

**Table of Contents**

**Executive Summary** ..... i

**Submitted Information** ..... 1

**Introduction** ..... 2

**Purpose of Testing**..... 2

**Products Evaluated**..... 3

**New Construction Cleaning** ..... 4

    Description of Products Evaluated – New Construction Cleaning ..... 4

    Test Method – New Construction Cleaning ..... 4

    Test Results – New Construction Cleaning ..... 5

    Test Results – Color Uniformity ..... 6

    Photographs – New Construction Cleaning ..... 8

    Photographs – Color Uniformity ..... 9

    Conclusions – New Construction Cleaning ..... 10

    Recommendations – New Construction Cleaning ..... 10

**Protective Water Repellents**..... 11

    Description of Products Evaluated – Protective Water Repellents ..... 11

    Sample Preparation – Protective Water Repellents..... 11

    Test Methods – Protective Water Repellents..... 11

    Test Results – Protective Water Repellents ..... 12

    Photographs – Protective Water Repellents ..... 13

    Conclusions – Protective Water Repellents ..... 14

    Recommendations – Protective Water Repellents ..... 14

**Stain Repellency** ..... 15

    Description of Products Evaluated – Stain Repellency ..... 15

    Sample Preparation – Stain Repellency ..... 15

    Test Method – Stain Repellency ..... 16

    Test Results – Surface Beading ..... 17

    Test Results – Stain Repellency ..... 18

    Photographs – Stain Repellency ..... 24

    Conclusions – Stain Repellency ..... 25

    Recommendations – Stain Repellency ..... 25

**Color and Sheen Enhancement**..... 26

    Description of Products Evaluated – Color and Sheen Enhancement ..... 26

    Sample Preparation – Color and Sheen Enhancement ..... 26

    Test Method – Color and Sheen Enhancement ..... 26

    Test Results – Color and Sheen Enhancement ..... 27

    Photographs – Color and Sheen Enhancement ..... 28

    Recommendations – Color and Sheen Enhancement ..... 29

**Attachments**

    Technical Services TECH Note RILEM Tube Test Procedures

    Product Data literature for all products evaluated

**Submitted Information**

**For:** James Holt  
Paul Tessier

**Subject:** Red River Concrete Products  
Clarksville, TN

**Date:** August 22, 2006

**Project:** 0606-15 PTP

**Samples Submitted:** 11 types of concrete pavers

<b>Sample</b>	<b>Color</b>	<b>Integral Water Repellent</b>	<b>Size</b>
"Beige Blend"	Tan/Gray	ACM Chemistries Pro-Cast	6" x 6" x 2 ½"
"Burley"	Tan	ACM Chemistries Pro-Cast	4" x 8" x 2 ¼"
"Cumberland Blend"	Gray/Tan	ACM Chemistries Pro-Cast	6" x 6" x 2 ¼"
"Gray"	Gray	ACM Chemistries Pro-Cast	4" x 8" x 2 ¼"
"Gray Blend"	Gray/Dark Gray	ACM Chemistries Pro-Cast	6" x 6" x 2 ½"
"Pewter Blend"	Dark Gray/Tan	ACM Chemistries Pro-Cast	6" x 6" x 2 ¼"
"Red"	Red	ACM Chemistries Pro-Cast	4" x 8" x 2 ¼"
"Red Blend"	Pink/Red/Gray	ACM Chemistries Pro-Cast	6" x 6" x 2 ¼"
"Red River Blend"	Red/Dark Gray	ACM Chemistries Pro-Cast	6" x 6" x 2 ½"
"Slate"	Dark Gray	ACM Chemistries Pro-Cast	4" x 8" x 2 ¼"
"Warioto Blend"	Tan/Brown	ACM Chemistries Pro-Cast	6" x 6" x 2 ¼"

Submitted by: James Holt

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## **Introduction**

Architectural Materials Testing (AMT) Laboratories is a Boyer Industries company that provides laboratory testing and consulting services for the construction industry. Laboratory testing includes evaluating chemical cleaning products and protective treatments for a variety of new and existing architectural materials.

This report includes descriptions of the PROSOCO, Inc. products and test methods that were used. Following test results and conclusions, the report provides recommendations for the most effective products and procedures.

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## **Purpose of Testing**

Eleven types of concrete pavers were submitted to AMT Laboratories by PROSOCO, Inc. with a request to determine the optimal concentration of cleaner for removal of laboratory applied mortar while leaving the external surface looking most like the natural through-body color of the concrete paver during new construction operations. Additionally, the effectiveness of water repellents, stain repellents and color and sheen enhancement products suitable for concrete pavers was evaluated.

**New Construction Cleaning** – Paver Kare® Cleaner/Brightener and Sure Klean® Custom Masonry Cleaner were evaluated at various dilutions to determine the optimal concentration of cleaner for removal of laboratory applied mortar while leaving the external surface looking most like the natural through-body color of the concrete paver during new construction operations.

To simulate new construction soiling all samples were placed on a bench with finished surface facing upward. Hollow cylinders measuring 50 mm in diameter and 75 mm tall were positioned on top of each sample and filled with a wet mixture of Type S mortar. The wet, mortar-filled cylinder was allowed to remain in contact with the samples for 10 minutes before removal.

Heavy deposits of mortar were removed with dry scraping after 24 hours. Prepared cleaning solutions were then evaluated for their effectiveness in removing residual Type S mortar staining after 3, 7 and 14 days.

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

Aggregate Exposure is the visual examination comparing aggregate exposure of the interior, through-body section of concrete paver to surfaces cleaned with selected product(s) at given dilutions.

Surface Pigment Alteration/Removal 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 – <b>Worst</b> match to through-body | 3 – <b>Good</b> match to through-body |
| 1 – <b>Poor</b> match to through-body  | 4 – <b>Best</b> match to through-body |
| 2 – <b>Fair</b> match to through-body  |                                       |

**Protective Water Repellents** – Paver Kare® Penetrating Water Repellent, Stand Off® SLX100 Water & Oil Repellent and Paver Kare® Paver Enhancer were evaluated for their ability to provide water repellency to the submitted samples.

**Stain Repellency** – Stand Off® SLX100 Water & Oil Repellent and Stand Off® Stone and Tile & Masonry Protector (STMP) were evaluated for their ability to repel stains from the submitted samples.

**Color and Sheen Enhancement** – Paver Kare® Paver Enhancer, Stand Off® Gloss 'N Guard, Paver Kare® Deep Sheen and Paver Kare® Deep Sheen WB were evaluated for their ability to provide color and sheen enhancement to the submitted samples.

