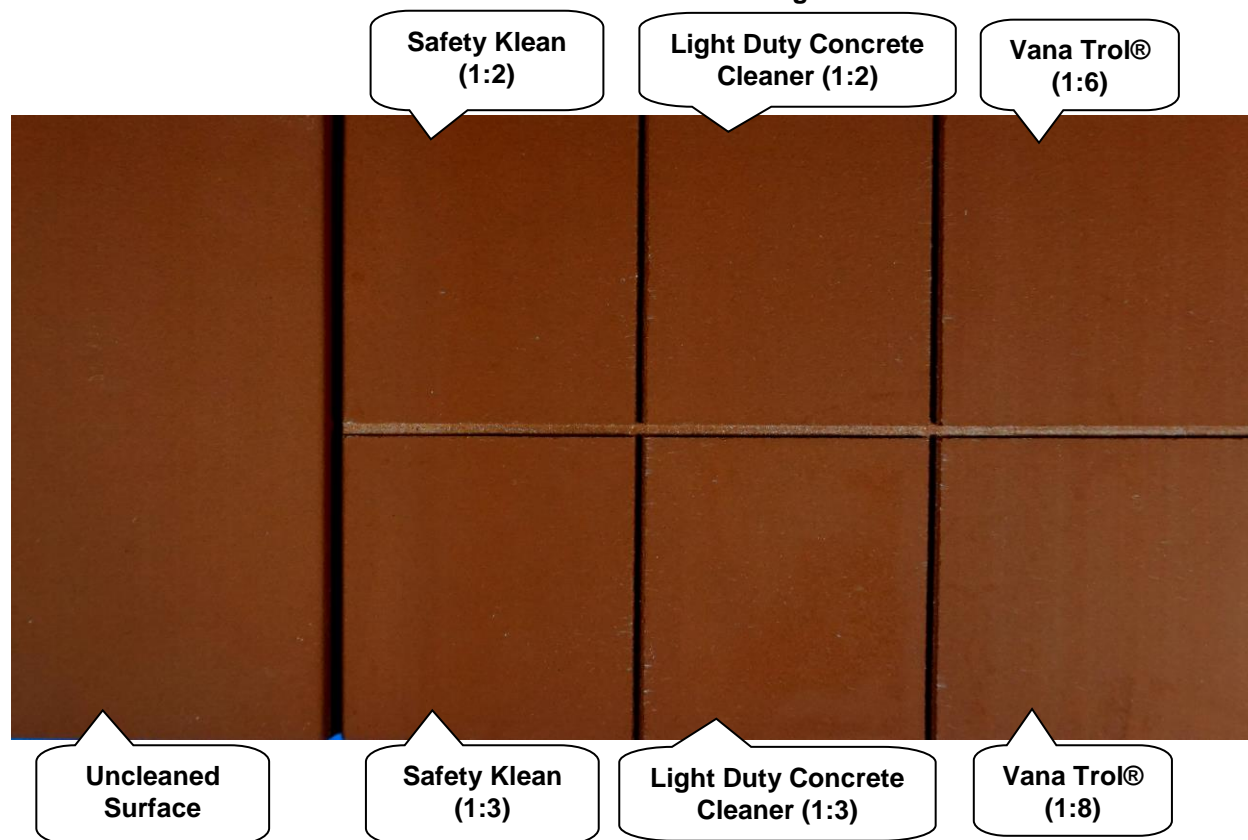
**\*Rinsing Equipment** – Masonry washing equipment generating approximately 700-800 psi with a water flow rate of 8 gallons per minute delivered through a 45 degree fan spray tip was used for rinsing.

## TEST RESULTS AND PHOTOGRAPHS: New Construction Cleaning

Scale used for reporting results of both categories:
0 – <b>No change</b> compared to uncleaned surface
1 – <b>Slight change</b> compared to uncleaned surface
2 – <b>Moderate change</b> compared to uncleaned surface
3 – <b>Significant change</b> compared to uncleaned surface

Name: Terracotta					
Product	Dilution	Surface Finish Removal	Substrate Deterioration	Color Change	Staining
Safety Klean	1:2	0	0	0	0
Safety Klean	1:3	0	0	0	0
Light Duty Concrete Cleaner	1:2	0	0	0	0
Light Duty Concrete Cleaner	1:3	0	0	0	0
Vana Trol®	1:6	0	0	0	0
Vana Trol®	1:8	0	0	0	0

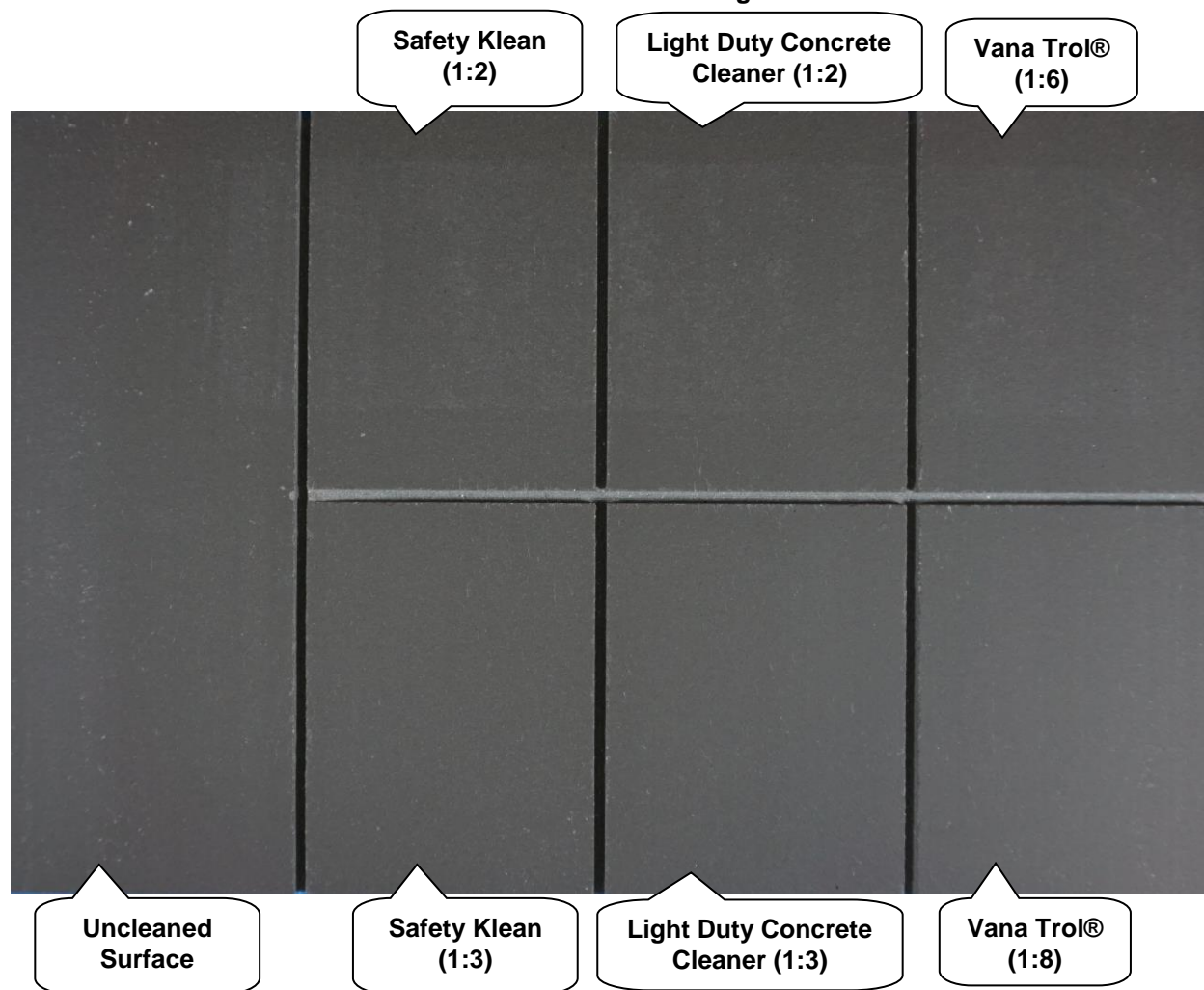
### "Terracotta" After Cleaning



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

Name: Sable					
Product	Dilution	Surface Finish Removal	Substrate Deterioration	Color Change	Staining
Safety Klean	1:2	0	0	0	0
Safety Klean	1:3	0	0	0	0
Light Duty Concrete Cleaner	1:2	0	0	0	0
Light Duty Concrete Cleaner	1:3	0	0	0	0
Vana Trol®	1:6	0	0	0	0
Vana Trol®	1:8	0	0	0	0

