



Pallet Tag Program Laboratory Report

Bowerston Shale Company Hanover, OH



Project No. 1903-03 PTP

Prepared For:



Prepared By:

J. Lucas Comadoll

J. Lucas Comadoll
Project Testing Technician
AMT Laboratories

June 2019



LABORATORY REPORT

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

FOR: Shawn Malarik, Bowerston Shale Company
cc: Jake Boyer, PROSOCO, Inc.
Al Morris, PROSOCO, Inc.
Mark Donze, PROSOCO, Inc.

SUBJECT: Bowerston Shale Company
Hanover, OH
Pallet Tag Evaluation

DATE: June 10, 2019
PROJECT: 1903-03 PTP

SAMPLES SUBMITTED:

Sample	Name	Color	Size
(6) Bricks	"Desert Sage WC"	Tan	7.5" x 2" x 0.5"
(6) Bricks	"Harvest Blend"	Red/Brown	
(6) Bricks	"#130"	Red	
(6) Bricks	"#445"	Orange	
(6) Bricks	"#501"	Dark Brown	
(6) Bricks	"#940"	Buff	

SUBMITTED BY: Beth Hillyer
Bowerston Shale Company
1329 Seven Hills Road NE
Newark, OH 43055

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 specific PROSOCO, Inc. products on the submitted samples.
- To determine the most appropriate PROSOCO, Inc. water repellent(s) 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® Vana Trol®	1:6; 1:8
Sure Klean® 600 Detergent	1:6; 1:8

Color/Sheen Enhancement	Dilution:
Sure Klean® Weather Seal Siloxane PD	N/A*
Sure Klean® Weather Seal Blok-Guard® & Graffiti Control Ultra	N/A*
Stand Off® Gloss 'N Guard	N/A*
PROSOCO® SLX100® Water & Oil Repellent	N/A*

Water Repellency	Dilution:
Sure Klean® Weather Seal Siloxane PD	N/A*
Sure Klean® Weather Seal Blok-Guard® & Graffiti Control Ultra	N/A*
Stand Off® Gloss 'N Guard	N/A*
PROSOCO® SLX100® Water & Oil Repellent	N/A*

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

Graffiti Removal	Dilution:
Defacer Eraser® Graffiti Remover	N/A*
Enviro Klean® SafStrip®	N/A*

Stain Repellency	Dilution:
Stand Off® Gloss 'N Guard	N/A*
PROSOCO® SLX100® Water & Oil Repellent	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 Sure Klean® 600 Detergent were evaluated to determine the optimal concentration of cleaner which leaves the external surface looking most like the uncleaned surface of the submitted samples.

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:
 - Vana Trol®5 minutes
 - 600 Detergent5 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 45 degree fan spray tip was used for rinsing.

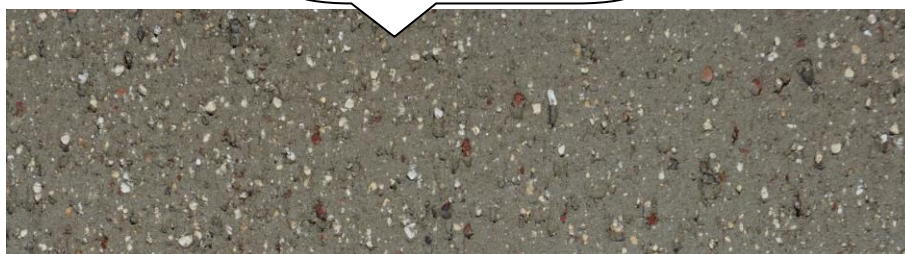
TEST RESULTS AND PHOTOGRAPHS: New Construction Cleaning

Scale used for reporting results of both categories:
0 – 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

Name: "Desert Sage WC" Brick					
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
600 Detergent	1:6	0	0	0	0
600 Detergent	1:8	0	0	0	0

"Desert Sage WC" Brick After Cleaning

Uncleaned Surface



Vana Trol®
(1:6)



Vana Trol®
(1:8)



600 Detergent
(1:6)



600 Detergent
(1:8)



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

Name: "Harvest Blend" Brick					
Product	Dilution	Surface Finish Removal	Substrate Deterioration	Color Change	Staining
Vana Trol®	1:6	2	0	0	0
Vana Trol®	1:8	2	0	0	0
600 Detergent	1:6	2	0	0	0
600 Detergent	1:8	2	0	0	0

"Harvest Blend" Brick After Cleaning

Uncleaned Surface



Vana Trol®
(1:6)



Vana Trol®
(1:8)



600 Detergent
(1:6)



600 Detergent
(1:8)

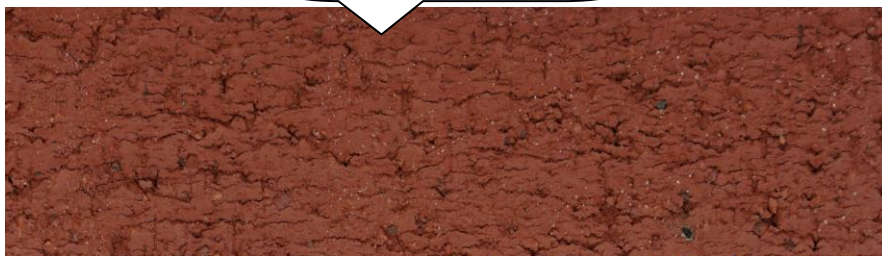


TEST RESULTS AND PHOTOGRAPHS: New Construction Cleaning (cont.)

Name: "#130" Brick					
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
600 Detergent	1:6	0	0	0	0
600 Detergent	1:8	0	0	0	0

"#130" Brick After Cleaning

Uncleaned Surface



Vana Trol®
(1:6)



Vana Trol®
(1:8)



600 Detergent
(1:6)



600 Detergent
(1:8)

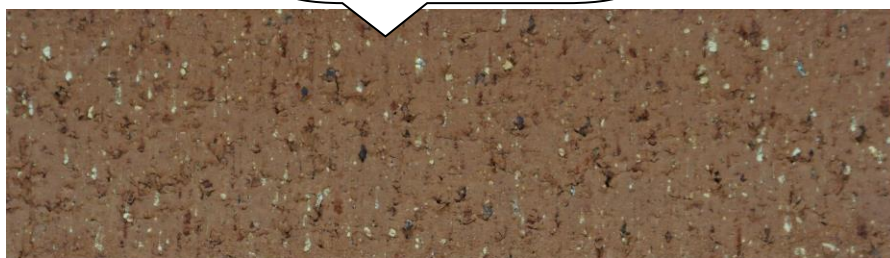


TEST RESULTS AND PHOTOGRAPHS: New Construction Cleaning (cont.)