**Products Evaluated****New Construction Cleaning Products Evaluated**

Sample	Product	Dilution
All Submitted Concrete Pavers	Paver Kare® Cleaner/Brightener	(1:2), (1:3)
	Sure Klean® Custom Masonry Cleaner	(1:6)

**Protective Water Repellent Products Evaluated**

Sample	Product	Dilution
All Submitted Concrete Pavers	Paver Kare® Penetrating Water Repellent	Concentrate
	Stand Off® SLX100 Water & Oil Repellent	Concentrate
	Paver Kare® Paver Enhancer	Concentrate

**Stain Repellency Products Evaluated**

Sample	Product	Dilution
All Submitted Concrete Pavers	Stand Off® SLX100 Water & Oil Repellent	Concentrate
	Stand Off® Stone, Tile & Masonry Protector (STMP)	Concentrate

**Color and Sheen Enhancement Products Evaluated**

Sample	Product	Dilution
All Submitted Concrete Pavers	Paver Kare® Paver Enhancer	Concentrate
	Stand Off® Gloss 'N Guard	Concentrate
	Paver Kare® Deep Sheen	Concentrate
	Paver Kare® Deep Sheen WB	Concentrate

**Dilution ratios refer to mixtures of concentrated product : fresh water**

## **New Construction Cleaning**

These cleaning trials were conducted to determine the optimal cleaning/cure time combination to most efficiently remove Type S mortar from the submitted samples while leaving the external surface looking most like the natural through-body color of the concrete paver during new construction operations.

Type S cementitious mortar was prepared in compliance with the manufacturer's instructions, applied to the concrete pavers and allowed to cure. Mortar removal was accomplished using chemical assistance and a high-pressure water rinse with pressure rinsing equipment. The removal of Type S cementitious mortar was visually evaluated after 3, 7 and 14 days of curing.

## **Description of Products Evaluated – New Construction Cleaning**

**Paver Kare® Cleaner/Brightener** – Removes common construction and atmospheric staining from custom masonry and other architectural concrete surfaces. This general-purpose, non-etching, acidic cleaner removes rust, mud, oil, atmospheric dirt, mortar smears and other stains without altering the surface texture. Cleaner/Brightener adds depth to colors and brightens white matrices and exposed aggregate.

**Sure Klean® Custom Masonry Cleaner** – A general purpose, concentrated acidic cleaner for most custom masonry and colored concrete. Removes concrete splashes, excess mortar, mud, heavy efflorescence and surface soiling, leaving the masonry clean and uniform with no acid burning or streaking. Liquid concentrate for dilution with 2-6 parts water. Apply by brush or low-pressure spray.

## **Test Method – New Construction Cleaning**

Chemical cleaners were evaluated using the following procedure:

1. Pre-wet the surface with water.
2. Apply at the appropriate dilutions.
3. Allow appropriate dwell time, as specified.
 

Paver Kare® Cleaner/Brightener.....	3-5 minutes
Sure Klean® Custom Masonry Cleaner .....	3 minutes
4. Reapply the product and moderately agitate with a brush.
5. Pressure rinse thoroughly.\*
6. Break the sample in half and compare the through-body surfaces to the cleaned surfaces for the best match.

**\*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 – New Construction Cleaning****Cleaning Effectiveness (% Type S Mortar Removal)**

<b>“Beige Blend” Concrete Paver</b>				
<b>Product</b>	<b>Dilution</b>	<b>3 day</b>	<b>7 day</b>	<b>14 day</b>
Paver Kare® Cleaner/Brightener	1:2	100%	100%	100%
Paver Kare® Cleaner/Brightener	1:3	100%	100%	100%
Sure Klean® Custom Masonry Cleaner	1:6	100%	100%	100%
<b>“Burley” Concrete Paver</b>				
<b>Product</b>	<b>Dilution</b>	<b>3 day</b>	<b>7 day</b>	<b>14 day</b>
Paver Kare® Cleaner/Brightener	1:2	100%	100%	100%
Paver Kare® Cleaner/Brightener	1:3	100%	100%	100%
Sure Klean® Custom Masonry Cleaner	1:6	100%	100%	100%
<b>“Cumberland Blend” Concrete Paver</b>				
<b>Product</b>	<b>Dilution</b>	<b>3 day</b>	<b>7 day</b>	<b>14 day</b>
Paver Kare® Cleaner/Brightener	1:2	100%	100%	100%
Paver Kare® Cleaner/Brightener	1:3	100%	100%	100%
Sure Klean® Custom Masonry Cleaner	1:6	100%	100%	100%
<b>“Gray” Concrete Paver</b>				
<b>Product</b>	<b>Dilution</b>	<b>3 day</b>	<b>7 day</b>	<b>14 day</b>
Paver Kare® Cleaner/Brightener	1:2	100%	100%	100%
Paver Kare® Cleaner/Brightener	1:3	100%	100%	100%
Sure Klean® Custom Masonry Cleaner	1:6	100%	100%	100%
<b>“Gray Blend” Concrete Paver</b>				
<b>Product</b>	<b>Dilution</b>	<b>3 day</b>	<b>7 day</b>	<b>14 day</b>
Paver Kare® Cleaner/Brightener	1:2	100%	100%	100%
Paver Kare® Cleaner/Brightener	1:3	100%	100%	100%
Sure Klean® Custom Masonry Cleaner	1:6	100%	100%	100%
<b>“Pewter Blend” Concrete Paver</b>				
<b>Product</b>	<b>Dilution</b>	<b>3 day</b>	<b>7 day</b>	<b>14 day</b>
Paver Kare® Cleaner/Brightener	1:2	100%	100%	100%
Paver Kare® Cleaner/Brightener	1:3	100%	100%	100%
Sure Klean® Custom Masonry Cleaner	1:6	100%	100%	100%
<b>“Red” Concrete Paver</b>				
<b>Product</b>	<b>Dilution</b>	<b>3 day</b>	<b>7 day</b>	<b>14 day</b>
Paver Kare® Cleaner/Brightener	1:2	100%	100%	100%
Paver Kare® Cleaner/Brightener	1:3	100%	100%	100%
Sure Klean® Custom Masonry Cleaner	1:6	100%	100%	100%
<b>“Red Blend” Concrete Paver</b>				
<b>Product</b>	<b>Dilution</b>	<b>3 day</b>	<b>7 day</b>	<b>14 day</b>
Paver Kare® Cleaner/Brightener	1:2	100%	100%	100%
Paver Kare® Cleaner/Brightener	1:3	100%	100%	100%
Sure Klean® Custom Masonry Cleaner	1:6	100%	100%	100%
<b>“Red River Blend” Concrete Paver</b>				
<b>Product</b>	<b>Dilution</b>	<b>3 day</b>	<b>7 day</b>	<b>14 day</b>
Paver Kare® Cleaner/Brightener	1:2	100%	100%	100%
Paver Kare® Cleaner/Brightener	1:3	100%	100%	100%
Sure Klean® Custom Masonry Cleaner	1:6	100%	100%	100%