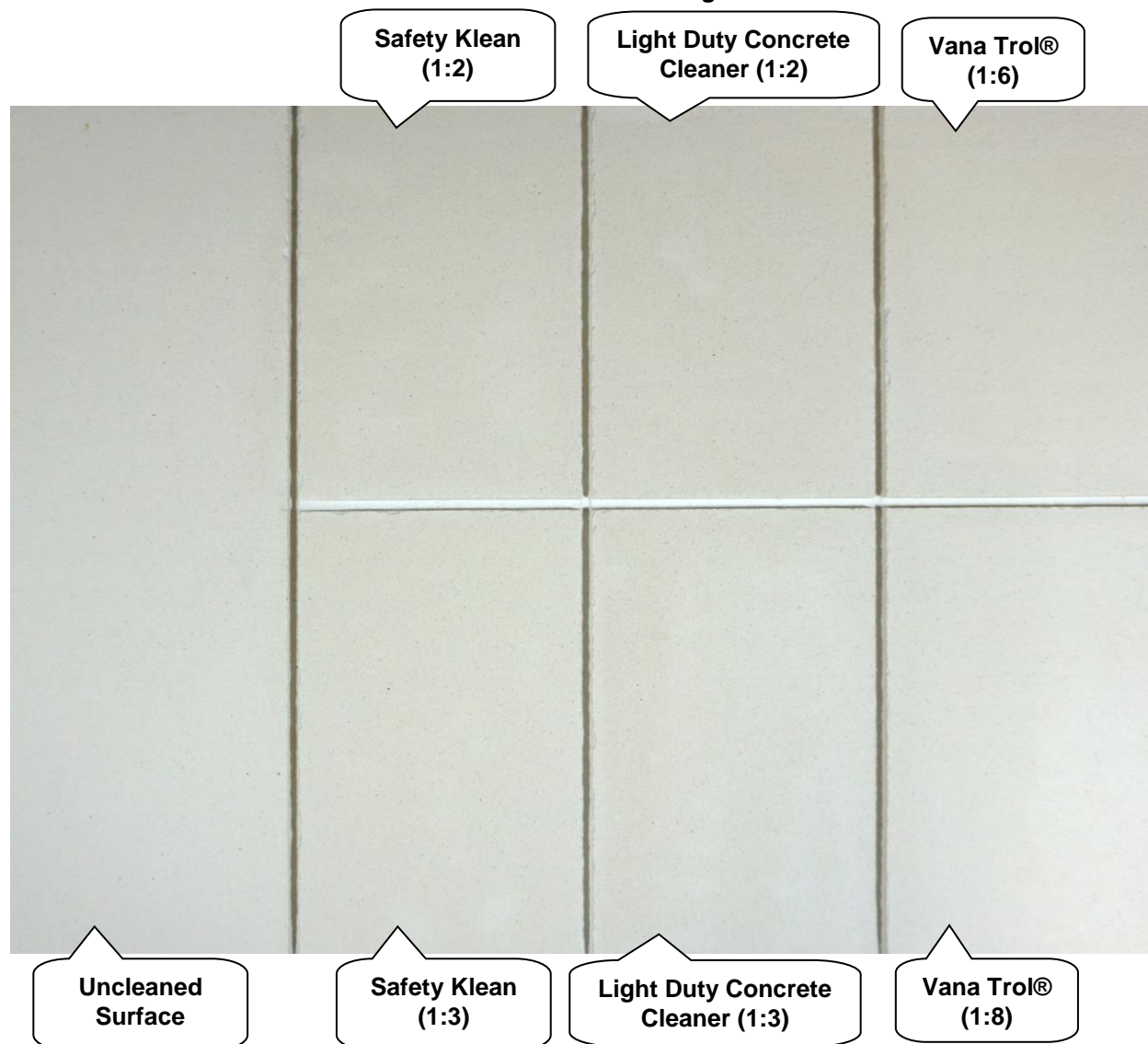
**"Sable" After Cleaning**



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

<b>Name:</b> Linen					
<b>Product</b>	<b>Dilution</b>	<b>Surface Finish Removal</b>	<b>Substrate Deterioration</b>	<b>Color Change</b>	<b>Staining</b>
Safety Klean	1:2	0	0	1	0
Safety Klean	1:3	0	0	1	0
Light Duty Concrete Cleaner	1:2	0	0	1	0
Light Duty Concrete Cleaner	1:3	0	0	1	0
Vana Trol®	1:6	0	0	1	0
Vana Trol®	1:8	0	0	1	0

**"Linen" After Cleaning**





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## CONCLUSIONS – New Construction Cleaning

In the cleaning tests conducted, Enviro Klean® Safety Klean, Sure Klean® Light Duty Concrete Cleaner, and Sure Klean® Vana Trol® caused either very slight or no change to the appearance of the submitted terracotta panels.

When choosing the most appropriate product for the desired result, use Sure Klean® Light Duty Concrete Cleaner when removing common construction stains, efflorescence, and metallic staining. 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.

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## RECOMMENDATIONS: New Construction Cleaning

Recommendations for cleaning for each type of terracotta panel 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
“Terracotta”	Enviro Klean® Safety Klean (1:2) or (1:3) OR Sure Klean® Light Duty Concrete Cleaner (1:2) or (1:3) OR Sure Klean® Vana Trol® (1:6) or (1:8)
“Sable”	
“Linen”	

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

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

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

Prior to treatment application, the submitted terracotta 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.

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

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

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

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

## TEST RESULTS AND PHOTOGRAPHS: Color and Sheen Enhancement

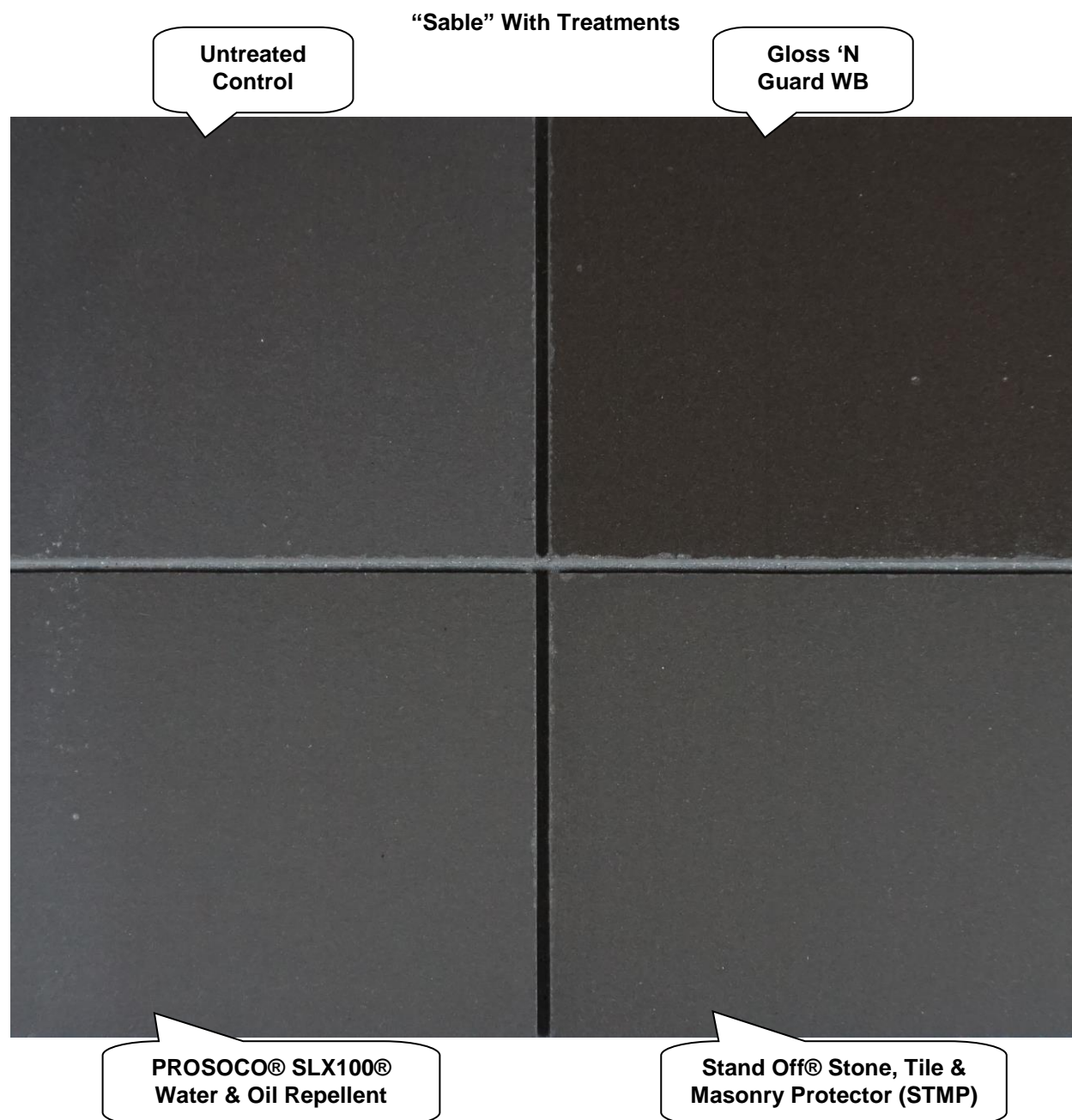
Scale used for reporting results of both categories:
0 – <b>No enhancement</b> compared to uncleaned surface
1 – <b>Slight enhancement</b> compared to uncleaned surface
2 – <b>Moderate enhancement</b> compared to uncleaned surface
3 – <b>Significant enhancement</b> compared to uncleaned surface

"Terracotta"	Color Enhancement	Sheen Enhancement
Sure Klean® Weather Seal Gloss 'N Guard WB	2	2



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

<b>"Sable"</b>	<b>Color Enhancement</b>	<b>Sheen Enhancement</b>
Sure Klean® Weather Seal Gloss 'N Guard WB	2	2



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

<b>"Linen"</b>	<b>Color Enhancement</b>	<b>Sheen Enhancement</b>
Sure Klean® Weather Seal Gloss 'N Guard WB	1	2



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## CONCLUSIONS – Color and Sheen Enhancement

Sure Klean® Weather Seal Gloss 'N Guard WB provided slight to moderate color enhancement and moderate sheen enhancement to the terracotta panels.