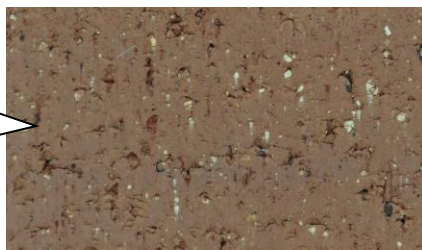
Name: "#445" Brick					
Product	Dilution	Surface Finish Removal	Substrate Deterioration	Color Change	Staining
Vana Trol®	1:6	0	0	0	0
Vana Trol®	1:8	0	0	0	0
600 Detergent	1:6	0	0	0	0
600 Detergent	1:8	0	0	0	0

"#445" Brick After Cleaning

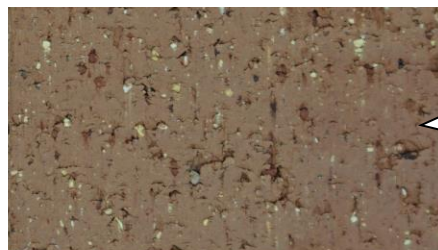
Uncleaned Surface



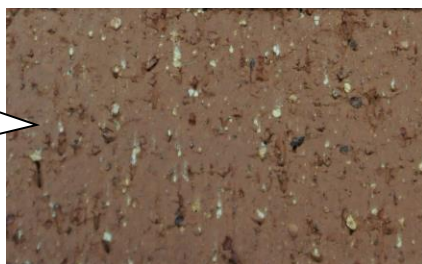
Vana Trol®
(1:6)



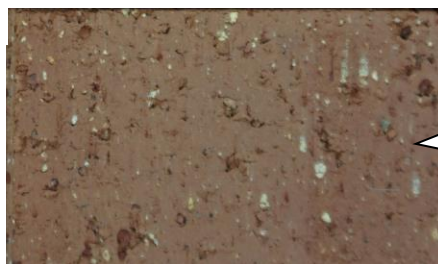
Vana Trol®
(1:8)



600 Detergent
(1:6)



600 Detergent
(1:8)



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

Name: "#501" Brick					
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
600 Detergent	1:6	0	0	0	0
600 Detergent	1:8	0	0	0	0

"#501" Brick After Cleaning

Uncleaned Surface



Vana Trol®
(1:6)



Vana Trol®
(1:8)



600 Detergent
(1:6)



600 Detergent
(1:8)

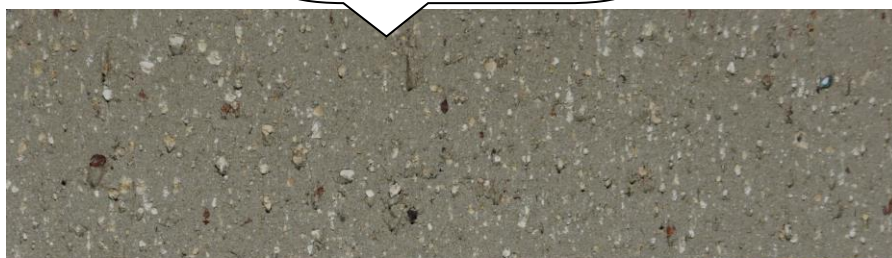


TEST RESULTS AND PHOTOGRAPHS: New Construction Cleaning (cont.)

Name: "#940" Brick					
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
600 Detergent	1:6	0	0	0	0
600 Detergent	1:8	0	0	0	0

"#940" Brick After Cleaning

Uncleaned Surface



Vana Trol®
(1:6)



Vana Trol®
(1:8)



600 Detergent
(1:6)



600 Detergent
(1:8)



CONCLUSIONS – New Construction Cleaning

In the cleaning tests conducted, neither Sure Klean® Vana Trol® nor Sure Klean® 600 Detergent caused any change to the appearance of the submitted samples, with the exception of the “Harvest Blend” brick. While neither cleaner altered the color of the “Harvest Blend” brick, both cleaners and brushing with water alone removed some of the sandy surface finish.

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

RECOMMENDATIONS: New Construction Cleaning

Recommendations for cleaning for each brick submitted by Bowerston Shale Company, Hanover, OH 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
“Desert Sage WC” Brick	<p>Sure Klean® Vana Trol® (1:6) or (1:8) OR Sure Klean® 600 Detergent (1:6) or (1:8)</p>
“Harvest Blend” Brick*	
“#130” Brick	
“#445” Brick	
“#501” Brick	
“#940” Brick	

*The sandy surface finish on the “Harvest Blend” brick is removed with the mechanical action of a brush. This surface finish removal does not change the appearance of the brick.

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 samples 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 single brushing application in accordance with the current PROSOCO, Inc. Product Data Sheet instructions.

TEST METHODS: Color and Sheen Enhancement

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

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

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

TEST RESULTS AND PHOTOGRAPHS: Color and Sheen Enhancement

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

“Desert Sage WC” Brick	Color Enhancement	Sheen Enhancement
Sure Klean® Weather Seal Siloxane PD	0	0
Sure Klean® Weather Seal Blok-Guard® & Graffiti Control Ultra	1	0
Stand Off® Gloss ‘N Guard	1	1
PROSOCO® SLX100® Water & Oil Repellent	0	0