**Test Results – New Construction Cleaning**

<b>“Slate” Concrete Paver</b>				
<b>Product</b>	<b>Dilution</b>	<b>3 day</b>	<b>7 day</b>	<b>14 day</b>
Paver Kare <sup>®</sup> Cleaner/Brightener	1:2	100%	100%	100%
Paver Kare <sup>®</sup> Cleaner/Brightener	1:3	100%	100%	100%
Sure Klean <sup>®</sup> Custom Masonry Cleaner	1:6	100%	100%	100%
<b>“Warioto Blend” Concrete Paver</b>				
<b>Product</b>	<b>Dilution</b>	<b>3 day</b>	<b>7 day</b>	<b>14 day</b>
Paver Kare <sup>®</sup> Cleaner/Brightener	1:2	100%	100%	100%
Paver Kare <sup>®</sup> Cleaner/Brightener	1:3	100%	100%	100%
Sure Klean <sup>®</sup> Custom Masonry Cleaner	1:6	100%	100%	100%

**Test Results – Color Uniformity**

<b>Substrate: Concrete Paver</b>		<b>Pigment Color: “Beige Blend”</b>		
<b>Product</b>	<b>Dilution</b>	<b>Aggregate Exposure</b>	<b>Surface Pigment Alteration/Removal</b>	
Paver Kare <sup>®</sup> Cleaner/Brightener	1:2	4	4	
Paver Kare <sup>®</sup> Cleaner/Brightener	1:3	4	4	
Sure Klean <sup>®</sup> Custom Masonry Cleaner	1:6	3	3	
<b>Substrate: Concrete Paver</b>		<b>Pigment Color: “Burley”</b>		
<b>Product</b>	<b>Dilution</b>	<b>Aggregate Exposure</b>	<b>Surface Pigment Alteration/Removal</b>	
Paver Kare <sup>®</sup> Cleaner/Brightener	1:2	4	4	
Paver Kare <sup>®</sup> Cleaner/Brightener	1:3	4	4	
Sure Klean <sup>®</sup> Custom Masonry Cleaner	1:6	3	3	
<b>Substrate: Concrete Paver</b>		<b>Pigment Color: “Cumberland Blend”</b>		
<b>Product</b>	<b>Dilution</b>	<b>Aggregate Exposure</b>	<b>Surface Pigment Alteration/Removal</b>	
Paver Kare <sup>®</sup> Cleaner/Brightener	1:2	4	4	
Paver Kare <sup>®</sup> Cleaner/Brightener	1:3	4	4	
Sure Klean <sup>®</sup> Custom Masonry Cleaner	1:6	3	3	
<b>Substrate: Concrete Paver</b>		<b>Pigment Color: “Gray”</b>		
<b>Product</b>	<b>Dilution</b>	<b>Aggregate Exposure</b>	<b>Surface Pigment Alteration/Removal</b>	
Paver Kare <sup>®</sup> Cleaner/Brightener	1:2	4	4	
Paver Kare <sup>®</sup> Cleaner/Brightener	1:3	4	4	
Sure Klean <sup>®</sup> Custom Masonry Cleaner	1:6	3	3	
<b>Substrate: Concrete Paver</b>		<b>Pigment Color: “Gray Blend”</b>		
<b>Product</b>	<b>Dilution</b>	<b>Aggregate Exposure</b>	<b>Surface Pigment Alteration/Removal</b>	
Paver Kare <sup>®</sup> Cleaner/Brightener	1:2	4	4	
Paver Kare <sup>®</sup> Cleaner/Brightener	1:3	4	4	
Sure Klean <sup>®</sup> Custom Masonry Cleaner	1:6	3	3	

Scale used for reporting results of both categories:

- |  |                                       |
|--|---------------------------------------|
| <b>0 – Worst</b> match to through-body | <b>3 – Good</b> match to through-body |
| <b>1 – Poor</b> match to through-body  | <b>4 – Best</b> match to through-body |
| <b>2 – Fair</b> match to through-body  |                                       |

**Test Results – Color Uniformity**

<b>Substrate: Concrete Paver</b>		<b>Pigment Color: "Pewter Blend"</b>		
Product	Dilution	Aggregate Exposure	Surface Pigment Alteration/Removal	
Paver Kare <sup>®</sup> Cleaner/Brightener	1:2	4	4	
Paver Kare <sup>®</sup> Cleaner/Brightener	1:3	4	4	
Sure Klean <sup>®</sup> Custom Masonry Cleaner	1:6	3	3	
<b>Substrate: Concrete Paver</b>		<b>Pigment Color: "Red"</b>		
Product	Dilution	Aggregate Exposure	Surface Pigment Alteration/Removal	
Paver Kare <sup>®</sup> Cleaner/Brightener	1:2	4	4	
Paver Kare <sup>®</sup> Cleaner/Brightener	1:3	4	4	
Sure Klean <sup>®</sup> Custom Masonry Cleaner	1:6	3	3	
<b>Substrate: Concrete Paver</b>		<b>Pigment Color: "Red Blend"</b>		
Product	Dilution	Aggregate Exposure	Surface Pigment Alteration/Removal	
Paver Kare <sup>®</sup> Cleaner/Brightener	1:2	4	4	
Paver Kare <sup>®</sup> Cleaner/Brightener	1:3	4	4	
Sure Klean <sup>®</sup> Custom Masonry Cleaner	1:6	3	3	
<b>Substrate: Concrete Paver</b>		<b>Pigment Color: "Red River Blend"</b>		
Product	Dilution	Aggregate Exposure	Surface Pigment Alteration/Removal	
Paver Kare <sup>®</sup> Cleaner/Brightener	1:2	4	4	
Paver Kare <sup>®</sup> Cleaner/Brightener	1:3	4	4	
Sure Klean <sup>®</sup> Custom Masonry Cleaner	1:6	3	3	
<b>Substrate: Concrete Paver</b>		<b>Pigment Color: "Slate"</b>		
Product	Dilution	Aggregate Exposure	Surface Pigment Alteration/Removal	
Paver Kare <sup>®</sup> Cleaner/Brightener	1:2	4	4	
Paver Kare <sup>®</sup> Cleaner/Brightener	1:3	4	4	
Sure Klean <sup>®</sup> Custom Masonry Cleaner	1:6	3	3	
<b>Substrate: Concrete Paver</b>		<b>Pigment Color: "Warioto Blend"</b>		
Product	Dilution	Aggregate Exposure	Surface Pigment Alteration/Removal	
Paver Kare <sup>®</sup> Cleaner/Brightener	1:2	4	4	
Paver Kare <sup>®</sup> Cleaner/Brightener	1:3	4	4	
Sure Klean <sup>®</sup> Custom Masonry Cleaner	1:6	3	3	

