

Pallet Tag Program Laboratory Report

Shaw Brick – Concrete Pavers Lantz, Nova Scotia, Canada



Project No. 1902-01 PTP

Prepared For:



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April 2019



LABORATORY REPORT

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April 8, 2019

1902-01 PTP

DATE:

PROJECT:

FOR: Jamie Aucoin, Shaw Brick Tom Lane, PROSOCO, Inc. cc: Jake Boyer, PROSOCO, Inc.

Al Morris, PROSOCO, Inc.

SUBJECT: Shaw Brick – Concrete Pavers

Lantz, Nova Scotia, Canada

Pallet Tag Evaluation

SAMPLES SUBMITTED:

Sample Type	Name	Color	Size
(6) Straight Edge Concrete Pavers	"Oldstone Natural Charcoal"	Dark Gray	8" x 4" x 2.5"
(6) Straight Edge Concrete Pavers	"Oldstone Onyx"	Black	8" x 4" x 2.5"
(6) Modern Concrete Paving Stone	"Nova 3000 Light and Stormy"	Gray	13" x 6" x 3"
(6) Concrete Paver	"Urbanne Light and Stormy"	Dark Gray	13" x 6" x 3"
(3) Concrete Patio Stone	"12" x 24" Utility Slab"	Gray	24" x 12" x 2"
(1) Concrete Paving Stone	"18" x 18" Slate Charcoal"	Gray	18" x 18" x 2"

SUBMITTED BY: Jamie Aucoin

Shaw Brick

1101 Hwy #2, P.O. Box 2130

Lantz, NS, B2S 3G4



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 food and oil staining on the samples.



PRODUCTS EVALUATED:

New Construction Cleaning	Dilution:
Sure Klean® Custom Masonry Cleaner	1:4; 1:6
Sure Klean® Light Duty Concrete Cleaner	1:2; 1:3

Color and Sheen Enhancement	Dilution:
PROSOCO® SLX100® Water & Oil Repellent	N/A*
Consolideck® Concrete Protector SB	N/A*
PROSOCO® DuraSheen	N/A*

Water Repellency	Dilution:
PROSOCO® SLX100® Water & Oil Repellent	N/A*
Consolideck® Concrete Protector SB	N/A*
PROSOCO® DuraSheen	N/A*

Stain Repellency	Dilution:
PROSOCO® SLX100® Water & Oil Repellent	N/A*
Consolideck® Concrete Protector SB	N/A*
PROSOCO® DuraSheen	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® Custom Masonry Cleaner and Sure Klean® Light Duty Concrete Cleaner were evaluated to determine the optimal concentration of cleaner which leaves the external surface looking most like the natural through-body color of the concrete paver.

Color uniformity was evaluated by comparing aggregate exposure and surface pigment alteration/removal of each cleaned surface compared to the natural through-body color of the concrete paver.

<u>Aggregate Exposure</u> is the visual examination comparing aggregate exposure of the interior, throughbody section of the concrete paver to surfaces cleaned with selected product(s) at given dilutions.

<u>Surface Pigment Alteration/Removal</u> is the visual examination comparing the pigmentation of the interior, through-body section of the concrete paver to surfaces cleaned with selected product(s) at given dilutions.

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

- 0 No change compared to through-body
- 1 **Slight change** compared to through-body
- 2 Moderate change compared to through-body
- 3 Significant change compared to through-body

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:
- 3. Reapply cleaning solution; do not let cleaner dry into concrete paver.
- 4. Rinse thoroughly with plenty of fresh water.*
- 5. Allow the sample to dry for at least 18 hours and visually examine.
- 6. Break the sample and compare the through-body surfaces to the cleaned surfaces for the best match.

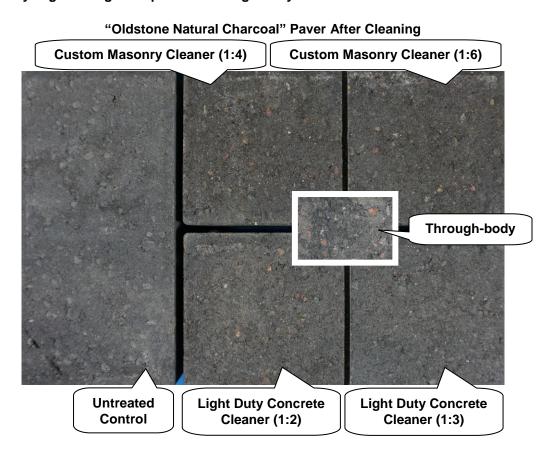
*Rinsing Equipment – Masonry washing equipment generating approximately 700-800 psi with a water flow rate of 8 gallons per minute delivered through a 45 degree fan spray tip was used for rinsing.



Scale used for reporting results of both categories:		
0 - No change compared to through-body		
1 – Slight change compared to through-body		
2 – Moderate change compared to through-body		
3 - Significant change compared to through-body		

Substrate: Straight Edge Paver	Name: "Oldstone Natural Charcoal"		
Product	Dilution	Aggregate Exposure	Surface Pigment Alteration/Removal
Custom Masonry Cleaner	1:4	1	1
Custom Masonry Cleaner	1:6	1	1
Light Duty Concrete Cleaner	1:2	1*	1*
Light Duty Concrete Cleaner	1:3	0	0

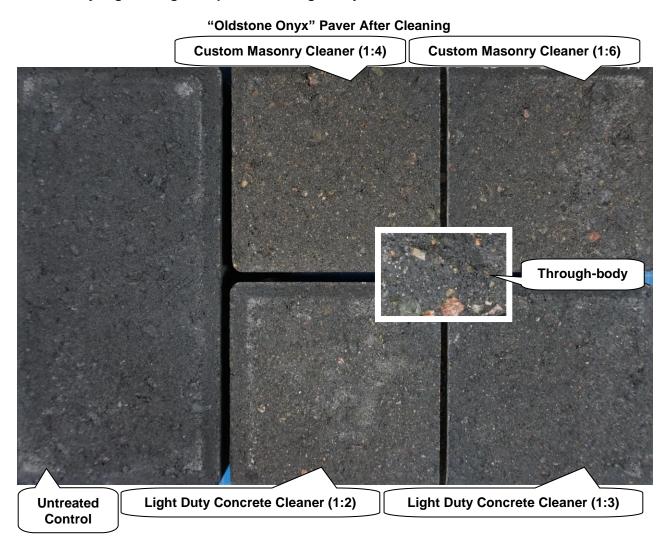
*NOTE: Very slight change compared to through-body.