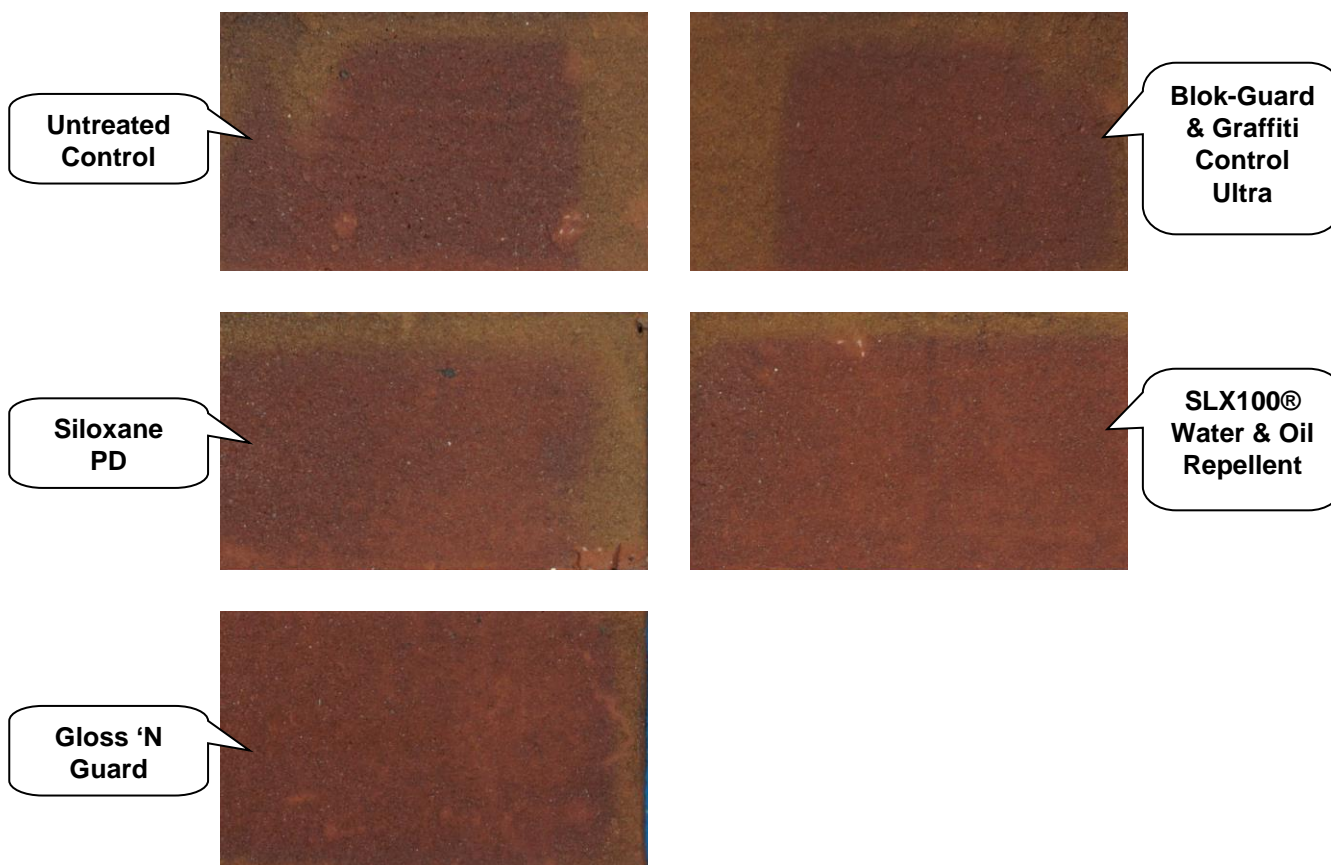
“Desert Sage WC” Brick With Treatments



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

"Harvest Blend" Brick	Color Enhancement	Sheen Enhancement
Sure Klean® Weather Seal Siloxane PD	0	0
Sure Klean® Weather Seal Blok-Guard® & Graffiti Control Ultra	1	0
Stand Off® Gloss 'N Guard	1	0
PROSOCO® SLX100® Water & Oil Repellent	0	0

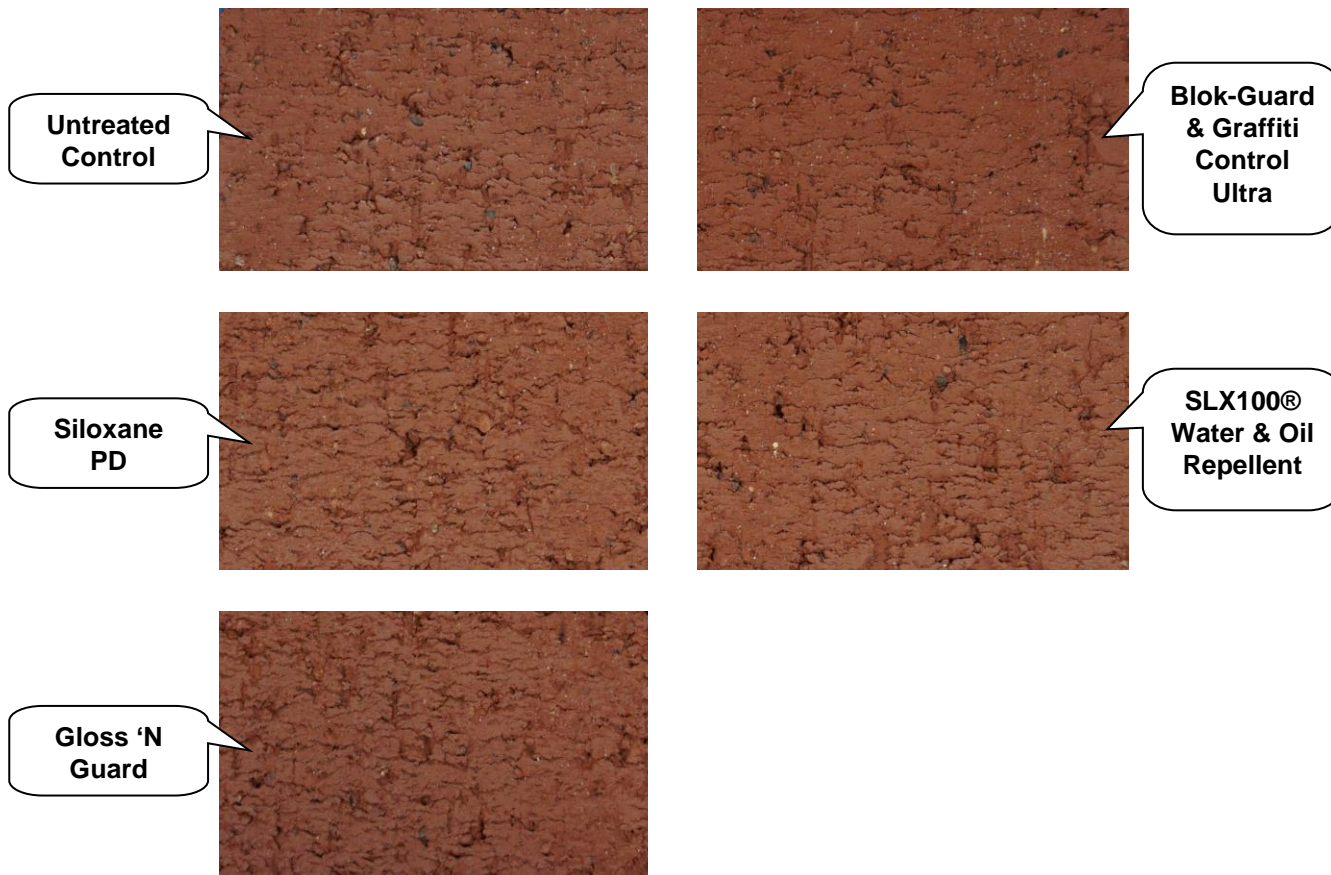
"Harvest Blend" Brick With Treatments



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

"#130" Brick	Color Enhancement	Sheen Enhancement
Sure Klean® Weather Seal Siloxane PD	0	0
Sure Klean® Weather Seal Blok-Guard® & Graffiti Control Ultra	1	0
Stand Off® Gloss 'N Guard	1	0
PROSOCO® SLX100® Water & Oil Repellent	0	0