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## RECOMMENDATIONS: Color and Sheen Enhancement

Recommendations for color and sheen enhancement for each type of terracotta panel submitted by Acme Brick Company, Fort Worth, TX are provided in the chart below. Recommendations are based on the product(s) that proved most effective.

Sample	Color and Sheen Enhancement
"Terracotta"	Sure Klean® Weather Seal Gloss 'N Guard WB
"Sable"	
"Linen"	

The ability of a color and sheen enhancement product is dependent on a variety of factors. Therefore, on-site testing should be carried out for all applications with the recommended product 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 cleaning product and procedures for a particular project. See product literature for additional application and product information.



## 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 terracotta panels. 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:

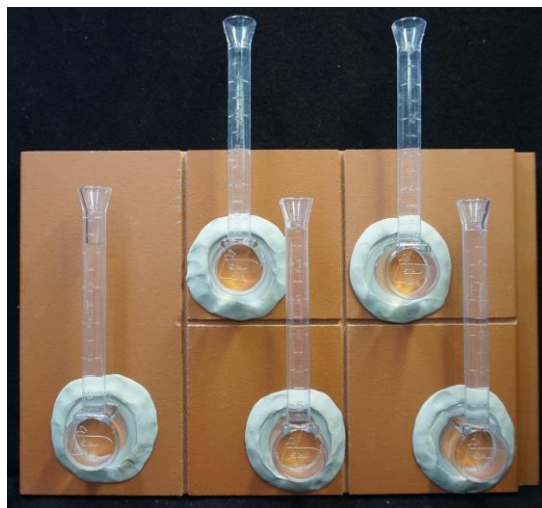
$$5.0 \text{ mL} \times 20\% = \mathbf{1.0 \text{ mL}}$$

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

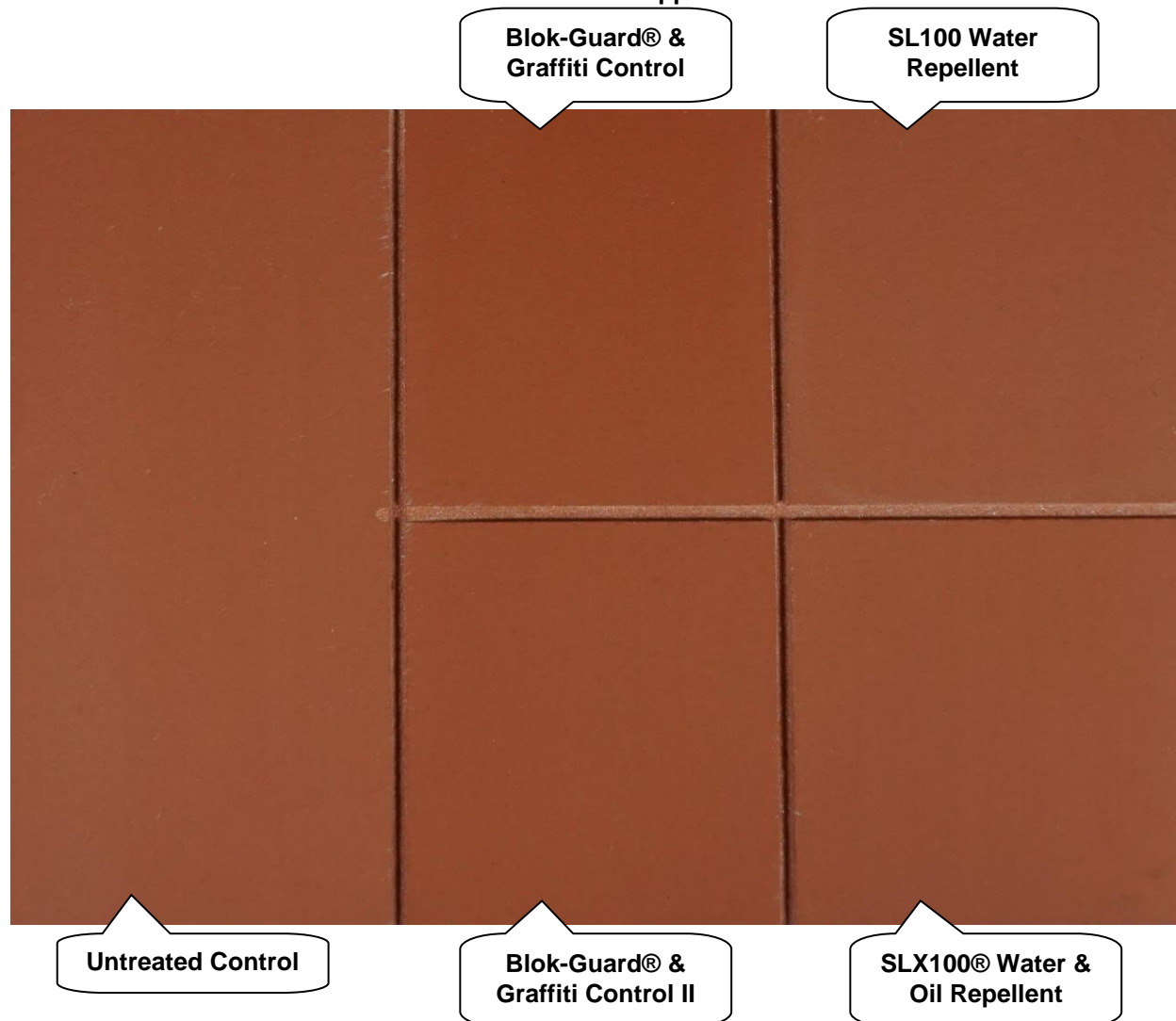
Water Absorption Tube Test: Vertical RILEM II.4, 5.0 milliliters, 20 minutes

**AA** = Above Average    **A** = Average

**BA** = Below Average

"Terracotta"	Results in mL loss	Ranking
Untreated Control	-0.7	--
Sure Klean® Weather Seal Blok-Guard® & Graffiti Control	-0.0	<b>AA</b>
Sure Klean® Weather Seal Blok-Guard® & Graffiti Control II	-0.0	<b>AA</b>
PROSOCO® SL100 Water Repellent	-0.0	<b>AA</b>
PROSOCO® SLX100® Water & Oil Repellent	-0.0	<b>AA</b>

### "Terracotta" After Application





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

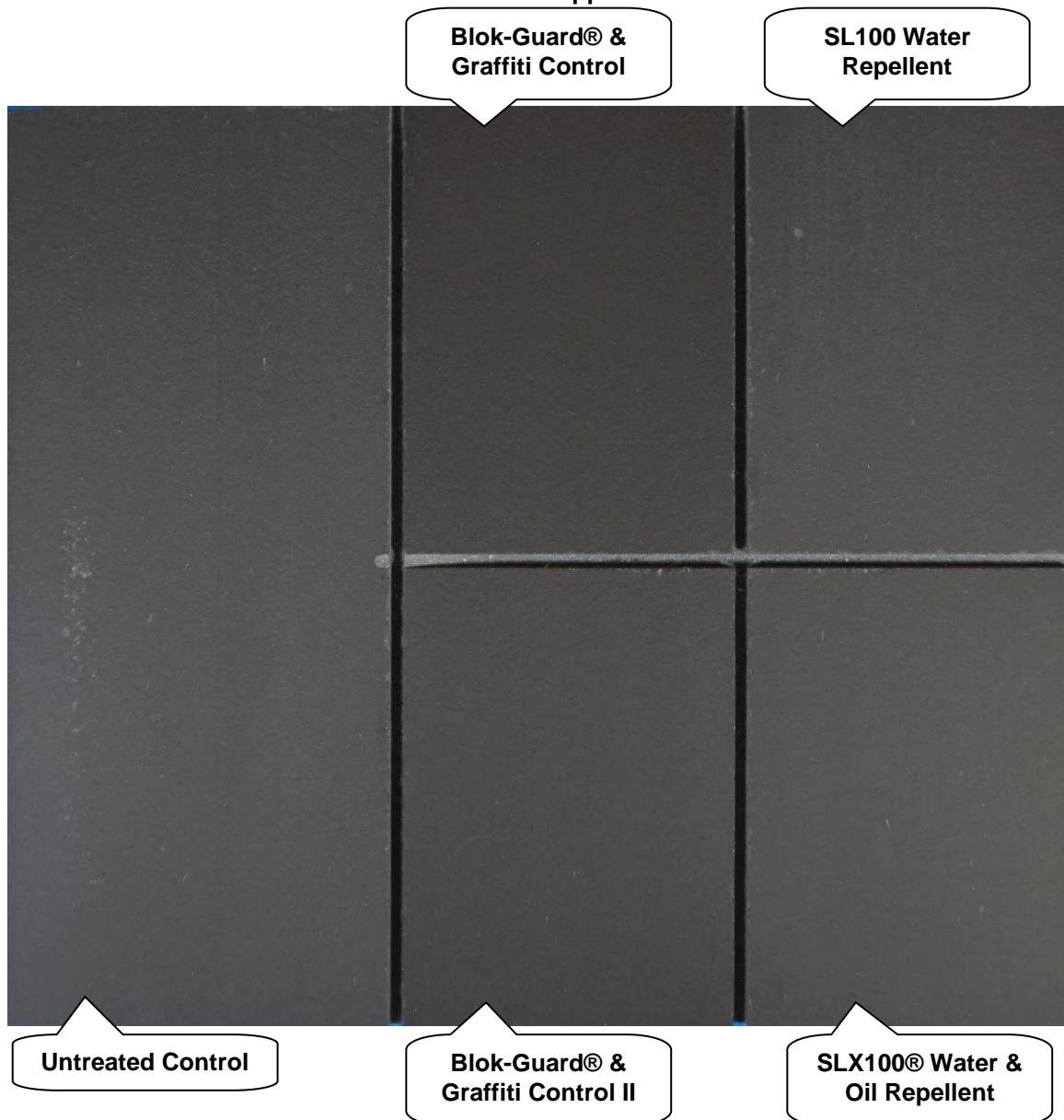
### Water Absorption Tube Test: Vertical RILEM II.4, 5.0 milliliters, 20 minutes