Scale used for reporting results of both categories:

- 0 – Worst** match to through-body      **3 – Good** match to through-body  
**1 – Poor** match to through-body      **4 – Best** match to through-body  
**2 – Fair** match to through-body



**Photographs – New Construction Cleaning**

**“Warioto Blend” Concrete Paver; 3 Day Cleaning**



**“Warioto Blend” Concrete Paver; 7 Day Cleaning**



**Photographs – New Construction Cleaning**

**“Warioto Blend” Concrete Paver; 14 Day Cleaning**



**Photographs – Color Uniformity**

**“Warioto Blend” Concrete Paver**



**Conclusions – New Construction Cleaning**

Based on the test results, all of the PROSOCO, Inc. products tested performed well in removing excess Type S mortar from the submitted samples even after allowing the mortar to remain on the surface of the samples for 14 days.

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

**NOTE:** Based on lab tests and conversations with the manufacturer, Paver Kare® Cleaner/Brightener diluted with two or three parts water, and Sure Klean® Custom Masonry Cleaner diluted with six parts water can be recommended for new construction cleaning operations.

**Recommendations – New Construction Cleaning**

Recommendations for cleaning for the concrete pavers submitted by Red River Concrete Products, Clarksville, TN are provided in the chart below. Recommendations are based on the optimum dilution for complete removal of mortar while providing the best match for color uniformity when compared to the through-body color of the concrete pavers.

Sample	New Construction Cleaning (Type S mortar, 14 day cleaning)
All Submitted Concrete Pavers	Paver Kare® Cleaner/Brightener (1:2) OR (1:3) OR Sure Klean® Custom Masonry Cleaner (1:6)

Apply all products in accordance with the manufacturer’s recommendation provided on container labels and product data sheets. On-site testing should always 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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## **Protective Water Repellents**

The testing described below evaluates the suitability of water repellent treatments.

The surface treatments evaluated were selected for their suitability for application based on the following selection criteria:

1. Weatherproofing properties
  2. Color change
  3. Ease of application
- 

### **Description of Products Evaluated – Protective Water Repellents**

**Paver Kare® Penetrating Water Repellent** – A ready-to-use water-based, VOC compliant silane/siloxane water repellent and “chloride screen” for the protection of concrete and masonry surfaces. Penetrating Water Repellent penetrates more deeply than conventional water- or solvent-based water repellents. Low odor and alkaline stable, it is ideal for field or in-plant application to concrete and most masonry surfaces. Penetrating Water Repellent protects horizontal and vertical surfaces from moisture intrusion and chemical attack of chloride salts.

**Stand Off® SLX100 Water & Oil Repellent** – Combines water and oil repellency on most substrates to prevent staining by waterborne and oily substances. This modified “neat” silane system offers invisible protection and low volatility. The small molecular structure of SLX100 allows for maximum penetration at coverage rates higher than that of conventional silanes. Depth of penetration is controlled by the application rate (loading rate). This makes SLX100 ideal for protecting granite and other dense, color-sensitive surfaces.

**Paver Kare® Paver Enhancer** – A solvent-based blend of high-quality siloxanes modified to provide excellent water repellency and color enhancement to interlocking concrete, fired clay, porous tile and many types of natural stone surfaces. Paver Enhancer penetrates and reacts with the surface to form a chemical bond, providing long-term durability, alkali resistance and superior breatheability.

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### **Sample Preparation – Protective Water Repellents**

The submitted pavers were scored and allowed to dry for 24 hours prior to treatment. Both products were applied by brush in accordance with the application instructions in the current PROSOCO, Inc. Product Data Sheets and allowed to cure for at least 14 days.

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### **Test Methods – Protective Water Repellents**

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

The water absorption tube test simulating wind driven rain conditions was performed. This test simulates 60 mile per hour wind driven rain conditions for a period of 20 minutes. See Technical Services TECH Note RILEM Tube Test Procedures.

**Test Results – Protective Water Repellents****Water Absorption Tube Test: 60 mph RILEM II.4, 20 Minutes****RESULTS**

<b>“Beige Blend”</b>	
Untreated Control	54 mph
Paver Kare® Penetrating Water Repellent	60 mph
Stand Off® SLX100 Water & Oil Repellent	60 mph
Paver Kare® Paver Enhancer	60 mph
<b>“Burley”</b>	
Untreated Control	55 mph
Paver Kare® Penetrating Water Repellent	60 mph
Stand Off® SLX100 Water & Oil Repellent	60 mph
Paver Kare® Paver Enhancer	60 mph
<b>“Cumberland Blend”</b>	
Untreated Control	55 mph
Paver Kare® Penetrating Water Repellent	60 mph
Stand Off® SLX100 Water & Oil Repellent	60 mph
Paver Kare® Paver Enhancer	60 mph
<b>“Gray”</b>	
Untreated Control	<40 mph
Paver Kare® Penetrating Water Repellent	60 mph
Stand Off® SLX100 Water & Oil Repellent	60 mph
Paver Kare® Paver Enhancer	60 mph
<b>“Gray Blend”</b>	
Untreated Control	58 mph
Paver Kare® Penetrating Water Repellent	60 mph
Stand Off® SLX100 Water & Oil Repellent	60 mph
Paver Kare® Paver Enhancer	60 mph
<b>“Pewter Blend”</b>	
Untreated Control	58 mph
Paver Kare® Penetrating Water Repellent	60 mph
Stand Off® SLX100 Water & Oil Repellent	60 mph
Paver Kare® Paver Enhancer	60 mph
<b>“Red”</b>	
Untreated Control	<40 mph
Paver Kare® Penetrating Water Repellent	60 mph
Stand Off® SLX100 Water & Oil Repellent	60 mph
Paver Kare® Paver Enhancer	60 mph
<b>“Red Blend”</b>	
Untreated Control	49 mph
Paver Kare® Penetrating Water Repellent	60 mph
Stand Off® SLX100 Water & Oil Repellent	60 mph
Paver Kare® Paver Enhancer	60 mph