Substrate: Straight Edge Pavers	Name: "Oldstone Onyx"		
Product	Dilution	Aggregate Exposure	Surface Pigment Alteration/Removal
Custom Masonry Cleaner	1:4	2	2
Custom Masonry Cleaner	1:6	1	1
Light Duty Concrete Cleaner	1:2	1	1
Light Duty Concrete Cleaner	1:3	1*	1*

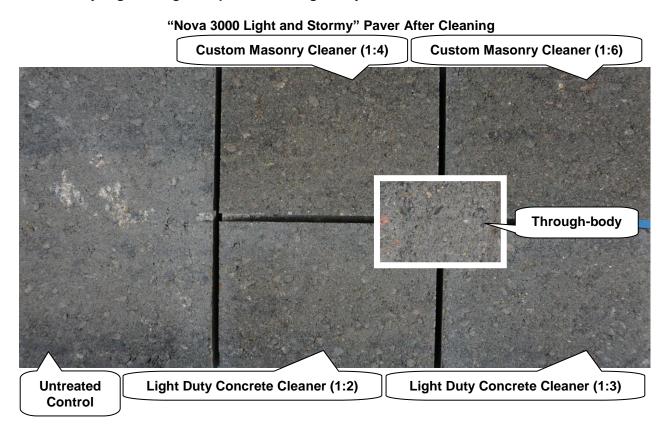
^{*}NOTE: Very slight change compared to through-body.





Substrate: Modern Paving Stone	Name: "Nova 3000 Light and Stormy"		
Product	Dilution	Aggregate Exposure	Surface Pigment Alteration/Removal
Custom Masonry Cleaner	1:4	1	1
Custom Masonry Cleaner	1:6	1	1
Light Duty Concrete Cleaner	1:2	1*	1*
Light Duty Concrete Cleaner	1:3	0	0

^{*}NOTE: Very slight change compared to through-body.





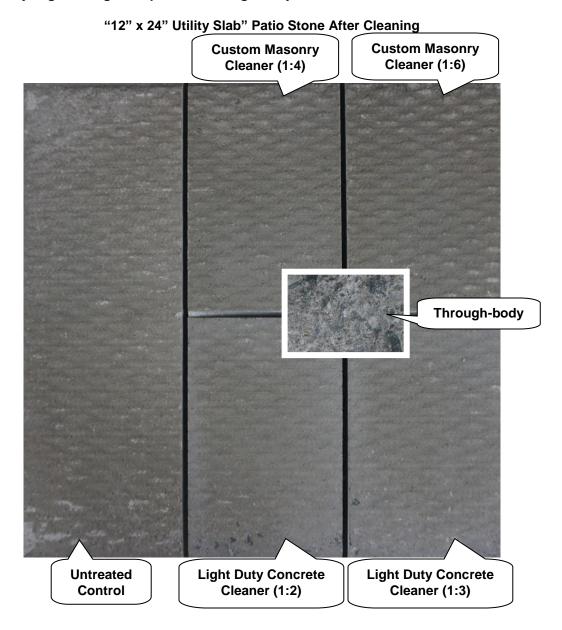
Substrate: Paver	Name: "Urbanne Light and Stormy"		
Product	Dilution	Aggregate Exposure	Surface Pigment Alteration/Removal
Custom Masonry Cleaner	1:4	2	2
Custom Masonry Cleaner	1:6	2	2
Light Duty Concrete Cleaner	1:2	1	1
Light Duty Concrete Cleaner	1:3	0	0

"Urbanne Light and Stormy" Paver After Cleaning Custom Masonry Cleaner (1:4) Custom Masonry Cleaner (1:6) Through-body Untreated Control Light Duty Concrete Cleaner (1:2) Light Duty Concrete Cleaner (1:3)



Substrate: Patio Stone	Name: "12" x 24" Utility Slab"		
Product	Dilution	Aggregate Exposure	Surface Pigment Alteration/Removal
Custom Masonry Cleaner	1:4	1	1
Custom Masonry Cleaner	1:6	1	1
Light Duty Concrete Cleaner	1:2	1*	1*
Light Duty Concrete Cleaner	1:3	1*	1*

*NOTE: Very slight change compared to through-body.





Substrate: Paving Stone	Name: "18" x 18" Slate Charcoal"		
Product	Dilution	Aggregate Exposure	Surface Pigment Alteration/Removal
Custom Masonry Cleaner	1:4	0	0
Custom Masonry Cleaner	1:6	0	0
Light Duty Concrete Cleaner	1:2	0	0
Light Duty Concrete Cleaner	1:3	0	0

"18" x 18" Slate Charcoal" Paving Stone After Cleaning

Custom Masonry Cleaner (1:4)

Custom Masonry Cleaner (1:6)

Through-body

Untreated Control

Light Duty Concrete Cleaner (1:2)

Light Duty Concrete Cleaner (1:3)



CONCLUSIONS - New Construction Cleaning

In most of the cleaning tests conducted, both dilutions of Sure Klean® Custom Masonry Cleaner and Sure Klean® Light Duty Concrete Cleaner removed zero to slight amounts of surface pigment, exposing zero to slight amounts of the aggregate.

However, Custom Masonry Cleaner diluted with four parts water removed a moderate amount of surface pigment from the "Oldstone Onyx" concrete paver, exposing a moderate amount of aggregate.

Additionally, both dilutions of Custom Masonry Cleaner removed a moderate amount of surface pigment from the "Urbanne Light and Stormy" concrete paver, exposing a moderate amount of aggregate

When choosing the most appropriate product for the desired result, use Sure Klean® Light Duty Concrete Cleaner when minimal aggregate exposure is desired and Sure Klean® Custom Masonry Cleaner when additional aggregate exposure is desired.