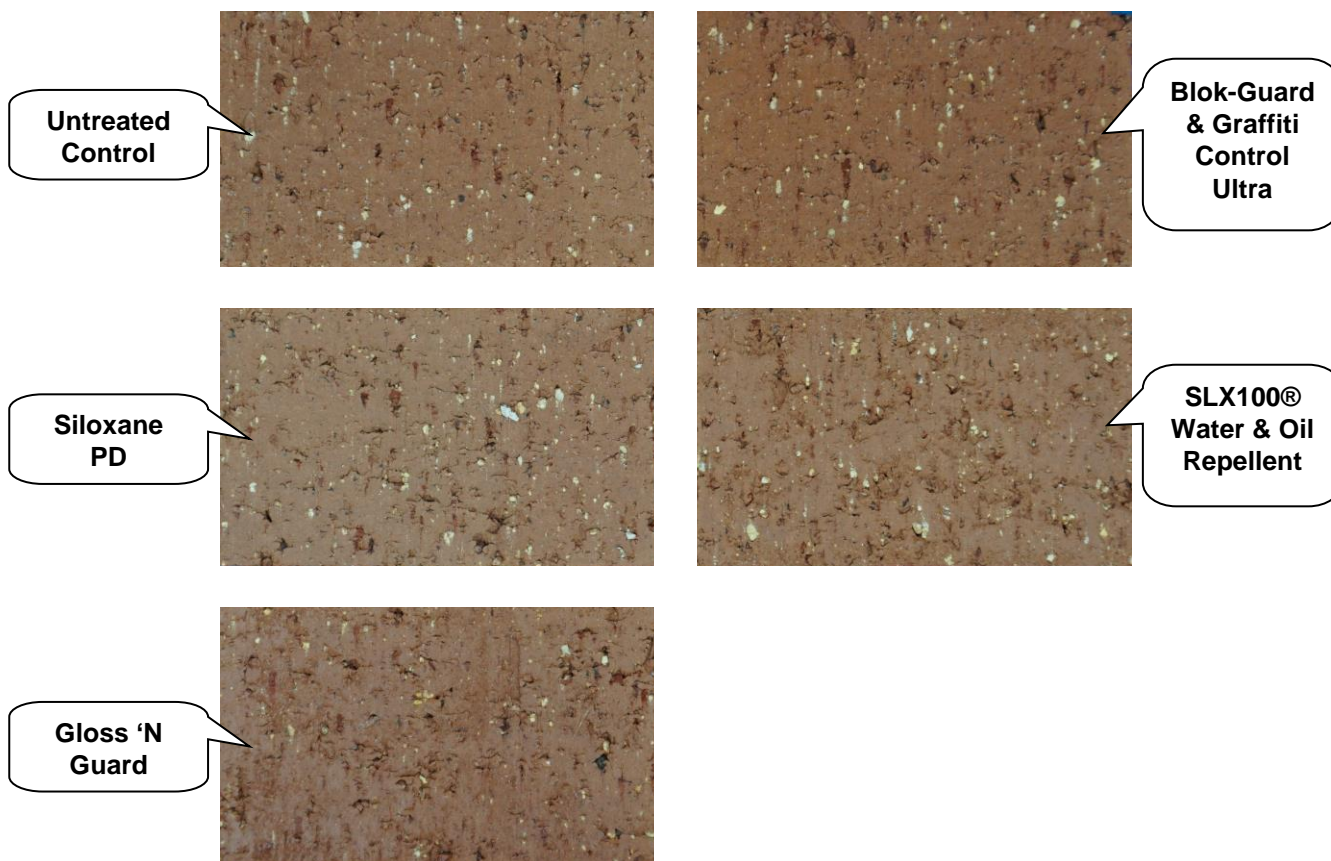
"#130" Brick With Treatments



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

"#445" Brick	Color Enhancement	Sheen Enhancement
Sure Klean® Weather Seal Siloxane PD	0	0
Sure Klean® Weather Seal Blok-Guard® & Graffiti Control Ultra	1	0
Stand Off® Gloss 'N Guard	1	1
PROSOCO® SLX100® Water & Oil Repellent	0	0

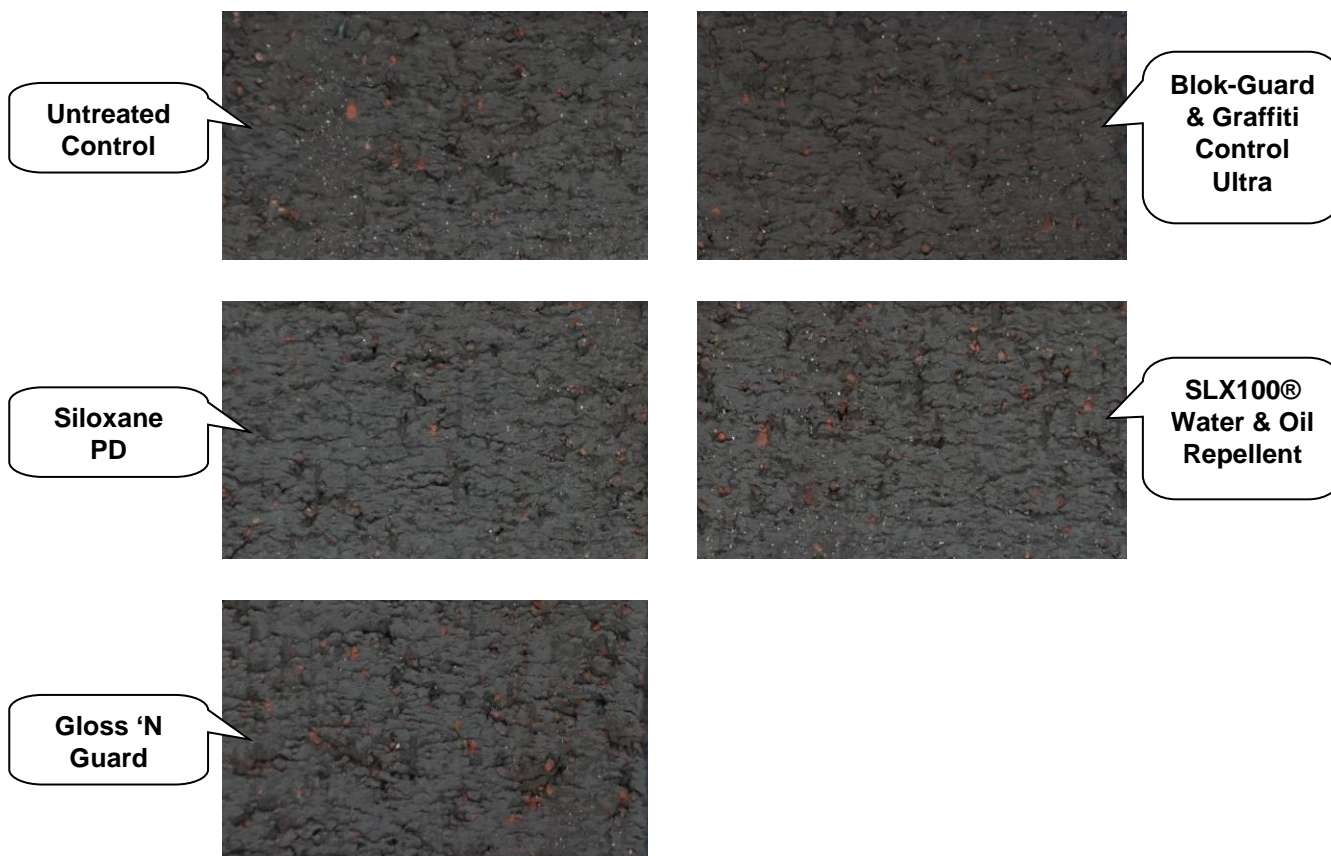
"#445" Brick With Treatments



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

"#501" Brick	Color Enhancement	Sheen Enhancement
Sure Klean® Weather Seal Siloxane PD	0	0
Sure Klean® Weather Seal Blok-Guard® & Graffiti Control Ultra	1	0
Stand Off® Gloss 'N Guard	1	0
PROSOCO® SLX100® Water & Oil Repellent	0	0

"#501" Brick With Treatments



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

"#940" Brick	Color Enhancement	Sheen Enhancement
Sure Klean® Weather Seal Siloxane PD	0	0
Sure Klean® Weather Seal Blok-Guard® & Graffiti Control Ultra	1	0
Stand Off® Gloss 'N Guard	1	1
PROSOCO® SLX100® Water & Oil Repellent	0	0

"#940" Brick With Treatments

Untreated Control



Blok-Guard & Graffiti Control Ultra



Siloxane PD



SLX100® Water & Oil Repellent



Gloss 'N Guard



CONCLUSIONS – Color and Sheen Enhancement

Sure Klean® Weather Seal Blok-Guard® & Graffiti Control Ultra and Stand Off® Gloss 'N Guard provided a slight color enhancement to each sample. Additionally, Stand Off® Gloss 'N Guard provided a slight sheen enhancement to the “Desert Sage WC”, “#445”, and “940” brick samples.