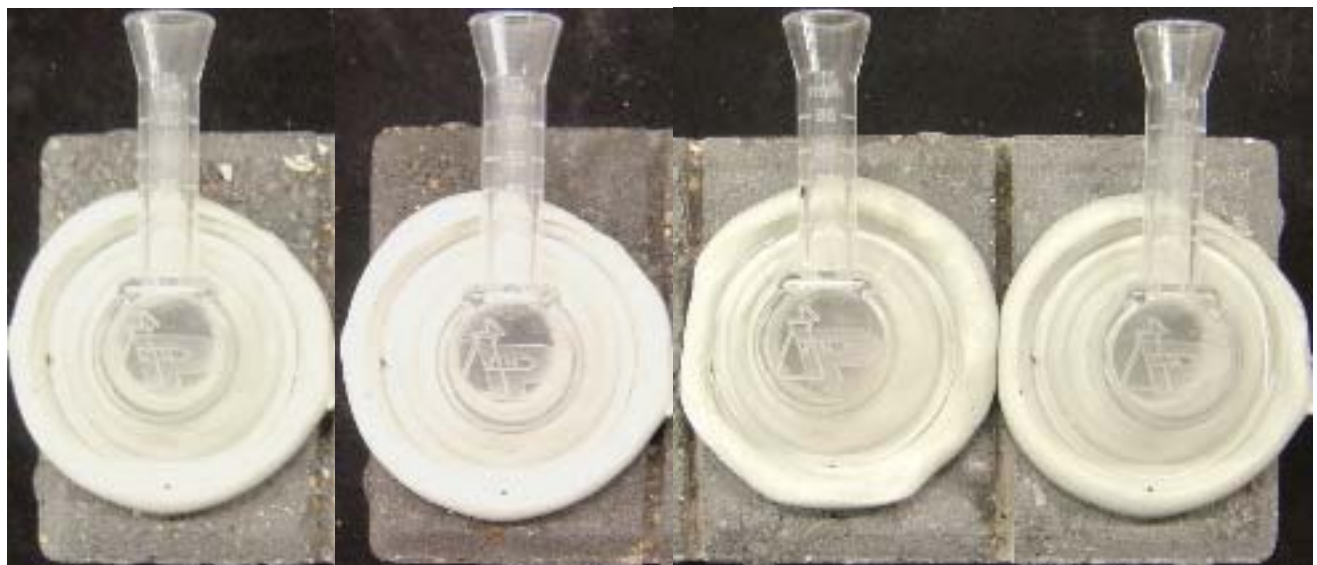
**Test Results – Protective Water Repellents**

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

<b>RESULTS</b>	
<b>“Red River Blend”</b>	
Untreated Control	58 mph
Paver Kare® Penetrating Water Repellent	60 mph
Stand Off® SLX100 Water & Oil Repellent	60 mph
Paver Kare® Paver Enhancer	60 mph
<b>“Slate”</b>	
Untreated Control	54 mph
Paver Kare® Penetrating Water Repellent	60 mph
Stand Off® SLX100 Water & Oil Repellent	60 mph
Paver Kare® Paver Enhancer	60 mph
<b>“Warioto Blend”</b>	
Untreated Control	56 mph
Paver Kare® Penetrating Water Repellent	60 mph
Stand Off® SLX100 Water & Oil Repellent	60 mph
Paver Kare® Paver Enhancer	60 mph

**Photographs – Protective Water Repellents**

**“Slate” Concrete Paver; 60 mph RILEM II.4, 20 Minutes**



<b>Stand Off® SLX100 Water &amp; Oil Repellent</b>	<b>Paver Kare® Paver Enhancer</b>	<b>Paver Kare® Penetrating Water Repellent</b>	<b>Untreated Control</b>
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**Conclusions – Protective Water Repellents**

Based upon laboratory evaluations, all of the evaluated treatments exhibited excellent water repellency on each of the submitted samples. Paver Kare® Paver Enhancer exhibited a moderate to significant color enhancement to the submitted pavers. Paver Kare® Penetrating Water Repellent and Stand Off® SLX100 Water & Oil Repellent did not alter the appearance of the samples in any way.

**Recommendations – Protective Water Repellents**

Recommendations for water repellency treatment for the concrete pavers submitted by Red River Concrete Products, Clarksville, TN are provided in the chart below. Recommendations are based on the treatment that proved most effective at providing water repellency on all types submitted.

Sample	Protective Water Repellents
All Submitted Concrete Pavers	*Paver Kare® Paver Enhancer OR Paver Kare® Penetrating Water Repellent OR Stand Off® SLX100 Water & Oil Repellent

**\*NOTE:** Paver Kare® Paver Enhancer is manufactured and marketed in compliance with USEPA AIM VOC regulations (40 CFR 59.403). This product may not be suitable for sale in states and districts with more restrictive AIM VOC regulations.

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 water repellent product and procedures for a particular project. See product literature for additional application and product information.

## **Stain Repellency**

These trials were conducted to determine the effectiveness of treatments in preventing food and oil staining on the submitted samples.

### **Description of Products Evaluated – Stain Repellency**

#### **Stain Repellent Treatments**

**Stand Off® SLX100 Water & Oil Repellent** – Combines water and oil repellency on most substrates to prevent staining by waterborne and oily substances. This modified “neat” silane system offers invisible protection and low volatility. The small molecular structure of SLX100 allows for maximum penetration at coverage rates higher than that of conventional silanes. Depth of penetration is controlled by the application rate (loading rate). This makes SLX100 ideal for protecting granite and other dense, color-sensitive surfaces.

**Stand Off® Stone, Tile & Masonry Protector (STMP)** – A penetrating oil and stain repellent that is an easy-to-use, low-VOC, low-odor protective treatment improves the stain resistance and simplifies maintenance cleaning of interior and exterior stone, quarry tile, concrete and masonry surfaces.

#### **Maintenance Cleaner**

**Enviro Klean® 2010 All Surface Cleaner** – A “next-generation” product for cleaning and degreasing light-to-heavily soiled stone, tile, masonry and much more. Powerful enough for industrial use, flexible enough for jobs around the home, space-saving EK 2010 replaces a host of individual cleaning agents. It is suitable for home-use on windows, bathroom tub and tile, counter tops and more when diluted with water. It's concentrated enough for the toughest industrial cleaning jobs on concrete, metal and many other plant and warehouse surfaces. EK 2010 also removes Paver Kare® Weather Seal Siloxane PD overspray from windows.