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



RECOMMENDATIONS: New Construction Cleaning

Recommendations for cleaning for each concrete paver submitted by Shaw Brick, Lantz, Nova Scotia are provided in the chart below. Recommendations are based on the cleaner and dilution that provided the best match to the through-body.

Sample	New Construction Cleaning
"Oldstone Natural Charcoal" Straight Edge Paver	Sure Klean® Custom Masonry Cleaner (1:4) or (1:6) OR
1 avoi	Sure Klean® Light Duty Concrete Cleaner (1:2) or (1:3) Sure Klean® Custom Masonry Cleaner (1:6)
"Oldstone Onyx" Straight Edge Paver	OR
	Sure Klean® Light Duty Concrete Cleaner (1:2) or (1:3)
"Nova 3000 Light and Stormy" Modern Paving Stone	Sure Klean® Custom Masonry Cleaner (1:4) or (1:6) OR
Storie	Sure Klean® Light Duty Concrete Cleaner (1:2) or (1:3)
"Urbanne Light and Stormy" Paver	Sure Klean® Light Duty Concrete Cleaner (1:2) or (1:3)
"12" x 24" Utility Slab" Patio Stone	Sure Klean® Custom Masonry Cleaner (1:4) or (1:6) OR
"18" x 18" Slate Charcoal" Paving Stone	Sure Klean® Light Duty Concrete Cleaner (1:2) or (1:3)

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 cleaned with Sure Klean® Light Duty Concrete Cleaner diluted with two parts water in accordance with the current PROSOCO, Inc. Product Data Sheet instructions and rinsed using pressure rinsing equipment.* 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.

*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 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

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



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

"Oldstone Natural Charcoal" Straight Edge Paver	Color Enhancement	Sheen Enhancement
PROSOCO® SLX100® Water & Oil Repellent	0	0
Consolideck® Concrete Protector SB	1	0
PROSOCO® DuraSheen	2	0

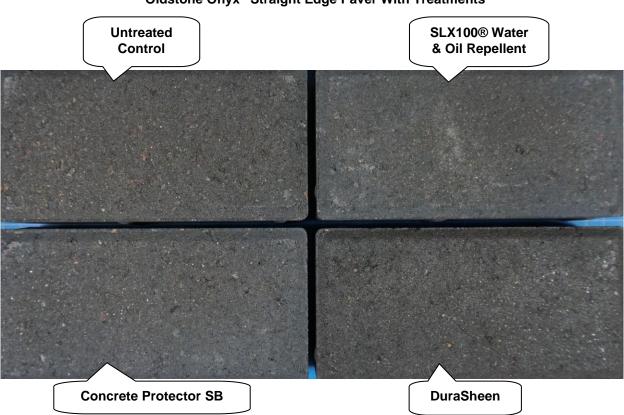
"Oldstone Natural Charcoal" Straight Edge Paver With Treatments





"Oldstone Onyx" Straight Edge Paver	Color Enhancement	Sheen Enhancement
PROSOCO® SLX100® Water & Oil Repellent	0	0
Consolideck® Concrete Protector SB	0	0
PROSOCO® DuraSheen	1	0

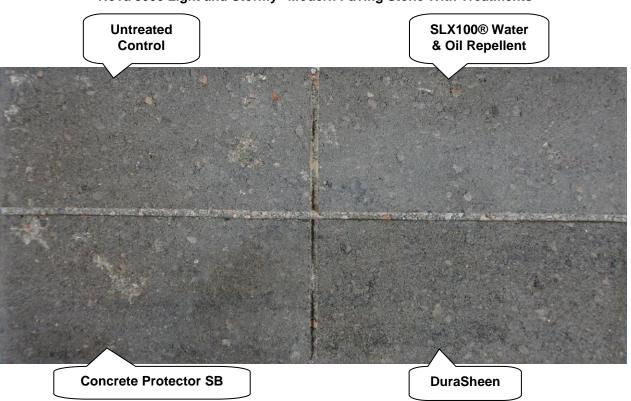
"Oldstone Onyx" Straight Edge Paver With Treatments





"Nova 3000 Light and Stormy" Modern Paving Stone	Color Enhancement	Sheen Enhancement
PROSOCO® SLX100® Water & Oil Repellent	0	0
Consolideck® Concrete Protector SB	0	0
PROSOCO® DuraSheen	2	0

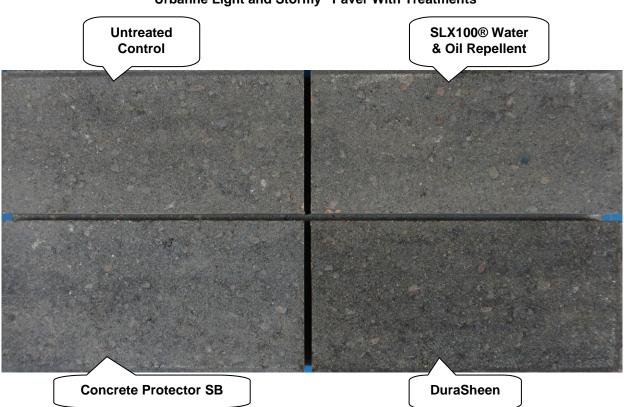
"Nova 3000 Light and Stormy" Modern Paving Stone With Treatments





"Urbanne Light and Stormy" Paver	Color Enhancement	Sheen Enhancement
PROSOCO® SLX100® Water & Oil Repellent	0	0
Consolideck® Concrete Protector SB	0	0
PROSOCO® DuraSheen	2	0

"Urbanne Light and Stormy" Paver With Treatments





"12" x 24" Utility Slab" Patio Stone	Color Enhancement	Sheen Enhancement
PROSOCO® SLX100® Water & Oil Repellent	0	0
Consolideck® Concrete Protector SB	1	0
PROSOCO® DuraSheen	2	2