**AA** = Above Average    **A** = Average

**BA** = Below Average

"Sable"	Results in mL loss	Ranking
Untreated Control	-0.2	--
Sure Klean® Weather Seal Blok-Guard® & Graffiti Control	-0.0	<b>AA</b>
Sure Klean® Weather Seal Blok-Guard® & Graffiti Control II	-0.0	<b>AA</b>
PROSOCO® SL100 Water Repellent	-0.0	<b>AA</b>
PROSOCO® SLX100® Water & Oil Repellent	-0.0	<b>AA</b>

### "Sable" After Application



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

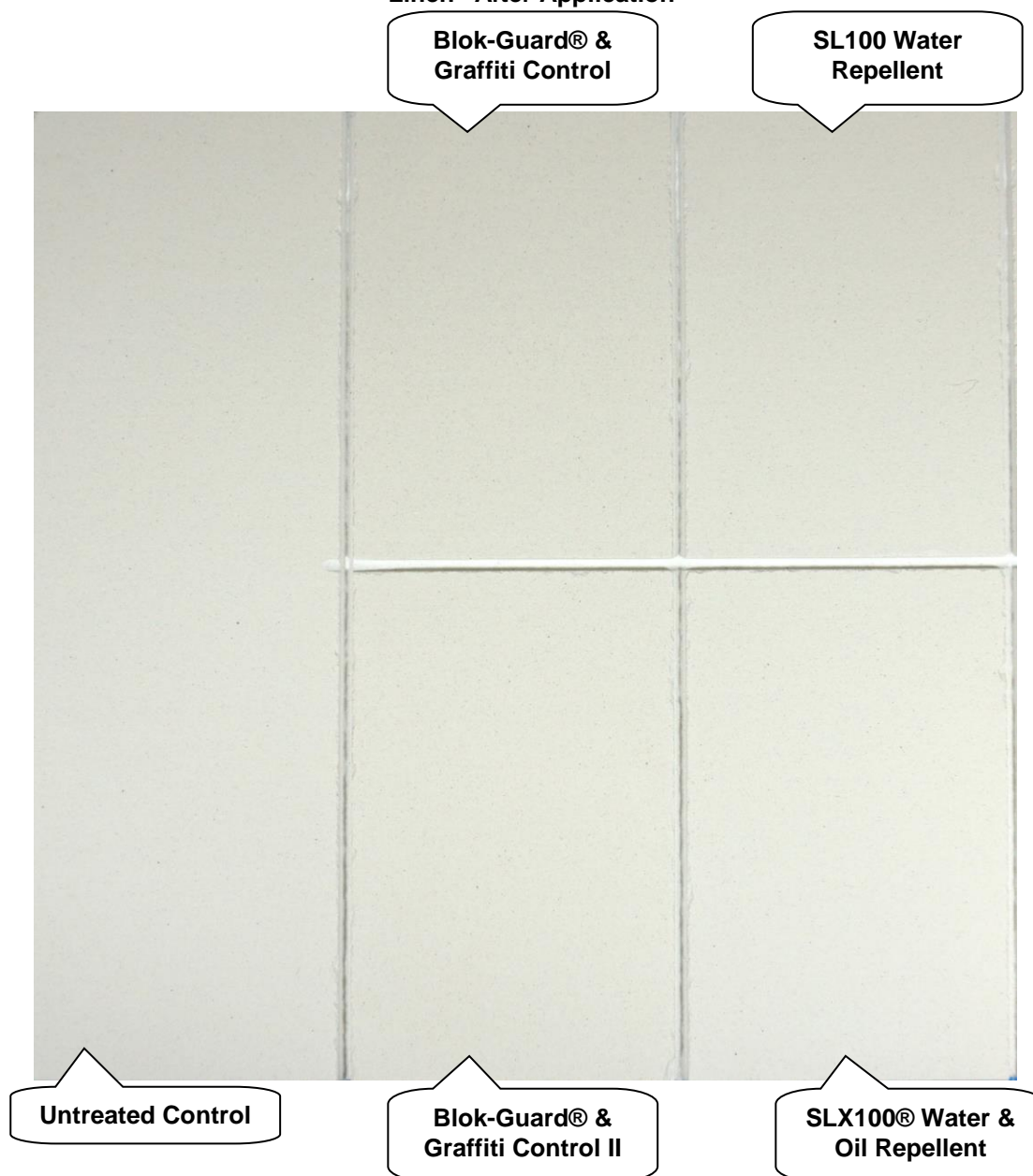
### Water Absorption Tube Test: Vertical RILEM II.4, 5.0 milliliters, 20 minutes

**AA** = Above Average    **A** = Average

**BA** = Below Average

"Linen"	Results in mL loss	Ranking
Untreated Control	-0.0	--
Sure Klean® Weather Seal Blok-Guard® & Graffiti Control	-0.0	<b>AA</b>
Sure Klean® Weather Seal Blok-Guard® & Graffiti Control II	-0.0	<b>AA</b>
PROSOCO® SL100 Water Repellent	-0.0	<b>AA</b>
PROSOCO® SLX100® Water & Oil Repellent	-0.0	<b>AA</b>

### "Linen" After Application



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## CONCLUSIONS: Protective Water Repellents

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

Sure Klean® Weather Seal Blok-Guard® & Graffiti Control and Sure Klean® Weather Seal Blok-Guard® & Graffiti Control II provided a very slight to slight color enhancement to each terracotta panel.

Neither PROSOCO® SL100 Water Repellent nor PROSOCO® SLX100® Water & Oil Repellent caused any change in appearance to the terracotta panels.

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## RECOMMENDATIONS: Water Repellency

Recommendations for water repellency for each type of 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	New Construction Cleaning
"Terracotta"	Sure Klean® Weather Seal Blok-Guard® & Graffiti Control OR
"Sable"	Sure Klean® Weather Seal Blok-Guard® & Graffiti Control II OR
"Linen"	PROSOCO® SL100 Water Repellent OR PROSOCO® SLX100® Water & Oil Repellent

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 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.

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 II. Removal of the graffiti agents was attempted 24 hours after application of the graffiti agents, using Enviro Klean® SafStrip® 8 and Defacer Eraser® 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:
  - 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.

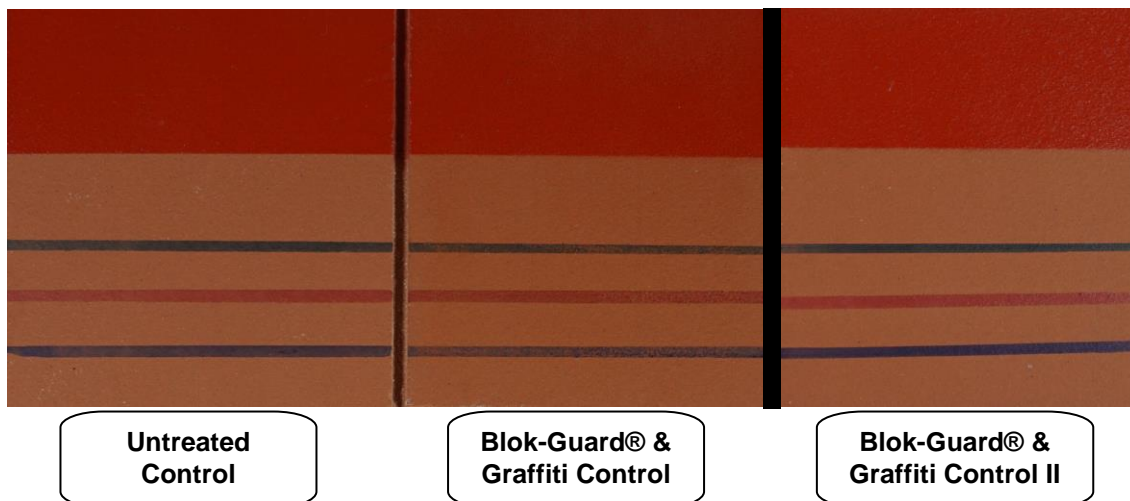
**\*Pressure Rinsing Equipment** – Masonry washing equipment generating approximately 700-800 psi with a water flow rate of 8 gallons per minute delivered through a 45-degree fan spray tip was used for rinsing.