Neither Sure Klean® Weather Seal Siloxane PD nor PROSOCO® SLX100® Water & Oil Repellent caused any change to the appearance of the submitted samples.

It is recommended that the selected treatments always be tested in a small area prior to full application.

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:

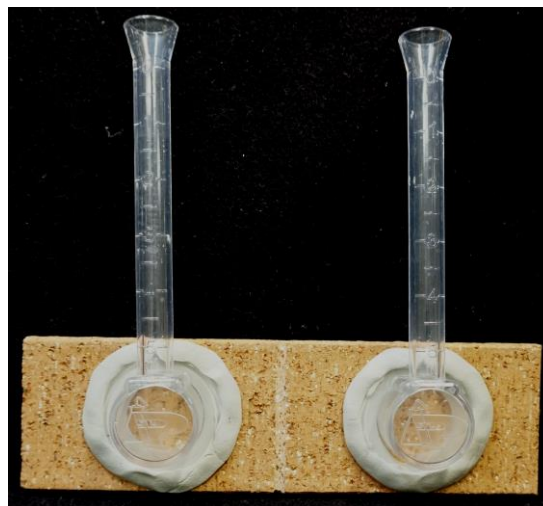
$$5.0 \text{ mL} \times 20\% = 1.0 \text{ mL}$$

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

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

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

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



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

"Desert Sage WC" Brick	Results in mL loss	<u>Ranking</u>
Untreated Control	<-5.0	--
Sure Klean® Weather Seal Siloxane PD	-0.0	<u>AA</u>
Sure Klean® Weather Seal Blok-Guard® & Graffiti Control Ultra	-0.0	<u>AA</u>
Stand Off® Gloss 'N Guard	-0.0	<u>AA</u>
PROSOCO® SLX100® Water & Oil Repellent	-0.0	<u>AA</u>

"Harvest Blend" Brick	Results in mL loss	<u>Ranking</u>
Untreated Control	<-5.0	--
Sure Klean® Weather Seal Siloxane PD	<-5.0	<u>AA</u>
Sure Klean® Weather Seal Blok-Guard® & Graffiti Control Ultra	-0.0	<u>AA</u>
Stand Off® Gloss 'N Guard	-0.0	<u>AA</u>
PROSOCO® SLX100® Water & Oil Repellent	-0.0	<u>AA</u>

"#130" Brick	Results in mL loss	<u>Ranking</u>
Untreated Control	<-5.0	--
Sure Klean® Weather Seal Siloxane PD	-0.0	<u>AA</u>
Sure Klean® Weather Seal Blok-Guard® & Graffiti Control Ultra	-0.1	<u>AA</u>
Stand Off® Gloss 'N Guard	-0.3	<u>AA</u>
PROSOCO® SLX100® Water & Oil Repellent	-0.0	<u>AA</u>

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

"#445" Brick	Results in mL loss	<u>Ranking</u>
Untreated Control	-0.7	--
Sure Klean® Weather Seal Siloxane PD	-0.0	<u>AA</u>
Sure Klean® Weather Seal Blok-Guard® & Graffiti Control Ultra	-0.0	<u>AA</u>
Stand Off® Gloss 'N Guard	-0.0	<u>AA</u>
PROSOCO® SLX100® Water & Oil Repellent	-0.0	<u>AA</u>

"#501" Brick	Results in mL loss	<u>Ranking</u>
Untreated Control	-4.6	--
Sure Klean® Weather Seal Siloxane PD	-0.0	<u>AA</u>
Sure Klean® Weather Seal Blok-Guard® & Graffiti Control Ultra	-0.0	<u>AA</u>
Stand Off® Gloss 'N Guard	-0.0	<u>AA</u>
PROSOCO® SLX100® Water & Oil Repellent	-0.0	<u>AA</u>

"#940" Brick	Results in mL loss	<u>Ranking</u>
Untreated Control	-0.3	--
Sure Klean® Weather Seal Siloxane PD	-0.0	<u>AA</u>
Sure Klean® Weather Seal Blok-Guard® & Graffiti Control Ultra	-0.0	<u>AA</u>
Stand Off® Gloss 'N Guard	-0.0	<u>AA</u>
PROSOCO® SLX100® Water & Oil Repellent	-0.0	<u>AA</u>

CONCLUSIONS: Protective Water Repellents

Based on the laboratory evaluations, all of the treatments provided good water repellent protection to the submitted samples, with the exception of Sure Klean® Weather Seal Siloxane PD on the “Harvest Blend” brick sample.

RECOMMENDATIONS: Water Repellency

Recommendations for water repellency for each brick submitted by Bowerston Shale Company, Hanover, OH are provided in the chart below. Recommendations are based on the treatment(s) that proved most effective.

Sample	Water Repellency
“Desert Sage WC” Brick	Sure Klean® Weather Seal Siloxane PD OR Sure Klean® Weather Seal Blok-Guard® & Graffiti Control Ultra OR Stand Off® Gloss ‘N Guard OR PROSOCO® SLX100® Water & Oil Repellent
“Harvest Blend” Brick	Sure Klean® Weather Seal Blok-Guard® & Graffiti Control Ultra OR Stand Off® Gloss ‘N Guard OR PROSOCO® SLX100® Water & Oil Repellent
“#130” Brick	Sure Klean® Weather Seal Siloxane PD OR Sure Klean® Weather Seal Blok-Guard® & Graffiti Control Ultra OR Stand Off® Gloss ‘N Guard OR PROSOCO® SLX100® Water & Oil Repellent
“#445” Brick	
“#501” Brick	
“#940” Brick	

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 Ultra. Removal of the graffiti agents was attempted 24 hours after application of the graffiti agents, using Enviro Klean® SafStrip® 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®..... 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

“Desert Sage WC” Brick					
Untreated Control	Red Paint	Black Marker	Red Marker	Blue Marker	% Avg. Removal
SafStrip®	65%	80%	80%	80%	76%
Graffiti Remover	20%	60%	60%	60%	50%
Blok-Guard® & Graffiti Control Ultra	Red Paint	Black Marker	Red Marker	Blue Marker	% Avg. Removal
SafStrip®	80%	98%	98%	100%	94%
Graffiti Remover	90%	100%	98%	100%	97%

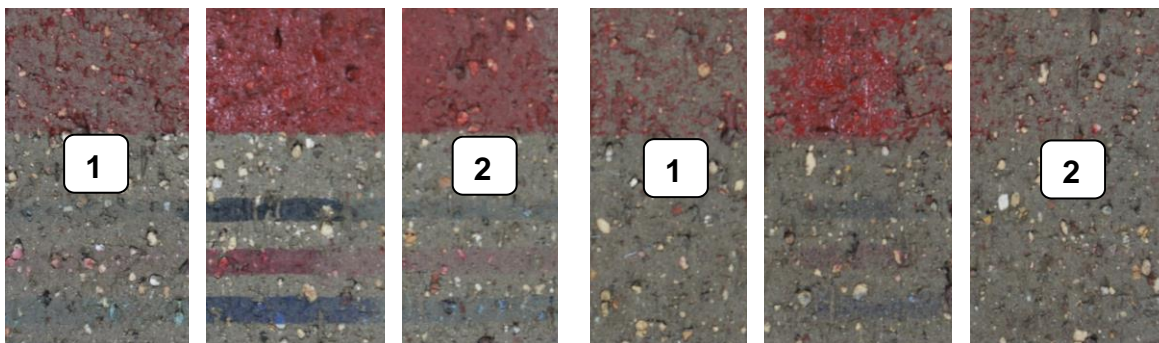
“Desert Sage WC” Brick With Graffiti



Untreated
Control

Blok-Guard® &
Graffiti Control Ultra

“Desert Sage WC” Brick After Graffiti Testing



Untreated
Control

Blok-Guard® &
Graffiti Control Ultra

KEY

1 = SafStrip®

2 = Graffiti Remover

TEST RESULTS AND PHOTOGRAPHS: Graffiti Resistance (cont.)