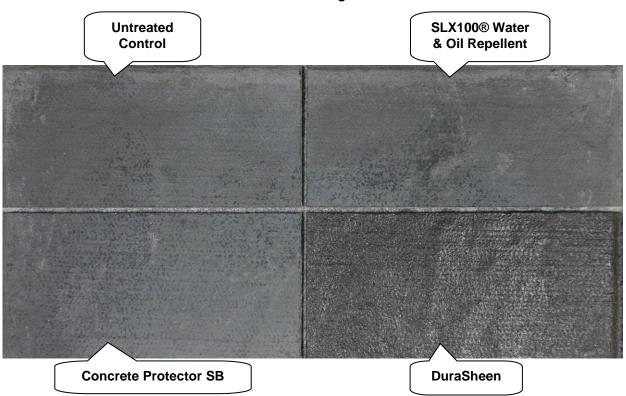
"12" x 24" Utility Slab" Patio Stone With Treatments





"18" x 18" Slate Charcoal" Paving Stone	Color Enhancement	Sheen Enhancement
PROSOCO® SLX100® Water & Oil Repellent	0	0
Consolideck® Concrete Protector SB	0	0
PROSOCO® DuraSheen	2	2

"18" x 18" Slate Charcoal" Paving Stone With Treatments





CONCLUSIONS - Color and Sheen Enhancement

The products evaluated provided a range of color enhancement results, from no change to a moderate change depending on the product and the sample. The majority of the products provided no sheen enhancement to the samples. However, PROSOCO® DuraSheen provided a moderate sheen to the "12" x 24" Utility Slab" Patio Stone and "18" x 18" Slate Charcoal" Paving Stone.

RECOMMENDATIONS: Water Repellency

Recommendations for color and sheen enhancement for each concrete paver submitted by Shaw Brick, Lantz, Nova Scotia are provided in the chart below. Recommendations are based on the treatment(s) that proved most effective.

Sample	Color Enhancement	Sheen Enhancement	
"Oldstone Natural Charcoal" Straight Edge Paver	Consolideck® Concrete Protector SB OR PROSOCO® DuraSheen		
"Oldstone Onyx" Straight Edge Paver		None	
"Nova 3000 Light and Stormy" Modern Paving Stone	PROSOCO® DuraSheen		
"Urbanne Light and Stormy" Paver			
"12" x 24" Utility Slab" Patio Stone	Consolideck® Concrete Protector SB OR PROSOCO® DuraSheen	PROSOCO® DuraSheen	
"18" x 18" Slate Charcoal" Paving Stone	PROSOCO® DuraSheen	T NOSCOCO Durasneen	

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.



SAMPLE PREPARATION: Treatment Application

Each stain repellent was applied in a brushing application in accordance with the current PROSOCO, Inc. Product Date Sheet instructions. The treatments were allowed to cure for at least 72 hours prior to the stain testing described below.

TEST METHODS: Protective Water Repellents

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

The water absorption tube test simulating wind driven rain conditions was performed on the submitted samples. Tests were run with 5.0-milliliter head pressures. Filled to 5.0 milliliters, a water absorption tube produces a 103 mph dynamic wind pressure. See RILEM II.4 Tech Note for additional information.

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

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

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

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

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

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

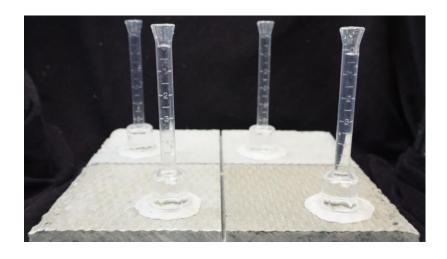
$$5.0 \text{ mL} \times 20\% = 1.0 \text{ mL}$$

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

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

A rating of **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: Protective Water Repellents

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

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

"Oldstone Natural Charcoal" Straight Edge Paver	Results in mL loss	Ranking
Untreated Control	-5.0	
PROSOCO® SLX100® Water & Oil Repellent	-0.0	AA
Consolideck® Concrete Protector SB	-0.7	AA
PROSOCO® DuraSheen	-1.5	Α

"Oldstone Onyx" Straight Edge Paver	Results in mL loss	<u>Ranking</u>
Untreated Control	-0.7	
PROSOCO® SLX100® Water & Oil Repellent	-0.0	<u>AA</u>
Consolideck® Concrete Protector SB	-0.0	AA
PROSOCO® DuraSheen	-0.1	AA

"Nova 3000 Light and Stormy" Modern Paving Stone	Results in mL loss	Ranking
Untreated Control	-3.3	
PROSOCO® SLX100® Water & Oil Repellent	-0.0	<u>AA</u>
Consolideck® Concrete Protector SB	-0.0	AA
PROSOCO® DuraSheen	-1.6	<u>A</u>

"Urbanne Light and Stormy" Paver	Results in mL loss	Ranking
Untreated Control	-5.0	
PROSOCO® SLX100® Water & Oil Repellent	-0.0	<u>AA</u>
Consolideck® Concrete Protector SB	-0.0	AA
PROSOCO® DuraSheen	-0.6	AA

"12" x 24" Utility Slab" Patio Stone	Results in mL loss	Ranking
Untreated Control	-0.0	
PROSOCO® SLX100® Water & Oil Repellent	-0.0	<u>AA</u>
Consolideck® Concrete Protector SB	-0.0	<u>AA</u>
PROSOCO® DuraSheen	-0.0	<u>AA</u>

"18" x 18" Slate Charcoal" Paving Stone	Results in mL loss	Ranking
Untreated Control	-0.0	
PROSOCO® SLX100® Water & Oil Repellent	-0.0	AA
Consolideck® Concrete Protector SB	-0.0	AA
PROSOCO® DuraSheen	-0.0	AA



CONCLUSIONS: Protective Water Repellents

Based on the laboratory evaluations, all of the treatments provided good water repellent protection to the submitted samples. Refer to the color and sheen enhancement test results on pages 13 through 20 to select desired treatment.

RECOMMENDATIONS: Water Repellency

Recommendations for water repellency for each concrete paver submitted by Shaw Brick, Lantz, Nova Scotia are provided in the chart below. Recommendations are based on the treatment(s) that proved most effective.