## TEST RESULTS AND PHOTOGRAPHS: Graffiti Resistance

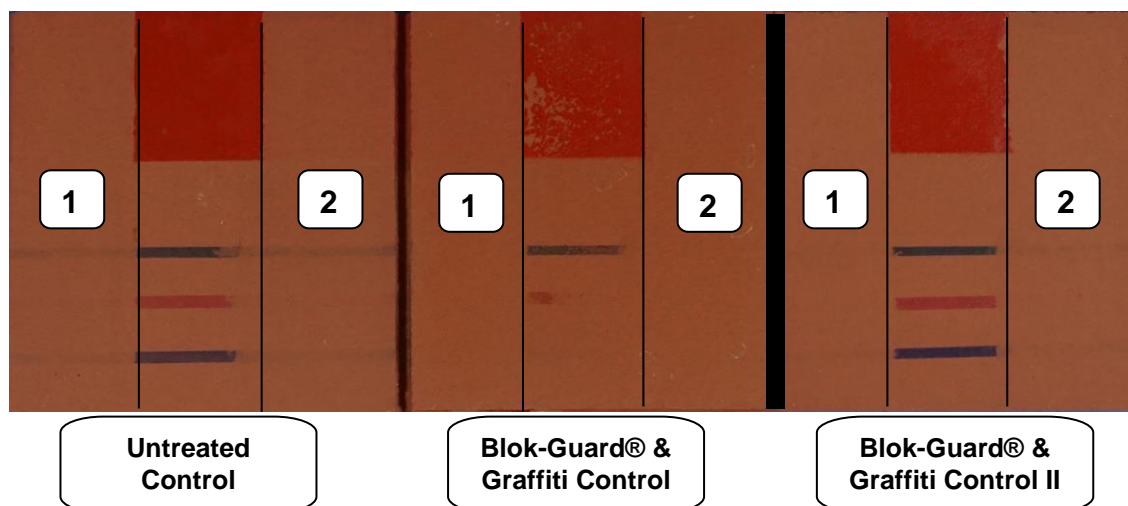
“Terracotta”					
Untreated Control	Red Paint	Black Marker	Red Marker	Blue Marker	% Avg. Removal
SafStrip® 8	95%	60%	70%	60%	71%
Graffiti Remover	95%	60%	70%	60%	71%
Blok-Guard® & Graffiti Control	Red Paint	Black Marker	Red Marker	Blue Marker	% Avg. Removal
SafStrip® 8	98%	98%	98%	98%	98%
Graffiti Remover	100%	100%	100%	100%	100%
Blok-Guard® & Graffiti Control II	Red Paint	Black Marker	Red Marker	Blue Marker	% Avg. Removal
SafStrip® 8	100%	98%	98%	85%	95%
Graffiti Remover	100%	80%	90%	80%	88%

**TEST RESULTS AND PHOTOGRAPHS: Graffiti Resistance (cont.)**

**“Terracotta” Panel With Graffiti**



**“Terracotta” Panel After Graffiti Testing**



**KEY**

**1 = SafStrip® 8**

**2 = Graffiti Remover**

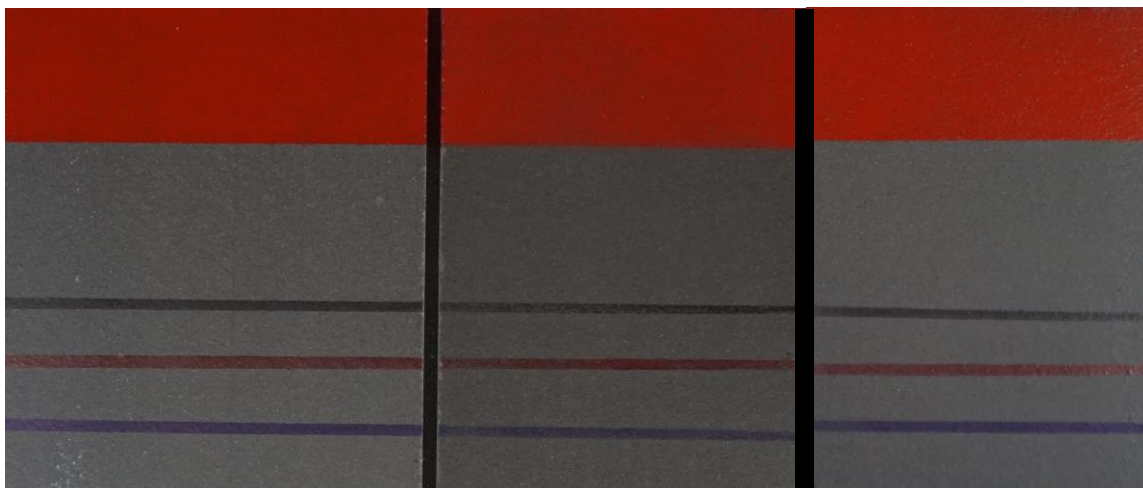
**TEST RESULTS AND PHOTOGRAPHS: Graffiti Resistance (cont.)**

<b>"Sable"</b>					
<b>Untreated Control</b>	<b>Red Paint</b>	<b>Black Marker</b>	<b>Red Marker</b>	<b>Blue Marker</b>	<b>% Avg. Removal</b>
SafStrip® 8	95%	100%	100%	100%	<b>99%</b>
Graffiti Remover	95%	95%	95%	95%	<b>95%</b>
<b>Blok-Guard® &amp; Graffiti Control</b>	<b>Red Paint</b>	<b>Black Marker</b>	<b>Red Marker</b>	<b>Blue Marker</b>	<b>% Avg. Removal</b>
SafStrip® 8	98%	98%	98%	98%	<b>98%</b>
Graffiti Remover	100%	100%	100%	100%	<b>100%</b>
<b>Blok-Guard® &amp; Graffiti Control II</b>	<b>Red Paint</b>	<b>Black Marker</b>	<b>Red Marker</b>	<b>Blue Marker</b>	<b>% Avg. Removal</b>
SafStrip® 8	98%	100%	100%	98%	<b>99%</b>
Graffiti Remover	100%	100%	100%	100%	<b>100%</b>