"Harvest Blend" Brick					
Untreated Control	Red Paint	Black Marker	Red Marker	Blue Marker	% Avg. Removal
SafStrip®	40%	100%	100%	100%	85%
Graffiti Remover	30%	100%	100%	100%	83%
Blok-Guard® & Graffiti Control Ultra	Red Paint	Black Marker	Red Marker	Blue Marker	% Avg. Removal
SafStrip®	70%	100%	100%	100%	93%
Graffiti Remover	80%	100%	100%	100%	95%

"#130" Brick					
Untreated Control	Red Paint	Black Marker	Red Marker	Blue Marker	% Avg. Removal
SafStrip®	80%	90%	100%	80%	88%
Graffiti Remover	70%	70%	100%	70%	78%
Blok-Guard® & Graffiti Control Ultra	Red Paint	Black Marker	Red Marker	Blue Marker	% Avg. Removal
SafStrip®	90%	100%	100%	100%	98%
Graffiti Remover	98%	100%	100%	100%	100%

"#445" Brick					
Untreated Control	Red Paint	Black Marker	Red Marker	Blue Marker	% Avg. Removal
SafStrip®	70%	70%	80%	70%	73%
Graffiti Remover	70%	50%	60%	50%	58%
Blok-Guard® & Graffiti Control Ultra	Red Paint	Black Marker	Red Marker	Blue Marker	% Avg. Removal
SafStrip®	80%	98%	100%	100%	95%
Graffiti Remover	90%	100%	100%	100%	98%

TEST RESULTS AND PHOTOGRAPHS: Graffiti Resistance (cont.)

“#501” Brick					
Untreated Control	Red Paint	Black Marker	Red Marker	Blue Marker	% Avg. Removal
SafStrip®	70%	100%	90%	90%	88%
Graffiti Remover	60%	100%	90%	90%	85%
Blok-Guard® & Graffiti Control Ultra	Red Paint	Black Marker	Red Marker	Blue Marker	% Avg. Removal
SafStrip®	80%	100%	100%	100%	95%
Graffiti Remover	95%	100%	100%	100%	99%

“#940” Brick					
Untreated Control	Red Paint	Black Marker	Red Marker	Blue Marker	% Avg. Removal
SafStrip®	70%	60%	60%	60%	63%
Graffiti Remover	60%	50%	50%	50%	53%
Blok-Guard® & Graffiti Control Ultra	Red Paint	Black Marker	Red Marker	Blue Marker	% Avg. Removal
SafStrip®	75%	98%	98%	98%	92%
Graffiti Remover	90%	100%	98%	98%	97%

CONCLUSIONS: Graffiti Resistance

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

Defacer Eraser® Graffiti Remover was the most effective removal product on the submitted samples.

Worth noting, the mechanical action of the brush removed some of the sandy surface finish of the “Harvest Blend” brick during the graffiti resistance testing.

RECOMMENDATIONS: Graffiti Control

Recommendations for graffiti control for each brick submitted by Bowerston Shale Company, Hanover, OH 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
"Desert Sage WC" Brick	Sure Klean® Weather Seal Blok-Guard® & Graffiti Control Ultra	² Enviro Klean® SafStrip® OR ¹ Defacer Eraser® Graffiti Remover
"Harvest Blend" Brick*		
"#130" Brick		
"#445" Brick		
"#501" Brick		
"#940" Brick		

*The sandy surface finish on the "Harvest Blend" brick is removed with the mechanical action of a brush. This surface finish removal does not change the appearance of the brick.

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:

Coca Cola
Ketchup
Mustard
Red wine
Balsamic vinegar
Soy sauce
Olive oil
Wesson oil
Coffee

Temperature:

ambient (~70°F)
ambient (~70°F)
ambient (~70°F)
ambient (~70°F)
ambient (~70°F)
ambient (~70°F)
ambient (~70°F)
250°F
120°F

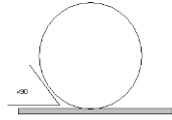
The food and oil products were applied to the test areas by using a dropper creating a bead 0.5 – 1.0 cm in diameter. The beading properties of the oils and liquids were visually evaluated within two minutes after application. The results are reported as a rating based on the angle of contact between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

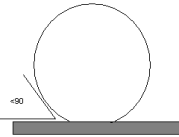
TEST METHODS: Surface Beading Evaluation (cont.)

Rating System (1-5)

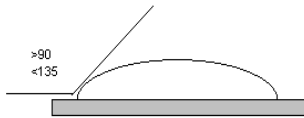
1. No wetting of contact area (no darkening); angle less than 90°



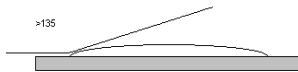
2. Wetting contained to the contact area (slight darkening); angle is less than 90°



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

“Desert Sage WC” Brick			
	Untreated	Gloss ‘N Guard	SLX100®
Coca Cola	4	3	2
Ketchup	N/A	N/A	N/A
Mustard	N/A	N/A	N/A
Red Wine	5	3	3
Bals. Vin.	4	3	2
Soy Sauce	5	3	2
Olive Oil	5	4	2
Wesson Oil	5	4	2
Hot Coffee	5	3	3

“Harvest Blend” Brick			
	Untreated	Gloss ‘N Guard	SLX100®
Coca Cola	5	3	2
Ketchup	N/A	N/A	N/A
Mustard	N/A	N/A	N/A
Red Wine	5	3	3
Bals. Vin.	5	3	2
Soy Sauce	5	3	2
Olive Oil	5	5	3
Wesson Oil	5	5	3
Hot Coffee	5	3	2

N/A – non-free flowing staining agent

TEST RESULTS: Surface Beading Evaluation

"#130" Brick			
	Untreated	Gloss 'N Guard	SLX100®
Coca Cola	5	2	2
Ketchup	N/A	N/A	N/A
Mustard	N/A	N/A	N/A
Red Wine	5	3	3
Bals. Vin.	5	3	2
Soy Sauce	5	3	2
Olive Oil	5	4	3
Wesson Oil	5	4	3
Hot Coffee	5	4	3

"#445" Brick			
	Untreated	Gloss 'N Guard	SLX100®
Coca Cola	5	3	2
Ketchup	N/A	N/A	N/A
Mustard	N/A	N/A	N/A
Red Wine	4	3	3
Bals. Vin.	4	3	3
Soy Sauce	4	3	3
Olive Oil	5	4	2
Wesson Oil	5	4	2
Hot Coffee	4	3	3

N/A – non-free flowing staining agent

TEST RESULTS: Surface Beading Evaluation

"#501" Brick			
	Untreated	Gloss 'N Guard	SLX100®
Coca Cola	5	2	2
Ketchup	N/A	N/A	N/A
Mustard	N/A	N/A	N/A
Red Wine	5	3	3
Bals. Vin.	5	3	2
Soy Sauce	5	3	2
Olive Oil	5	4	2
Wesson Oil	5	4	2
Hot Coffee	5	3	3

"#940" Brick			
	Untreated	Gloss 'N Guard	SLX100®
Coca Cola	4	3	2
Ketchup	N/A	N/A	N/A
Mustard	N/A	N/A	N/A
Red Wine	4	3	3
Bals. Vin.	4	3	2
Soy Sauce	4	3	2
Olive Oil	5	4	2
Wesson Oil	5	4	2
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 substrates for times of 24 hours, 4 hours, 1 hour, and 10 minutes. The test areas were then cleaned with Enviro Klean® 2010 All Surface Cleaner diluted with ten parts water and scrubbed under a stream of running water. The samples were allowed to dry for 24 hours. Evaluation consisted of a visual examination of the tested areas to determine the percentage of staining removal.