Sample	Water Repellency
"Oldstone Natural Charcoal" Straight Edge Paver	PROSOCO® SLX100® Water & Oil Repellent OR Consolideck® Concrete Protector SB
"Oldstone Onyx" Straight Edge Paver	PROSOCO® SLX100® Water & Oil Repellent OR Consolideck® Concrete Protector SB OR PROSOCO® DuraSheen
"Nova 3000 Light and Stormy" Modern Paving Stone	PROSOCO® SLX100® Water & Oil Repellent OR Consolideck® Concrete Protector SB
"Urbanne Light and Stormy" Paver	PROSOCO® SLX100® Water & Oil Repellent
"12" x 24" Utility Slab" Patio Stone	OR Consolideck® Concrete Protector SB OR PROSOCO® DuraSheen
"18" x 18" Slate Charcoal" Paving Stone	

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.



SAMPLE PREPARATION: Treatments

Each stain repellent was applied in a brushing application in accordance with the current PROSOCO, Inc. Product Date Sheet instructions. The treatments were allowed to cure for at least 72 hours prior to the stain testing described below.

TEST METHODS: Surface Beading Evaluation

Food and Oil Products Evaluated for Stain Testing: Temperature:

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

The food and oil products were applied to the test areas by using a dropper creating a bead $0.5-1.0\,\mathrm{cm}$ 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

"Oldstone Natural Charcoal" Straight Edge Paver						
	Untreated	SLX100®	Concrete Protector SB	DuraSheen		
Coca Cola	5	2	2	2		
Ketchup	N/A	N/A	N/A	N/A		
Mustard	N/A	N/A	N/A	N/A		
Red Wine	3	2	2	3		
Bals. Vin.	3	3	3	3		
Soy Sauce	3	3	3	3		
Olive Oil	Olive Oil 5		5	5		
Wesson Oil	5	3	5	5		
Hot Coffee	4	3	4	4		

"Oldstone Onyx" Straight Edge Paver						
	Untreated SLX100®		Concrete Protector SB	DuraSheen		
Coca Cola	5	2	2	2		
Ketchup	N/A	N/A	N/A	N/A		
Mustard	N/A	N/A	N/A	N/A		
Red Wine	5	2	2	3		
Bals. Vin.	5	3	3	3		
Soy Sauce	5	3	3	3		
Olive Oil	5	3	5	5		
Wesson Oil	5	3	4	5		
Hot Coffee	Coffee 5 3		3	4		

N/A – non-free flowing staining agent



TEST RESULTS: Surface Beading Evaluation (cont.)

"Nova 3000 Light and Stormy" Modern Paving Stone						
	Untreated	SLX100®	Concrete Protector SB	DuraSheen		
Coca Cola	3	2	2	3		
Ketchup	N/A	N/A	N/A	N/A		
Mustard	N/A	N/A	N/A	N/A		
Red Wine	3	2	3	3		
Bals. Vin.	3	3	3	3		
Soy Sauce	4	3	3	3		
Olive Oil	5	3 4 5		5		
Wesson Oil	5	3 3		5		
Hot Coffee	4	3	3	3		

"Urbanne Light and Stormy" Paver						
	Untreated	SLX100®	Concrete Protector SB	DuraSheen		
Coca Cola	3	2	2	3		
Ketchup	N/A	N/A	N/A	N/A		
Mustard	N/A	N/A	N/A	N/A		
Red Wine	4	2	3	3		
Bals. Vin.	4	3	3	3		
Soy Sauce	3	3	3	4		
Olive Oil	5	3	4	5		
Wesson Oil	5	3	4	5		
Hot Coffee	4	3	4	4		

N/A - non-free flowing staining agent



TEST RESULTS: Surface Beading Evaluation (cont.)

"12" x 24" Utility Slab" Patio Stone						
	Untreated SLX100®		Concrete Protector SB	DuraSheen		
Coca Cola	3	3	3	3		
Ketchup	N/A	N/A	N/A	N/A		
Mustard	N/A	N/A	N/A	N/A		
Red Wine	4	2	3	3		
Bals. Vin.	4	3	3	3		
Soy Sauce	3	3	3	3		
Olive Oil	5	3	3 4			
Wesson Oil	5	3	3	4		
Hot Coffee	4	3	3	3		

"18" x 18" Slate Charcoal" Paving Stone						
	Untreated	SLX100®	Concrete Protector SB	DuraSheen		
Coca Cola	3	2	2	3		
Ketchup	N/A	N/A	N/A	N/A		
Mustard	N/A	N/A	N/A	N/A		
Red Wine	4	3	3	3		
Bals. Vin.	4	3	3	3		
Soy Sauce	4	3	3	3		
Olive Oil	Olive Oil 5		4	4		
Wesson Oil	5	4	4	4		
Hot Coffee	4	3	3	3		

N/A - non-free flowing staining agent



TEST METHODS: Stain Resistance Evaluation

The soiling agents were allowed to dwell on the treated and untreated substrate for times of 24 hours, 4 hours, 1 hour, and 10 minutes. The test areas were then cleaned with Enviro Klean® 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 AND PHOTOGRAPHS: Stain Resistance Evaluation

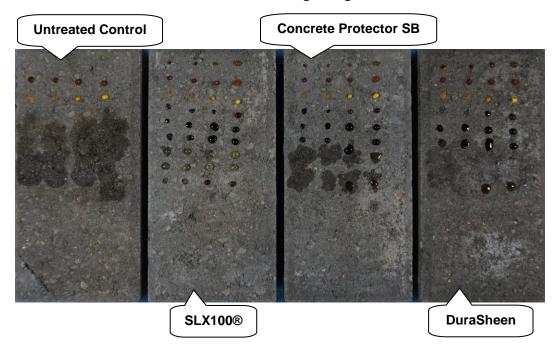
"Oldstone Natural Charcoal" Straight Edge Paver