**TEST RESULTS AND PHOTOGRAPHS: Graffiti Resistance (cont.)**

**“Sable” Panel With Graffiti**

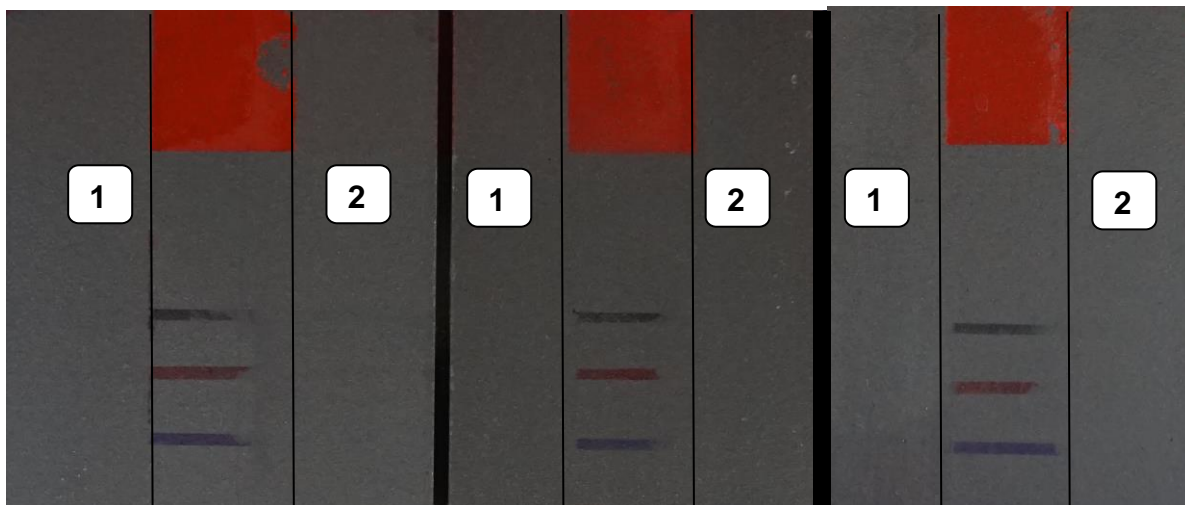


**Untreated  
Control**

**Blok-Guard® &  
Graffiti Control**

**Blok-Guard® &  
Graffiti Control II**

**“Sable” Panel After Graffiti Testing**



**Untreated  
Control**

**Blok-Guard® &  
Graffiti Control**

**Blok-Guard® &  
Graffiti Control II**

**KEY**

**1 = SafStrip® 8**

**2 = Graffiti Remover**

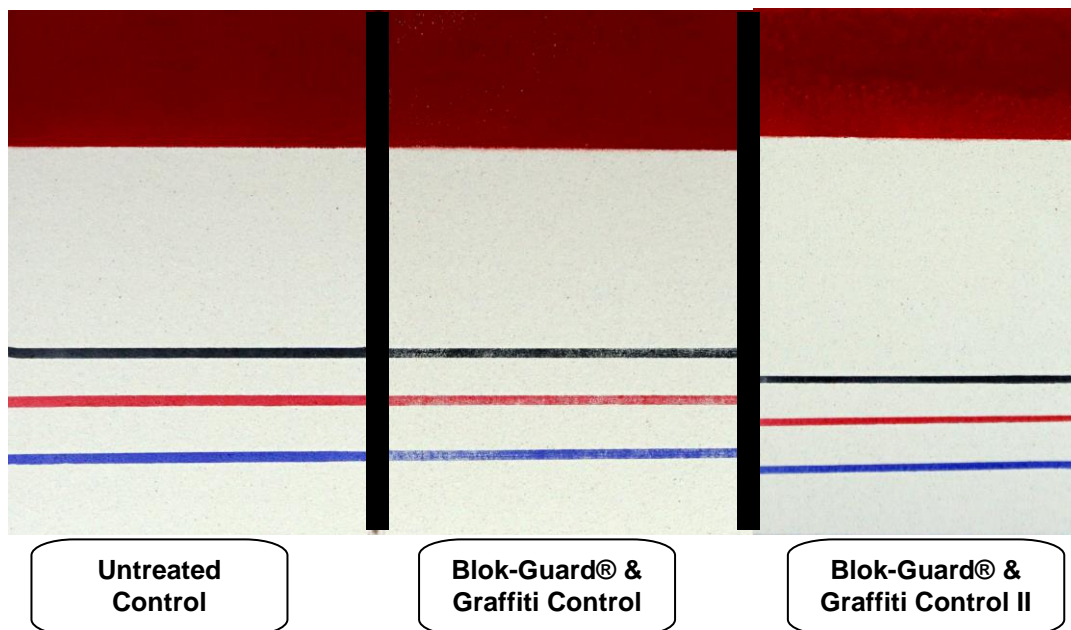
**TEST RESULTS AND PHOTOGRAPHS: Graffiti Resistance (cont.)**

<b>"Linen"</b>					
<b>Untreated Control</b>	<b>Red Paint</b>	<b>Black Marker</b>	<b>Red Marker</b>	<b>Blue Marker</b>	<b>% Avg. Removal</b>
SafStrip® 8	80%	60%	60%	60%	<b>65%</b>
Graffiti Remover	90%	50%	50%	50%	<b>60%</b>
<b>Blok-Guard® &amp; Graffiti Control</b>	<b>Red Paint</b>	<b>Black Marker</b>	<b>Red Marker</b>	<b>Blue Marker</b>	<b>% Avg. Removal</b>
SafStrip® 8	80%	95%	95%	95%	<b>91%</b>
Graffiti Remover	95%	95%	95%	95%	<b>95%</b>
<b>Blok-Guard® &amp; Graffiti Control II</b>	<b>Red Paint</b>	<b>Black Marker</b>	<b>Red Marker</b>	<b>Blue Marker</b>	<b>% Avg. Removal</b>
SafStrip® 8	70%	80%	80%	80%	<b>78%</b>
Graffiti Remover	95%	80%	80%	80%	<b>84%</b>

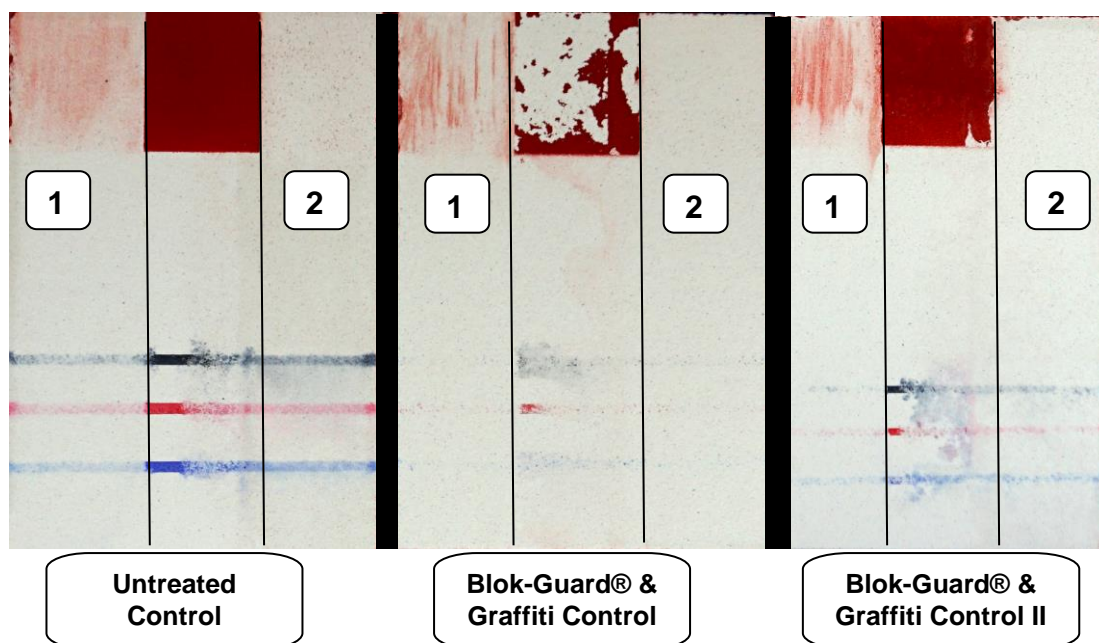


## TEST RESULTS AND PHOTOGRAPHS: Graffiti Resistance (cont.)

“Linen” Panel With Graffiti



“Linen” Panel After Graffiti Testing



### KEY

1 = SafStrip® 8

2 = Graffiti Remover

## CONCLUSIONS: Graffiti Resistance

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

## RECOMMENDATIONS: Graffiti Control

Recommendations for graffiti control for each 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 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 Repellents	Graffiti Removers
"Terracotta"	<sup>1</sup> Sure Klean® Weather Seal Blok-Guard® & Graffiti Control OR <sup>2</sup> Sure Klean® Weather Seal Blok-Guard® & Graffiti Control II	<sup>2</sup> Enviro Klean® SafStrip® 8 OR <sup>1</sup> Defacer Eraser® Graffiti Remover
"Sable"		
"Linen"		

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.

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

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

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

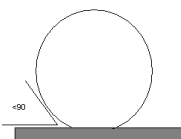
## TEST METHODS: Surface Beading Evaluation (cont.)

### Rating System (1-5)

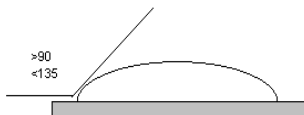
1. No wetting of contact area (no darkening); angle less than  $90^\circ$



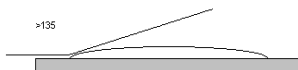
2. Wetting contained to the contact area (slight darkening); angle is less than  $90^\circ$



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



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



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



**TEST RESULTS: Surface Beading Evaluation**

<b>“Terracotta”</b>				
	<b>Untreated</b>	<b>Gloss ‘N Guard WB</b>	<b>SLX100®</b>	<b>STMP</b>
<b>Coca Cola</b>	3	3	2	3
<b>Ketchup</b>	N/A	N/A	N/A	N/A
<b>Mustard</b>	N/A	N/A	N/A	N/A
<b>Red Wine</b>	4	4	2	3
<b>Bals. Vin.</b>	3	3	2	2
<b>Soy Sauce</b>	3	3	2	3
<b>Olive Oil</b>	4	3	2	2
<b>Wesson Oil</b>	4	3	2	2
<b>Hot Coffee</b>	3	3	2	3

<b>“Sable”</b>				
	<b>Untreated</b>	<b>Gloss ‘N Guard WB</b>	<b>SLX100®</b>	<b>STMP</b>
<b>Coca Cola</b>	3	3	2	3
<b>Ketchup</b>	N/A	N/A	N/A	N/A
<b>Mustard</b>	N/A	N/A	N/A	N/A
<b>Red Wine</b>	4	4	2	3
<b>Bals. Vin.</b>	3	3	2	2
<b>Soy Sauce</b>	3	3	2	3
<b>Olive Oil</b>	4	3	2	2
<b>Wesson Oil</b>	4	3	2	2
<b>Hot Coffee</b>	3	3	2	3

N/A – non-free flowing staining agent

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**TEST RESULTS: Surface Beading Evaluation**