TEST RESULTS: Stain Resistance Evaluation

“Desert Sage WC” Brick

% Removal

Untreated Control									
	Cola	Ketch.	Must.	Red Wine	Bals. Vin.	Soy Sauce	Olive Oil	Wess. Oil	Coffee
24 hour	100%	90%	0%	100%	100%	100%	0%	0%	100%
4 hour	100%	95%	0%	100%	100%	100%	0%	0%	100%
1 hour	100%	100%	100%	100%	100%	100%	0%	0%	100%
10 min.	100%	100%	100%	100%	100%	100%	0%	0%	100%
Stand Off® Gloss ‘N Guard									
	Cola	Ketch.	Must.	Red Wine	Bals. Vin.	Soy Sauce	Olive O.	Wess. Oil	Coffee
24 hour	100%	100%	0%	100%	100%	100%	50%	50%	100%
4 hour	100%	100%	90%	100%	100%	100%	70%	70%	100%
1 hour	100%	100%	100%	100%	100%	100%	90%	90%	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%	100%	100%	100%	100%	100%	100%	100%	100%
4 hour	100%	100%	100%	100%	100%	100%	100%	100%	100%
1 hour	100%	100%	100%	100%	100%	100%	100%	100%	100%
10 min.	100%	100%	100%	100%	100%	100%	100%	100%	100%

% Removal of stain following maintenance cleaning.

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

TEST RESULTS: Stain Resistance Evaluation (cont.)

“Harvest Blend” Brick

% Removal

Untreated Control									
	Cola	Ketch.	Must.	Red Wine	Bals. Vin.	Soy Sauce	Olive Oil	Wess. Oil	Coffee
24 hour	100%	20%	0%	100%	100%	100%	0%	0%	100%
4 hour	100%	100%	100%	100%	100%	100%	0%	0%	100%
1 hour	100%	100%	100%	100%	100%	100%	0%	0%	100%
10 min.	100%	100%	100%	100%	100%	100%	0%	0%	100%
Stand Off® Gloss ‘N Guard									
	Cola	Ketch.	Must.	Red Wine	Bals. Vin.	Soy Sauce	Olive O.	Wess. Oil	Coffee
24 hour	100%	100%	100%	100%	100%	100%	80%	80%	100%
4 hour	100%	100%	100%	100%	100%	100%	90%	90%	100%
1 hour	100%	100%	90%	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%	100%	100%	100%	100%	100%	80%	80%	100%
4 hour	100%	100%	100%	100%	100%	100%	90%	90%	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 (cont.)

“#130” Brick

% Removal

Untreated Control									
	Cola	Ketch.	Must.	Red Wine	Bals. Vin.	Soy Sauce	Olive Oil	Wess. Oil	Coffee
24 hour	100%	20%	0%	100%	100%	100%	60%	60%	100%
4 hour	100%	100%	20%	100%	100%	100%	80%	80%	100%
1 hour	100%	100%	100%	100%	100%	100%	90%	90%	100%
10 min.	100%	100%	90%	100%	100%	100%	100%	100%	100%
Stand Off® Gloss ‘N Guard									
	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%	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%	100%	100%	100%	100%	100%	100%	100%	100%
4 hour	100%	100%	100%	100%	100%	100%	100%	100%	100%
1 hour	100%	100%	100%	100%	100%	100%	100%	100%	100%
10 min.	100%	100%	100%	100%	100%	100%	100%	100%	100%

% Removal of stain following maintenance cleaning.

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

TEST RESULTS: Stain Resistance Evaluation (cont.)

“#445” Brick

% Removal

Untreated Control									
	Cola	Ketch.	Must.	Red Wine	Bals. Vin.	Soy Sauce	Olive Oil	Wess. Oil	Coffee
24 hour	100%	0%	0%	90%	90%	100%	0%	0%	100%
4 hour	100%	100%	10%	100%	100%	100%	0%	0%	100%
1 hour	100%	100%	100%	100%	100%	100%	0%	0%	100%
10 min.	100%	100%	100%	100%	100%	100%	0%	0%	100%
Stand Off® Gloss ‘N Guard									
	Cola	Ketch.	Must.	Red Wine	Bals. Vin.	Soy Sauce	Olive O.	Wess. Oil	Coffee
24 hour	100%	10%	0%	100%	100%	100%	80%	80%	100%
4 hour	100%	100%	100%	100%	100%	100%	90%	90%	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%	100%	100%	100%	100%	100%	90%	90%	100%
4 hour	100%	100%	100%	100%	100%	100%	95%	95%	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 (cont.)

“#501” Brick

% Removal

Untreated Control									
	Cola	Ketch.	Must.	Red Wine	Bals. Vin.	Soy Sauce	Olive Oil	Wess. Oil	Coffee
24 hour	100%	0%	0%	100%	100%	100%	80%	80%	100%
4 hour	100%	100%	10%	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%
Stand Off® Gloss ‘N Guard									
	Cola	Ketch.	Must.	Red Wine	Bals. Vin.	Soy Sauce	Olive O.	Wess. Oil	Coffee
24 hour	100%	0%	100%	100%	100%	100%	80%	80%	100%
4 hour	100%	100%	100%	100%	100%	100%	90%	90%	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%	100%	100%	100%	100%	100%	80%	80%	100%
4 hour	100%	100%	100%	100%	100%	100%	90%	90%	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.

TEST RESULTS: Stain Resistance Evaluation (cont.)

“#940” Brick

% Removal

Untreated Control									
	Cola	Ketch.	Must.	Red Wine	Bals. Vin.	Soy Sauce	Olive Oil	Wess. Oil	Coffee
24 hour	100%	90%	0%	50%	50%	100%	0%	0%	100%
4 hour	100%	100%	100%	50%	50%	100%	0%	0%	100%
1 hour	100%	100%	100%	100%	100%	100%	0%	0%	100%
10 min.	100%	100%	100%	100%	100%	100%	0%	0%	100%
Stand Off® Gloss ‘N Guard									
	Cola	Ketch.	Must.	Red Wine	Bals. Vin.	Soy Sauce	Olive O.	Wess. Oil	Coffee
24 hour	100%	100%	20%	100%	100%	100%	80%	80%	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%
PROSOCO® SLX100® Water & Oil Repellent									
	Cola	Ketch.	Must.	Red Wine	Bals. Vin.	Soy Sauce	Olive O.	Wess. Oil	Coffee
24 hour	100%	100%	100%	100%	100%	100%	100%	100%	100%
4 hour	100%	100%	100%	100%	100%	100%	100%	100%	100%
1 hour	100%	100%	100%	100%	100%	100%	100%	100%	100%
10 min.	100%	100%	100%	100%	100%	100%	100%	100%	100%

% Removal of stain following maintenance cleaning.