									% Remo
Untreate	d Control								
	Cola	Ketch.	Must.	Red Wine	Bals. Vin.	Soy Sauce	Olive Oil	Wess. Oil	Coffee
24 hour	100%	0%	0%	90%	70%	100%	0%	0%	100%
4 hour	100%	70%	40%	100%	70%	100%	0%	0%	100%
1 hour	100%	100%	90%	90%	70%	100%	0%	0%	100%
10 min.	100%	100%	90%	100%	100%	100%	0%	0%	100%
PROSOC	O® SLX1	00® Wate	r & Oil Re	pellent					
	Cola	Ketch.	Must.	Red Wine	Bals. Vin.	Soy Sauce	Olive O.	Wess. Oil	Coffee
24 hour	100%	100%	90%	80%	80%*	100%	30%	60%	100%
4 hour	100%	100%	90%	100%	80%*	100%	40%	80%	100%
1 hour	100%	100%	100%	100%	80%*	100%	20%	20%	100%
10 min.	100%	100%	100%	100%	80%*	100%	90%	90%	100%
Consolic	leck® Coı	ncrete Pro	tector SB						
	Cola	Ketch.	Must.	Red Wine	Bals. Vin.	Soy Sauce	Olive O.	Wess. Oil	Coffee
24 hour	100%	100%	80%	100%	80%*	100%	10%	10%	100%
4 hour	100%	100%	0%	100%	80%*	100%	10%	10%	100%
1 hour	100%	100%	100%	98%	80%*	100%	10%	10%	100%
10 min.	100%	100%	100%	100%	80%*	100%	10%	10%	100%
PROSOC	O® Dura	Sheen							
	Cola	Ketch.	Must.	Red Wine	Bals. Vin.	Soy Sauce	Olive O.	Wess. Oil	Coffee
24 hour	100%	0%	0%	100%	100%*	100%	10%	10%	100%
4 hour	100%	100%	0%	100%	100%*	100%	10%	10%	100%
1 hour	100%	100%	90%	100%	100%*	100%	10%	10%	100%
10 min.	100%	100%	100%	100%	100%*	100%	10%	10%	100%

- Removal of stain following maintenance cleaning. %
- Indicates etching of surface treatment due to the acidic nature of the staining agent.



"Oldstone Natural Charcoal" Straight Edge Paver With Stains



"Oldstone Natural Charcoal" Straight Edge Paver After Stain Testing





"Oldstone Onyx" Straight Edge Paver

									% Remova	
Untreate	Untreated Control									
	Cola	Ketch.	Must.	Red Wine	Bals. Vin.	Soy Sauce	Olive Oil	Wess. Oil	Coffee	
24 hour	100%	0%	0%	90%	70%	100%	0%	0%	100%	
4 hour	100%	100%	0%	100%	70%	100%	0%	0%	100%	
1 hour	100%	100%	80%	90%	70%	100%	0%	0%	100%	
10 min.	100%	100%	90%	100%	100%	100%	0%	0%	100%	
PROSOC	O® SLX1	00® Wate	r & Oil Re	pellent						
	Cola	Ketch.	Must.	Red Wine	Bals. Vin.	Soy Sauce	Olive O.	Wess. Oil	Coffee	
24 hour	100%	100%	100%*	80%	80%*	100%	50%	50%	100%	
4 hour	100%	100%	100%*	100%	80%*	100%	50%	50%	100%	
1 hour	100%	100%	100%*	100%	80%*	100%	50%	50%	100%	
10 min.	100%	100%	100%	100%	80%*	100%	50%	50%	100%	
Consolic	leck® Cor	ncrete Pro	tector SB							
	Cola	Ketch.	Must.	Red Wine	Bals. Vin.	Soy Sauce	Olive O.	Wess. Oil	Coffee	
24 hour	100%	100%	0%	100%	80%*	100%	10%	10%	100%	
4 hour	100%	100%	0%	100%	80%*	100%	10%	10%	100%	
1 hour	100%	100%	100%	98%	80%*	100%	10%	10%	100%	
10 min.	100%	100%	100%	100%	80%*	100%	10%	10%	100%	
PROSOC	PROSOCO® DuraSheen									
	Cola	Ketch.	Must.	Red Wine	Bals. Vin.	Soy Sauce	Olive O.	Wess. Oil	Coffee	
24 hour	100%	0%	100%	100%	100%*	100%	10%	10%	100%	
4 hour	100%	100%	100%	100%	100%*	100%	10%	10%	100%	
1 hour	100%	100%	90%	100%	100%*	100%	10%	10%	100%	
10 min.	100%	100%	100%	100%	100%*	100%	10%	10%	100%	

- % Removal of stain following maintenance cleaning.
- * Indicates etching of surface treatment due to the acidic nature of the staining agent.



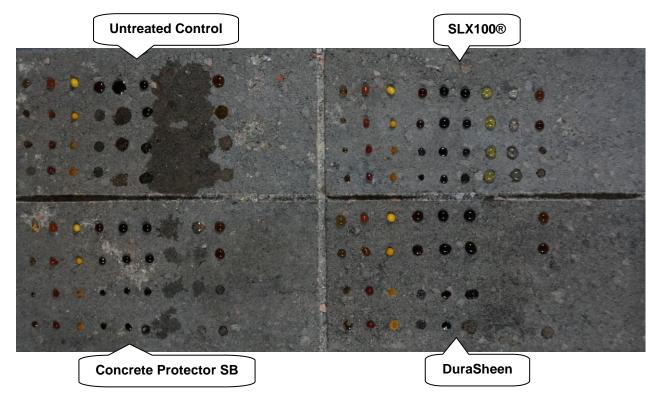
"Nova 3000 Light and Stormy" Modern Paving Stone