#### **Staining Agents Evaluated**

<b><u>Products</u></b>	<b><u>Temperature</u></b>
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)

### **Sample Preparation – Stain Repellency**

Samples were cleaned with Enviro Klean® 2010 All Surface Cleaner diluted with 10 parts water, allowed to dry and absorb atmospheric moisture for 24 hours prior to treatment. Both products were applied by brush in accordance with the instructions in the current PROSOCO, Inc. Product Data Sheets and allowed to cure for at least 72 hours.



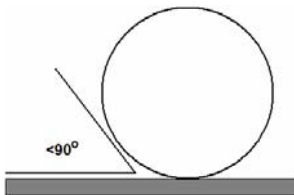
**Test Method – Stain Repellency****Surface Beading Evaluation**

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 ( $<90^\circ$ ) 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.

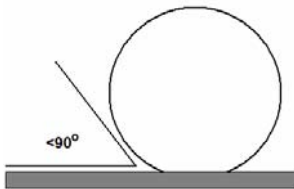
**Note: Non-free flowing staining agents such as ketchup and mustard are applied in a globular fashion and therefore are not evaluated for their beading properties.**

**Rating System (1-5)**

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



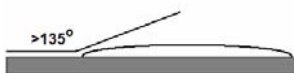
2. Wetting contained to the contact area (slight darkening); angle is less than  $90^\circ$ .



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.

**Stain Removal 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<sup>®</sup> 2010 All Surface Cleaner diluted 1 part concentrate to 10 parts fresh water and scrubbed under a stream of running water from a faucet. 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 – Surface Beading**

<b>“Beige Blend”</b>									
	Coco-Cola	Ketchup	Mustard	Red Wine	Balsamic Vinegar	Soy Sauce	Olive Oil	Wesson Oil	Hot Coffee
Untreated Control	5	-	-	5	4	4	5	5	4
SLX100	1	-	-	1	1	1	2	2	2
STMP	2	-	-	2	2	2	2	2	2
<b>“Burley”</b>									
	Coco-Cola	Ketchup	Mustard	Red Wine	Balsamic Vinegar	Soy Sauce	Olive Oil	Wesson Oil	Hot Coffee
Untreated Control	3	-	-	4	4	4	5	5	4
SLX100	1	-	-	1	1	1	2	2	2
STMP	2	-	-	2	2	2	2	2	2
<b>“Cumberland Blend”</b>									
	Coco-Cola	Ketchup	Mustard	Red Wine	Balsamic Vinegar	Soy Sauce	Olive Oil	Wesson Oil	Hot Coffee
Untreated Control	5	-	-	5	4	4	5	5	5
SLX100	1	-	-	2	2	2	2	2	2
STMP	2	-	-	2	2	2	2	2	2
<b>“Gray”</b>									
	Coco-Cola	Ketchup	Mustard	Red Wine	Balsamic Vinegar	Soy Sauce	Olive Oil	Wesson Oil	Hot Coffee
Untreated Control	5	-	-	5	4	4	5	5	5
SLX100	1	-	-	1	1	1	2	2	2
STMP	2	-	-	2	2	2	2	2	2
<b>“Gray Blend”</b>									
	Coco-Cola	Ketchup	Mustard	Red Wine	Balsamic Vinegar	Soy Sauce	Olive Oil	Wesson Oil	Hot Coffee
Untreated Control	4	-	-	4	4	4	5	5	4
SLX100	1	-	-	1	1	1	2	2	2
STMP	2	-	-	2	2	2	2	2	2
<b>“Pewter Blend”</b>									
	Coco-Cola	Ketchup	Mustard	Red Wine	Balsamic Vinegar	Soy Sauce	Olive Oil	Wesson Oil	Hot Coffee
Untreated Control	3	-	-	4	4	4	5	5	3
SLX100	2	-	-	2	2	2	2	2	2
STMP	2	-	-	2	2	2	2	2	2
<b>“Red”</b>									
	Coco-Cola	Ketchup	Mustard	Red Wine	Balsamic Vinegar	Soy Sauce	Olive Oil	Wesson Oil	Hot Coffee
Untreated Control	3	-	-	4	4	4	5	5	5
SLX100	1	-	-	1	1	1	2	2	2
STMP	2	-	-	2	2	2	2	2	2
<b>“Red Blend”</b>									
	Coco-Cola	Ketchup	Mustard	Red Wine	Balsamic Vinegar	Soy Sauce	Olive Oil	Wesson Oil	Hot Coffee
Untreated Control	4	-	-	4	4	4	5	5	4
SLX100	1	-	-	1	1	1	2	2	2
STMP	2	-	-	2	2	2	2	2	2

**Test Results – Surface Beading**

<b>“Red River Blend”</b>									
	Coco-Cola	Ketchup	Mustard	Red Wine	Balsamic Vinegar	Soy Sauce	Olive Oil	Wesson Oil	Hot Coffee
Untreated Control	3	-	-	4	4	4	5	5	4
SLX100	1	-	-	1	1	1	2	2	2
STMP	1	-	-	2	2	2	2	2	2
<b>“Slate”</b>									
	Coco-Cola	Ketchup	Mustard	Red Wine	Balsamic Vinegar	Soy Sauce	Olive Oil	Wesson Oil	Hot Coffee
Untreated Control	4	-	-	4	4	4	5	5	4
SLX100	1	-	-	1	1	1	2	2	2
STMP	2	-	-	2	2	2	2	2	2
<b>“Warioto Blend”</b>									
	Coco-Cola	Ketchup	Mustard	Red Wine	Balsamic Vinegar	Soy Sauce	Olive Oil	Wesson Oil	Hot Coffee
Untreated Control	5	-	-	5	4	4	5	5	5
SLX100	1	-	-	2	2	2	2	2	2
STMP	1	-	-	2	2	2	2	2	2

**Test Results – Stain Repellency**

<b>“Beige Blend”</b>									
<b>Untreated Control</b>									
	Coca-Cola	Ketchup	Mustard	Red Wine	Balsamic Vinegar	Soy Sauce	Olive Oil	Wesson Oil	Hot Coffee
24 hr	100%	100%	<1%	80%	80%	100%	<1%	<1%	100%
4 hour	100%	100%	80%	80%	80%	100%	<1%	<1%	100%
1 hour	100%	100%	100%	80%	80%	100%	<1%	<1%	100%
10 min.	100%	100%	100%	80%	80%	100%	<1%	<1%	100%
<b>Stand Off® SLX100 Water &amp; Oil Repellent</b>									
	Coca-Cola	Ketchup	Mustard	Red Wine	Balsamic Vinegar	Soy Sauce	Olive Oil	Wesson Oil	Hot Coffee
24 hr	100%	100%	100%	100%	100%	100%	40%	40%	100%
4 hour	100%	100%	100%	100%	100%	100%	90%	90%	100%
1 hour	100%	100%	100%	100%	100%	100%	95%	95%	100%
10 min.	100%	100%	100%	100%	100%	100%	100%	100%	100%
<b>Stand Off® Stone, Tile &amp; Masonry Protector (STMP)</b>									
	Coca-Cola	Ketchup	Mustard	Red Wine	Balsamic Vinegar	Soy Sauce	Olive Oil	Wesson Oil	Hot Coffee
24 hr	100%	100%	100%	100%	100%	100%	95%	95%	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%

\*Indicates etching occurred due to the acidic nature of the staining agents.