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

CONCLUSIONS: Surface Beading and Stain Resistance

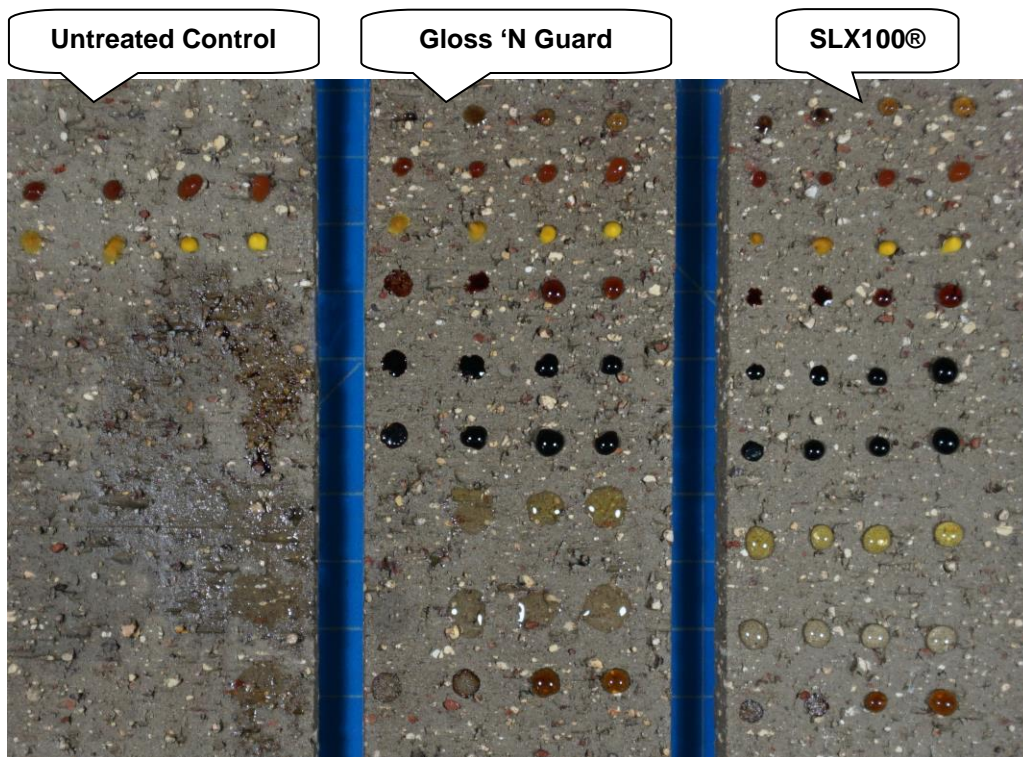
In the surface beading evaluation, both PROSOCO® SLX100® Water & Oil Repellent and Stand Off® Gloss 'N Guard improved the surface beading characteristics of the submitted samples.

In the stain resistance tests conducted, both Stand Off® Gloss 'N Guard and PROSOCO® SLX100® Water & Oil Repellent improved the stain resistance of the samples submitted. However, the most effective product at repelling the applied stains was PROSOCO® SLX100® Water & Oil Repellent. Use Stand Off® Gloss 'N Guard when color and sheen enhancement is desired. Use PROSOCO® SLX100® Water & Oil Repellent when no color or sheen enhancement is desired.

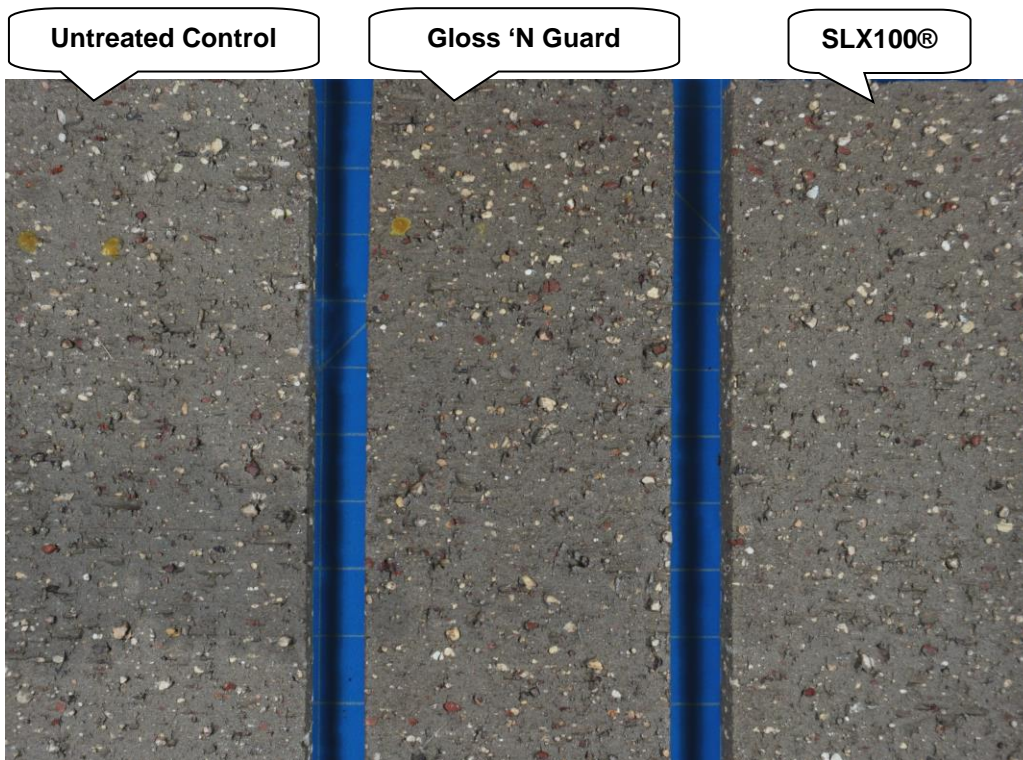
Worth noting, the mechanical action of the brush removed some of the sandy surface finish of the "Harvest Blend" brick during the stain resistance testing.

PHOTOGRAPHS: Stain Resistance

“Desert Sage” Brick With Stains



“Desert Sage” Brick After Stain Testing



Recommendations: Stain Resistance

Recommendations for stain resistance for each brick submitted by Bowerston Shale Company, Hanover, OH are provided in the chart below. Recommendations are based on the treatments that proved most effective for providing stain repellency on the submitted brick samples.

Sample	Stain Repellent	Maintenance Cleaner
"Desert Sage WC" Brick	² Stand Off® Gloss 'N Guard (Recommended if color and sheen enhancement is desired) OR ¹ PROSOCO® SLX100® Water & Oil Repellent	Enviro Klean® 2010 All Surface Cleaner (1:10)
"Harvest Blend" Brick*		
"#130" Brick		
"#445" Brick		
"#501" Brick		
"#940" Brick		

*The sandy surface finish on the "Harvest Blend" brick is removed with the mechanical action of a brush. This surface finish removal does not change the appearance of the brick.

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

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



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.