									% Kemov
Untreate	d Control								
	Cola	Ketch.	Must.	Red Wine	Bals. Vin.	Soy Sauce	Olive Oil	Wess. Oil	Coffee
24 hour	90%	100%	0%	50%	50%*	50%	0%	0%	70%
4 hour	100%	100%	0%	50%	50%*	100%	0%	0%	50%
1 hour	100%	100%	80%	60%	50%*	100%	0%	0%	50%
10 min.	100%	100%	80%	70%	100%*	100%	0%	0%	100%
PROSOC	O® SLX1	00® Wate	r & Oil Re	pellent					
	Cola	Ketch.	Must.	Red Wine	Bals. Vin.	Soy Sauce	Olive O.	Wess. Oil	Coffee
24 hour	100%	100%*	100%*	98%	80%*	100%	50%	50%	100%
4 hour	100%	100%*	100%*	98%	90%*	100%	60%	60%	100%
1 hour	100%	100%*	100%*	80%	90%*	100%	70%	70%	100%
10 min.	100%	100%*	100%*	100%	100%*	100%	85%	85%	100%
Consolic	leck® Co	ncrete Pro	tector SB	ı					
	Cola	Ketch.	Must.	Red Wine	Bals. Vin.	Soy Sauce	Olive O.	Wess. Oil	Coffee
24 hour	100%	100%*	0%	90%	70%*	100%	10%	80%	100%
4 hour	100%	100%*	100%*	100%	90%*	100%	10%	20%	100%
1 hour	100%	100%*	100%*	100%	90%*	100%	10%	20%	100%
10 min.	100%	100%*	100%*	100%	90%*	100%	10%	20%	100%
PROSOC	O® Dura	Sheen							
	Cola	Ketch.	Must.	Red Wine	Bals. Vin.	Soy Sauce	Olive O.	Wess. Oil	Coffee
24 hour	100%	0%	0%	100%	90%*	100%	10%	10%	100%
4 hour	100%	100%*	0%	100%	100%*	100%	10%	10%	100%
1 hour	100%	100%*	90%*	100%*	100%*	100%	10%	10%	100%
10 min.	100%	100%*	100%*	100%*	100%*	100%	10%	10%	100%

- % Removal of stain following maintenance cleaning.
- * Indicates etching of surface treatment due to the acidic nature of the staining agent.



"Nova 3000 Light and Stormy" Modern Paving Stone With Stains



"Nova 3000 Light and Stormy" Modern Paving Stone After Stain Testing





"Urbanne Light and Stormy" Paver

									% Remova	
Untreate	Untreated Control									
	Cola	Ketch.	Must.	Red Wine	Bals. Vin.	Soy Sauce	Olive Oil	Wess. Oil	Coffee	
24 hour	90%	0%	0%	50%	50%*	50%	0%	0%	70%	
4 hour	100%	100%	70%	50%	50%*	100%	0%	0%	50%	
1 hour	100%	100%	80%	60%	50%*	100%	0%	0%	50%	
10 min.	100%	100%	80%	70%	100%*	100%	0%	0%	100%	
PROSOC	O® SLX1	00® Wate	r & Oil Re	pellent						
	Cola	Ketch.	Must.	Red Wine	Bals. Vin.	Soy Sauce	Olive O.	Wess. Oil	Coffee	
24 hour	100%	100%*	100%*	98%	80%*	100%	50%	50%	100%	
4 hour	100%	100%*	100%*	98%	90%*	100%	60%	60%	100%	
1 hour	100%	100%*	100%*	80%	90%*	100%	40%	80%	100%	
10 min.	100%	100%*	100%*	100%	100%*	100%	40%	80%	100%	
Consolic	leck® Coı	ncrete Pro	tector SB							
	Cola	Ketch.	Must.	Red Wine	Bals. Vin.	Soy Sauce	Olive O.	Wess. Oil	Coffee	
24 hour	100%	100%*	0%	90%	70%*	100%	10%	10%	100%	
4 hour	100%	100%*	100%*	100%	90%*	100%	10%	10%	100%	
1 hour	100%	100%*	100%*	100%	90%*	100%	10%	10%	100%	
10 min.	100%	100%*	100%*	100%	90%*	100%	10%	10%	100%	
PROSOC	PROSOCO® DuraSheen									
	Cola	Ketch.	Must.	Red Wine	Bals. Vin.	Soy Sauce	Olive O.	Wess. Oil	Coffee	
24 hour	100%	0%	0%	100%	90%*	100%	10%	10%	100%	
4 hour	100%	100%*	90%	100%	100%*	100%	10%	10%	100%	
1 hour	100%	100%*	90%	100%*	100%*	100%	10%	10%	100%	
10 min.	100%	100%*	100%*	100%*	100%*	100%	10%	10%	100%	

- % Removal of stain following maintenance cleaning.
- * Indicates etching of surface treatment due to the acidic nature of the staining agent.



"12" x 24" Utility Slab" Patio Stone

									% Remova	
Untreate	Untreated Control									
	Cola	Ketch.	Must.	Red Wine	Bals. Vin.	Soy Sauce	Olive Oil	Wess. Oil	Coffee	
24 hour	100%	100%*	0%	50%	50%*	80%	0%	0%	50%	
4 hour	100%	100%*	0%	70%	50%*	100%	0%	0%	90%	
1 hour	100%	100%*	100%*	70%	50%*	100%	0%	0%	98%	
10 min.	100%	100%*	100%*	90%	50%*	100%	0%	0%	100%	
PROSOC	O® SLX1	00® Wate	r & Oil Re	pellent						
	Cola	Ketch.	Must.	Red Wine	Bals. Vin.	Soy Sauce	Olive O.	Wess. Oil	Coffee	
24 hour	100%*	100%*	100%*	70%	80%*	100%	50%	50%	100%	
4 hour	100%*	100%*	100%*	20%	90%*	100%	50%	50%	100%	
1 hour	100%	100%*	100%*	70%	100%*	100%	50%	50%	100%	
10 min.	100%	100%*	100%*	98%	100%*	100%	50%	50%	100%	
Consolic	leck® Cor	ncrete Pro	tector SB							
	Cola	Ketch.	Must.	Red Wine	Bals. Vin.	Soy Sauce	Olive O.	Wess. Oil	Coffee	
24 hour	100%	100%*	0%	30%	100%*	100%	100%	100%	100%	
4 hour	100%*	100%*	100%*	50%	100%*	100%	100%	100%	100%	
1 hour	100%	100%*	100%*	50%	100%*	100%	100%	100%	100%	
10 min.	100%	100%*	100%*	98%	100%*	100%	100%	100%	100%	
PROSOC	PROSOCO® DuraSheen									
	Cola	Ketch.	Must.	Red Wine	Bals. Vin.	Soy Sauce	Olive O.	Wess. Oil	Coffee	
24 hour	100%	0%	100%	100%	100%	100%	100%	100%	100%	
4 hour	100%	100%	95%	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.