“Linen”				
	Untreated	Gloss ‘N Guard WB	SLX100®	STMP
<b>Coca Cola</b>	3	3	2	3
<b>Ketchup</b>	N/A	N/A	N/A	N/A
<b>Mustard</b>	N/A	N/A	N/A	N/A
<b>Red Wine</b>	4	4	2	3
<b>Bals. Vin.</b>	3	3	2	2
<b>Soy Sauce</b>	3	3	2	3
<b>Olive Oil</b>	4	3	2	2
<b>Wesson Oil</b>	4	3	2	2
<b>Hot Coffee</b>	3	3	2	3

N/A – non-free flowing staining agent

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**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 sample was 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: Stain Resistance Evaluation

### "Terracotta"

% Removal

Untreated Control									
	Cola	Ketch.	Must.	Red Wine	Bals. Vin.	Soy Sauce	Olive Oil	Wess. Oil	Coffee
24 hour	95%	0%	0%	90%	90%	90%	0%	0%	98%
4 hour	98%	90%	0%	95%	85%	90%	0%	0%	98%
1 hour	100%	95%	95%	100%	85%	90%	0%	0%	100%
10 min.	100%	98%	98%	100%	100%	100%	0%	0%	100%
Sure Klean® Weather Seal Gloss 'N Guard WB									
	Cola	Ketch.	Must.	Red Wine	Bals. Vin.	Soy Sauce	Olive O.	Wess. Oil	Coffee
24 hour	100%	0%	0%	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%
PROSOCO® SLX100® Water & Oil Repellent									
	Cola	Ketch.	Must.	Red Wine	Bals. Vin.	Soy Sauce	Olive O.	Wess. Oil	Coffee
24 hour	100%	0%	100%	100%	100%	100%	90%	90%	100%
4 hour	100%	100%	0%	100%	100%	100%	85%	85%	100%
1 hour	100%	100%	100%	100%	100%	100%	85%	85%	100%
10 min.	100%	100%	100%	100%	100%	100%	95%	95%	100%
Stand Off® Stone, Tile & Masonry Protector (STMP)									
	Cola	Ketch.	Must.	Red Wine	Bals. Vin.	Soy Sauce	Olive O.	Wess. Oil	Coffee
24 hour	90%	0%	0%	90%	90%	90%	80%	80%	100%
4 hour	85%	95%	0%	90%	90%	90%	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: Stain Resistance Evaluation

### "Sable"

% Removal

Untreated Control									
	Cola	Ketch.	Must.	Red Wine	Bals. Vin.	Soy Sauce	Olive Oil	Wess. Oil	Coffee
24 hour	80%	0%	0%	80%	80%	90%	0%	0%	100%
4 hour	80%	95%	0%	90%	90%	100%	0%	0%	100%
1 hour	80%	98%	100%	98%	98%	100%	0%	0%	100%
10 min.	90%	100%	100%	100%	100%	100%	0%	0%	100%
Sure Klean® Weather Seal Gloss 'N Guard WB									
	Cola	Ketch.	Must.	Red Wine	Bals. Vin.	Soy Sauce	Olive O.	Wess. Oil	Coffee
24 hour	100%	0%	0%	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%
PROSOCO® SLX100® Water & Oil Repellent									
	Cola	Ketch.	Must.	Red Wine	Bals. Vin.	Soy Sauce	Olive O.	Wess. Oil	Coffee
24 hour	100%	0%	100%	100%	100%	100%	95%	95%	100%
4 hour	100%	100%	0%	100%	100%	100%	95%	95%	100%
1 hour	100%	100%	100%	100%	100%	100%	95%	95%	100%
10 min.	100%	100%	100%	100%	100%	100%	100%	100%	100%
Stand Off® Stone, Tile & Masonry Protector (STMP)									
	Cola	Ketch.	Must.	Red Wine	Bals. Vin.	Soy Sauce	Olive O.	Wess. Oil	Coffee
24 hour	90%	0%	0%	95%	95%	98%	95%	95%	100%
4 hour	90%	100%	0%	95%	95%	100%	98%	98%	100%
1 hour	98%	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: Stain Resistance Evaluation

### “Linen”

% Removal

Untreated Control									
	Cola	Ketch.	Must.	Red Wine	Bals. Vin.	Soy Sauce	Olive Oil	Wess. Oil	Coffee
24 hour	80%	0%	0%	10%	10%	85%	0%	0%	60%
4 hour	75%	98%	0%	10%	10%	85%	0%	0%	60%
1 hour	85%	100%	100%	40%	30%	80%	0%	0%	90%
10 min.	98%	100%	100%	95%	70%	90%	0%	0%	98%
Sure Klean® Weather Seal Gloss 'N Guard WB									
	Cola	Ketch.	Must.	Red Wine	Bals. Vin.	Soy Sauce	Olive O.	Wess. Oil	Coffee
24 hour	100%	0%	0%	100%	100%	100%	100%	100%	100%
4 hour	100%	100%	0%	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%
PROSOCO® SLX100® Water & Oil Repellent									
	Cola	Ketch.	Must.	Red Wine	Bals. Vin.	Soy Sauce	Olive O.	Wess. Oil	Coffee
24 hour	100%	0%	0%	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 Off® Stone, Tile & Masonry Protector (STMP)									
	Cola	Ketch.	Must.	Red Wine	Bals. Vin.	Soy Sauce	Olive O.	Wess. Oil	Coffee
24 hour	100%	0%	0%	98%	100%	95%	100%	100%	90%
4 hour	100%	100%	0%	100%	100%	95%	100%	100%	90%
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.

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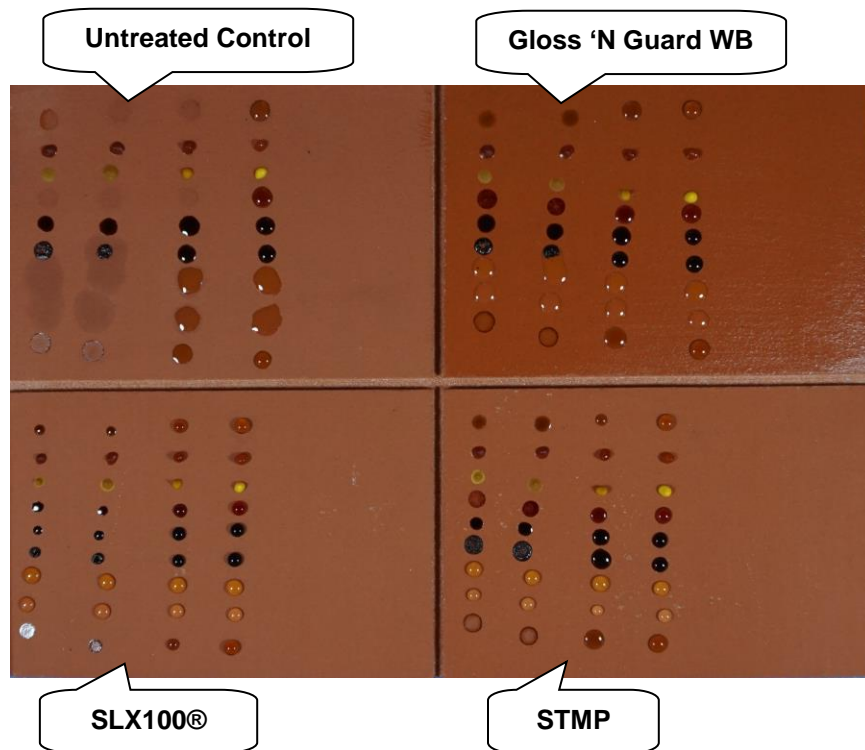
## **CONCLUSIONS: Surface Beading and Stain Resistance**

In the surface beading evaluation, PROSOCO® SLX100® Water & Oil Repellent had the smallest angle of contact with each stain, followed by Stand Off® Stone, Tile & Masonry Protector (STMP), which correlates to “above average” repellency.

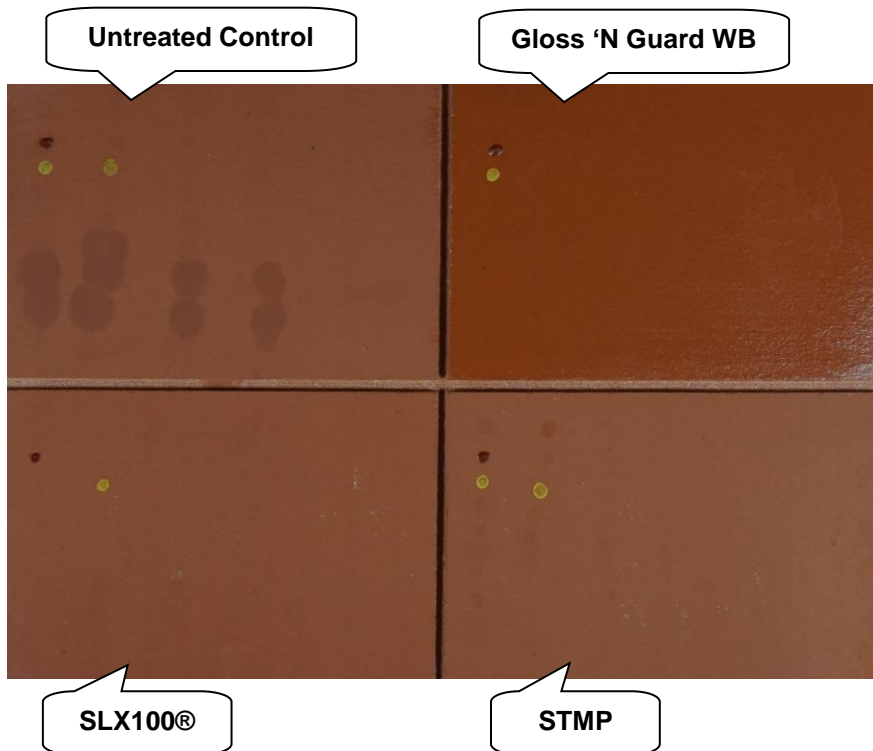
In the stain resistance tests conducted, the most effective products at repelling the applied stains were Sure Klean® Weather Seal Gloss ‘N Guard WB and PROSOCO® SLX100® Water & Oil Repellent. Use Sure Klean® Weather Seal Gloss ‘N Guard WB when color and sheen enhancement is desired. Use PROSOCO® SLX100® Water & Oil Repellent when no color or sheen enhancement is desired.