**Test Results – Stain Repellency**

<b>“Burley”</b>									
<b>Untreated Control</b>									
	<b>Coca-Cola</b>	<b>Ketchup</b>	<b>Mustard</b>	<b>Red Wine</b>	<b>Balsamic Vinegar</b>	<b>Soy Sauce</b>	<b>Olive Oil</b>	<b>Wesson Oil</b>	<b>Hot Coffee</b>
<b>24 hr</b>	100%	100%	70%*	80%	80%	80%	<1%	<1%	100%
<b>4 hour</b>	100%	100%	90%*	80%	80%	80%	<1%	<1%	100%
<b>1 hour</b>	100%	100%	90%*	80%	80%	80%	<1%	<1%	100%
<b>10 min.</b>	100%	100%	100%*	80%	80%	80%	<1%	<1%	100%
<b>Stand Off® SLX100 Water &amp; Oil Repellent</b>									
	<b>Coca-Cola</b>	<b>Ketchup</b>	<b>Mustard</b>	<b>Red Wine</b>	<b>Balsamic Vinegar</b>	<b>Soy Sauce</b>	<b>Olive Oil</b>	<b>Wesson Oil</b>	<b>Hot Coffee</b>
<b>24 hr</b>	100%	100%	95%	95%	100%	100%	80%	80%	100%
<b>4 hour</b>	100%	100%	100%	100%	100%	100%	80%	90%	100%
<b>1 hour</b>	100%	100%	100%	100%	100%	100%	95%	95%	100%
<b>10 min.</b>	100%	100%	100%	100%	100%	100%	100%	100%	100%
<b>Stand Off® Stone, Tile &amp; Masonry Protector (STMP)</b>									
	<b>Coca-Cola</b>	<b>Ketchup</b>	<b>Mustard</b>	<b>Red Wine</b>	<b>Balsamic Vinegar</b>	<b>Soy Sauce</b>	<b>Olive Oil</b>	<b>Wesson Oil</b>	<b>Hot Coffee</b>
<b>24 hr</b>	100%	100%	100%	90%	95%	100%	90%	95%	100%
<b>4 hour</b>	100%	100%	100%	90%	95%	100%	100%	100%	100%
<b>1 hour</b>	100%	100%	100%	100%	100%	100%	100%	100%	100%
<b>10 min.</b>	100%	100%	100%	100%	100%	100%	100%	100%	100%
<b>“Cumberland Blend”</b>									
<b>Untreated Control</b>									
	<b>Coca-Cola</b>	<b>Ketchup</b>	<b>Mustard</b>	<b>Red Wine</b>	<b>Balsamic Vinegar</b>	<b>Soy Sauce</b>	<b>Olive Oil</b>	<b>Wesson Oil</b>	<b>Hot Coffee</b>
<b>24 hr</b>	100%	100%	70%*	100%	80%	80%	<1%	<1%	100%
<b>4 hour</b>	100%	100%	95%*	100%	80%	80%	<1%	<1%	100%
<b>1 hour</b>	100%	100%	100%*	100%	80%	80%	<1%	<1%	100%
<b>10 min.</b>	100%	100%	100%*	100%	80%	80%	<1%	<1%	100%
<b>Stand Off® SLX100 Water &amp; Oil Repellent</b>									
	<b>Coca-Cola</b>	<b>Ketchup</b>	<b>Mustard</b>	<b>Red Wine</b>	<b>Balsamic Vinegar</b>	<b>Soy Sauce</b>	<b>Olive Oil</b>	<b>Wesson Oil</b>	<b>Hot Coffee</b>
<b>24 hr</b>	100%	100%	100%	100%	100%	100%	70%	70%	100%
<b>4 hour</b>	100%	100%	100%	100%	100%	100%	95%	95%	100%
<b>1 hour</b>	100%	100%	100%	100%	100%	100%	95%	95%	100%
<b>10 min.</b>	100%	100%	100%	100%	100%	100%	95%	95%	100%
<b>Stand Off® Stone, Tile &amp; Masonry Protector (STMP)</b>									
	<b>Coca-Cola</b>	<b>Ketchup</b>	<b>Mustard</b>	<b>Red Wine</b>	<b>Balsamic Vinegar</b>	<b>Soy Sauce</b>	<b>Olive Oil</b>	<b>Wesson Oil</b>	<b>Hot Coffee</b>
<b>24 hr</b>	100%	100%	100%	100%	100%	100%	90%	90%	100%
<b>4 hour</b>	100%	100%	100%	100%	100%	100%	100%	100%	100%
<b>1 hour</b>	100%	100%	100%	100%	100%	100%	100%	100%	100%
<b>10 min.</b>	100%	100%	100%	100%	100%	100%	100%	100%	100%

\*Indicates etching occurred due to the acidic nature of the staining agents.