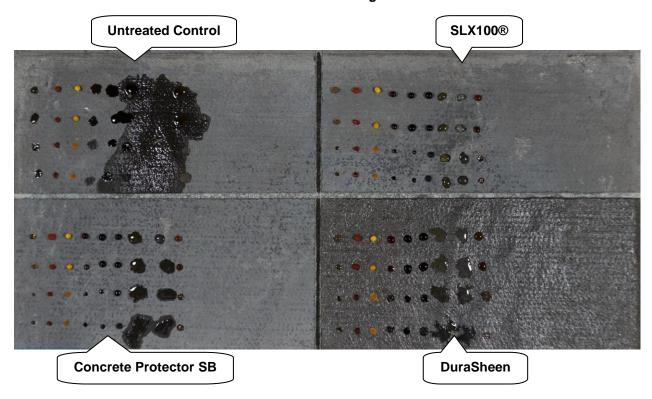
"18" x 18" Slate Charcoal" Paving Stone

Untrooto	d Control								% Remov	
Untreate	d Control				1	1				
	Cola	Ketch.	Must.	Red Wine	Bals. Vin.	Soy Sauce	Olive Oil	Wess. Oil	Coffee	
24 hour	98%	0%	0%	70%	50%*	100%	0%	0%	70%	
4 hour	98%	100%	50%	70%	50%*	100%	0%	0%	70%	
1 hour	100%	100%	100%*	70%	50%*	100%	10%	10%	90%	
10 min.	100%	100%	100%*	80%	50%*	100%	60%	60%	98%	
PROSOC	O® SLX1	00® Wate	r & Oil Re	pellent						
	Cola	Ketch.	Must.	Red Wine	Bals. Vin.	Soy Sauce	Olive O.	Wess. Oil	Coffee	
24 hour	100%	100%	80%	90%	90%*	100%	50%	50%	100%	
4 hour	100%	100%	100%*	90%	90%*	100%	50%	50%	100%	
1 hour	100%	100%	100%	90%	90%*	100%	60%	60%	100%	
10 min.	100%	100%	100%	100%	100%	100%	70%	70%	100%	
Consolid	leck® Co	ncrete Pro	tector SB							
	Cola	Ketch.	Must.	Red Wine	Bals. Vin.	Soy Sauce	Olive O.	Wess. Oil	Coffee	
24 hour	100%	100%	0%	98%	80%	100%	30%	30%	100%	
4 hour	100%	100%	100%*	98%	80%	100%	70%	90%	100%	
1 hour	100%	100%	100%*	98%	80%*	100%	98%	98%	100%	
10 min.	100%	100%	100%	100%	90%	100%	100%	100%	100%	
PROSOC	PROSOCO® DuraSheen									
	Cola	Ketch.	Must.	Red Wine	Bals. Vin.	Soy Sauce	Olive O.	Wess. Oil	Coffee	
24 hour	100%	0%	100%	100%	100%	100%	50%	50%	100%	
4 hour	100%	100%	0%	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%	

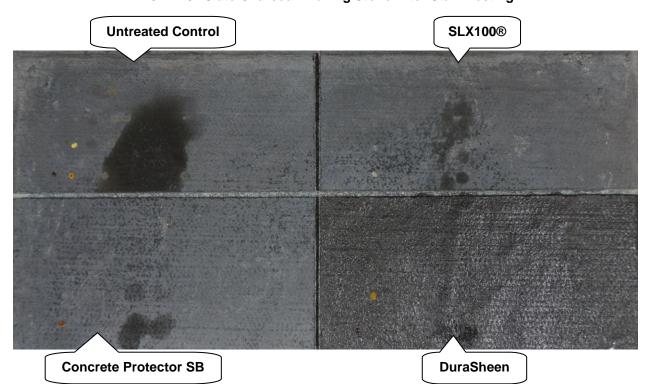
- % Removal of stain following maintenance cleaning.
- * Indicates etching of surface treatment due to the acidic nature of the staining agent.



"18" x 18" Slate Charcoal" Paving Stone With Stains



"18" x 18" Slate Charcoal" Paving Stone After Stain Testing





CONCLUSIONS: Surface Beading and Stain Resistance

In the surface beading evaluation, all three treatments evaluated improved the surface beading characteristics of the submitted samples.

In the stain resistance tests conducted, all three treatments evaluated improved the stain resistance of the samples submitted.

Refer to the color and sheen enhancement test results on pages 13 through 20 to select desired treatment.



Recommendations: Stain Resistance

Recommendations for stain resistance for the pavers submitted by Shaw Brick, Lantz, Nova Scotia are provided in the chart below. Recommendations are based on the treatments that proved most effective for providing stain repellency on the submitted samples.

Sample	Stain Repellent	Maintenance Cleaner		
"Oldstone Natural Charcoal" Straight Edge Paver	¹ PROSOCO® SLX100® Water & Oil			
"Oldstone Onyx" Straight Edge Paver	Repellent OR			
"Nova 3000 Light and Stormy" Modern Paving Stone	² PROSOCO® DuraSheen (Recommended if color and sheen			
"Urbanne Light and Stormy" Paver	enhancement is desired)	Enviro Klean® 2010 All Surface Cleaner (1:10)		
"12" x 24" Utility Slab" Patio Stone	² PROSOCO® SLX100® Water & Oil Repellent			
"18" x 18" Slate Charcoal" Paving Stone	OR ¹ PROSOCO® DuraSheen (Recommended if color and sheen enhancement is desired)			

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

J. Lucas Comadoll

J. Lucas Comadoll
Project Testing Technician

ALL SAMPLES SUPPLIED FOR THE ABOVE EVALUATION WILL BE DISPOSED OF <u>THIRTY (30) DAYS</u> 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 <u>THIRTY (30) DAYS</u> 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.