**PHOTOGRAPHS: Stain Resistance**

**"Terracotta" With Stains**

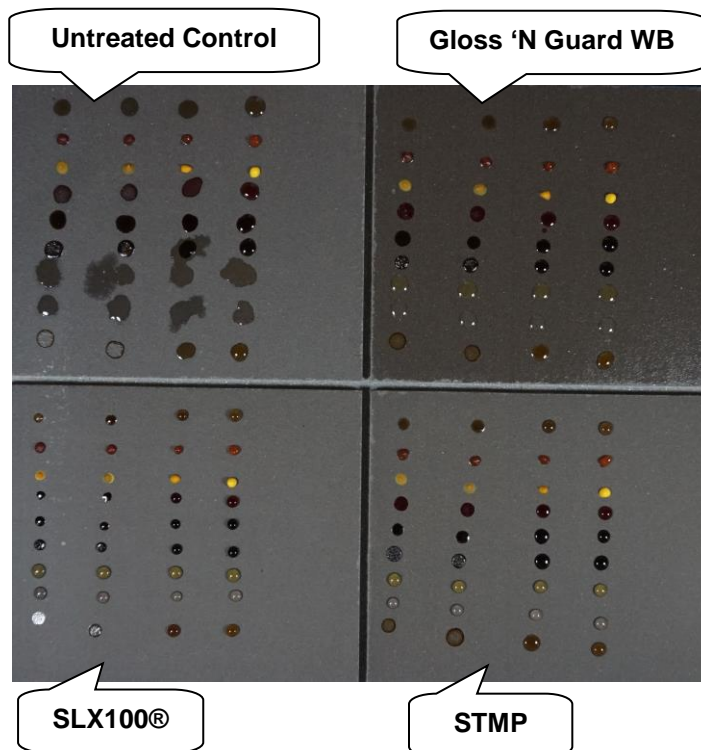


**"Terracotta" After Stains**

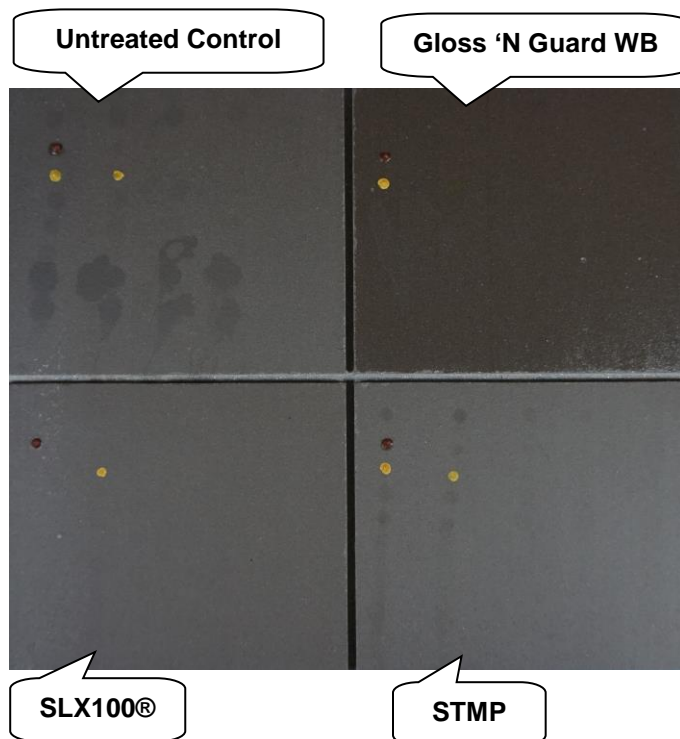


**PHOTOGRAPHS: Stain Resistance (cont.)**

**"Sable" With Stains**

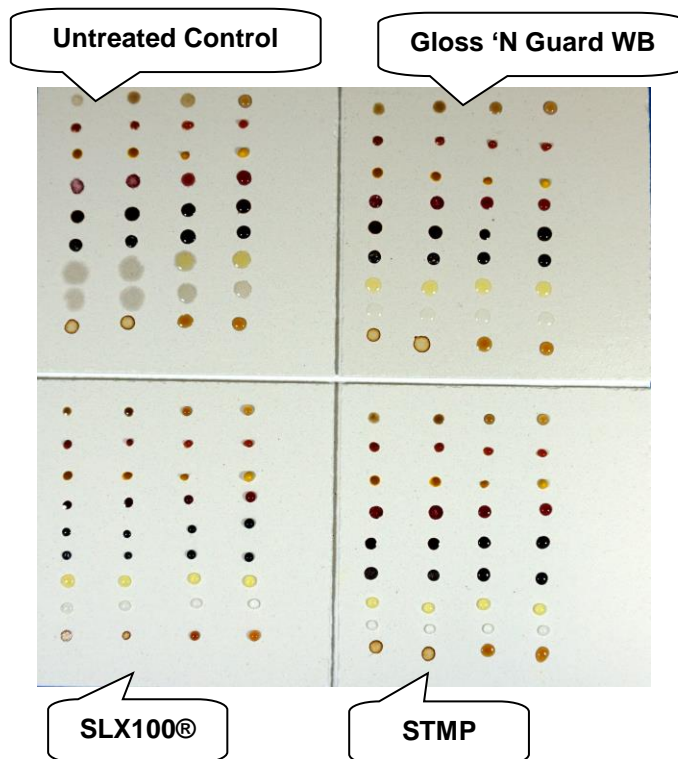


**"Sable" After Stains**

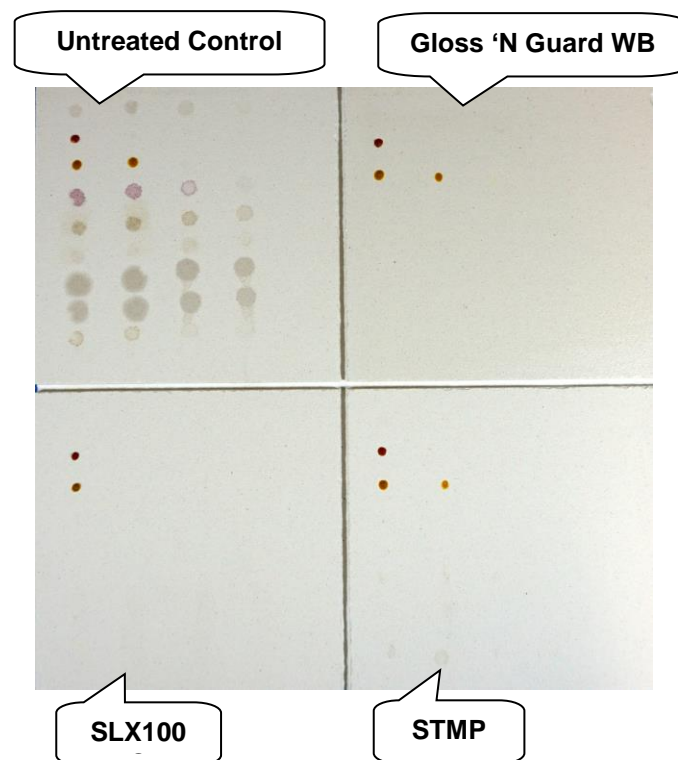


**PHOTOGRAPHS: Stain Resistance (cont.)**

**"Linen" With Stains**



**"Linen" After Stains**



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**Recommendations: Stain Resistance**

Recommendations for stain resistance for the terracotta panels submitted by Acme Brick Company, Fort Worth, TX are provided in the chart below. Recommendations are based on the treatments that proved most effective for providing stain repellency on the submitted terracotta panels.

Sample	Stain Repellent	Maintenance Cleaner
"Terracotta"	Sure Klean® Weather Seal Gloss 'N Guard WB (Recommended if color and sheen enhancement is desired) OR PROSOCO® SLX100® Water & Oil Repellent	Enviro Klean® 2010 All Surface Cleaner (1:10)
"Sable"		
"Linen"		

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

A handwritten signature in black ink, reading 'J. Lucas Comadoll'.

J. Lucas Comadoll  
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.