**Test Results – Stain Repellency**

<b>“Gray”</b>									
<b>Untreated Control</b>									
	<b>Coca-Cola</b>	<b>Ketchup</b>	<b>Mustard</b>	<b>Red Wine</b>	<b>Balsamic Vinegar</b>	<b>Soy Sauce</b>	<b>Olive Oil</b>	<b>Wesson Oil</b>	<b>Hot Coffee</b>
<b>24 hr</b>	100%	100%	90%	80%	80%	80%	<1%	<1%	100%
<b>4 hour</b>	100%	100%	95%	80%	80%	80%	<1%	<1%	100%
<b>1 hour</b>	100%	100%	100%	80%	80%	80%	<1%	<1%	100%
<b>10 min.</b>	100%	100%	100%	80%	80%	80%	<1%	<1%	100%
<b>Stand Off® SLX100 Water &amp; Oil Repellent</b>									
	<b>Coca-Cola</b>	<b>Ketchup</b>	<b>Mustard</b>	<b>Red Wine</b>	<b>Balsamic Vinegar</b>	<b>Soy Sauce</b>	<b>Olive Oil</b>	<b>Wesson Oil</b>	<b>Hot Coffee</b>
<b>24 hr</b>	100%	100%	100%	100%	100%	100%	50%	60%	100%
<b>4 hour</b>	100%	100%	100%	100%	100%	100%	95%	95%	100%
<b>1 hour</b>	100%	100%	100%	100%	100%	100%	100%	100%	100%
<b>10 min.</b>	100%	100%	100%	100%	100%	100%	100%	100%	100%
<b>Stand Off® Stone, Tile &amp; Masonry Protector (STMP)</b>									
	<b>Coca-Cola</b>	<b>Ketchup</b>	<b>Mustard</b>	<b>Red Wine</b>	<b>Balsamic Vinegar</b>	<b>Soy Sauce</b>	<b>Olive Oil</b>	<b>Wesson Oil</b>	<b>Hot Coffee</b>
<b>24 hr</b>	100%	100%	100%	95%	100%	100%	90%	90%	100%
<b>4 hour</b>	100%	100%	100%	95%	100%	100%	95%	95%	100%
<b>1 hour</b>	100%	100%	100%	100%	100%	100%	100%	100%	100%
<b>10 min.</b>	100%	100%	100%	100%	100%	100%	100%	100%	100%
<b>“Gray Blend”</b>									
<b>Untreated Control</b>									
	<b>Coca-Cola</b>	<b>Ketchup</b>	<b>Mustard</b>	<b>Red Wine</b>	<b>Balsamic Vinegar</b>	<b>Soy Sauce</b>	<b>Olive Oil</b>	<b>Wesson Oil</b>	<b>Hot Coffee</b>
<b>24 hr</b>	100%	100%	60%	80%	80%	80%	<1%	<1%	100%
<b>4 hour</b>	100%	100%	100%	80%	80%	80%	<1%	<1%	100%
<b>1 hour</b>	100%	100%	100%	80%	80%	80%	<1%	<1%	100%
<b>10 min.</b>	100%	100%	100%	80%	80%	80%	<1%	<1%	100%
<b>Stand Off® SLX100 Water &amp; Oil Repellent</b>									
	<b>Coca-Cola</b>	<b>Ketchup</b>	<b>Mustard</b>	<b>Red Wine</b>	<b>Balsamic Vinegar</b>	<b>Soy Sauce</b>	<b>Olive Oil</b>	<b>Wesson Oil</b>	<b>Hot Coffee</b>
<b>24 hr</b>	100%	100%	100%	100%	100%	100%	80%	80%	100%
<b>4 hour</b>	100%	100%	100%	100%	100%	100%	90%	100%	100%
<b>1 hour</b>	100%	100%	100%	100%	100%	100%	95%	100%	100%
<b>10 min.</b>	100%	100%	100%	100%	100%	100%	95%	100%	100%
<b>Stand Off® Stone, Tile &amp; Masonry Protector (STMP)</b>									
	<b>Coca-Cola</b>	<b>Ketchup</b>	<b>Mustard</b>	<b>Red Wine</b>	<b>Balsamic Vinegar</b>	<b>Soy Sauce</b>	<b>Olive Oil</b>	<b>Wesson Oil</b>	<b>Hot Coffee</b>
<b>24 hr</b>	100%	100%	100%	100%	100%	100%	95%	95%	100%
<b>4 hour</b>	100%	100%	100%	100%	100%	100%	100%	100%	100%
<b>1 hour</b>	100%	100%	100%	100%	100%	100%	100%	100%	100%
<b>10 min.</b>	100%	100%	100%	100%	100%	100%	100%	100%	100%

\*Indicates etching occurred due to the acidic nature of the staining agents.

**Test Results – Stain Repellency**

<b>“Pewter Blend”</b>									
<b>Untreated Control</b>									
	<b>Coca-Cola</b>	<b>Ketchup</b>	<b>Mustard</b>	<b>Red Wine</b>	<b>Balsamic Vinegar</b>	<b>Soy Sauce</b>	<b>Olive Oil</b>	<b>Wesson Oil</b>	<b>Hot Coffee</b>
<b>24 hr</b>	100%	100%*	90%*	50%	80%*	100%	<1%	<1%	100%
<b>4 hour</b>	100%	100%*	95%*	80%	80%*	100%	<1%	<1%	100%
<b>1 hour</b>	100%	100%*	95%*	80%	80%*	100%	<1%	<1%	100%
<b>10 min.</b>	100%	100%*	95%*	90%	80%*	100%	<1%	<1%	100%
<b>Stand Off® SLX100 Water &amp; Oil Repellent</b>									
	<b>Coca-Cola</b>	<b>Ketchup</b>	<b>Mustard</b>	<b>Red Wine</b>	<b>Balsamic Vinegar</b>	<b>Soy Sauce</b>	<b>Olive Oil</b>	<b>Wesson Oil</b>	<b>Hot Coffee</b>
<b>24 hr</b>	100%	100%*	100%*	100%	100%*	100%	95%	90%	100%
<b>4 hour</b>	100%	100%*	100%*	100%	100%*	100%	100%	100%	100%
<b>1 hour</b>	100%	100%*	100%*	100%	100%*	100%	100%	100%	100%
<b>10 min.</b>	100%	100%*	100%*	100%	100%*	100%	100%	100%	100%
<b>Stand Off® Stone, Tile &amp; Masonry Protector (STMP)</b>									
	<b>Coca-Cola</b>	<b>Ketchup</b>	<b>Mustard</b>	<b>Red Wine</b>	<b>Balsamic Vinegar</b>	<b>Soy Sauce</b>	<b>Olive Oil</b>	<b>Wesson Oil</b>	<b>Hot Coffee</b>
<b>24 hr</b>	100%	100%*	100%*	100%	100%*	100%	70%	70%	100%
<b>4 hour</b>	100%	100%*	100%*	100%	100%*	100%	70%	70%	100%
<b>1 hour</b>	100%	100%*	100%*	100%	100%*	100%	70%	70%	100%
<b>10 min.</b>	100%	100%*	100%*	100%	100%*	100%	100%	100%	100%
<b>“Red”</b>									
<b>Untreated Control</b>									
	<b>Coca-Cola</b>	<b>Ketchup</b>	<b>Mustard</b>	<b>Red Wine</b>	<b>Balsamic Vinegar</b>	<b>Soy Sauce</b>	<b>Olive Oil</b>	<b>Wesson Oil</b>	<b>Hot Coffee</b>
<b>24 hr</b>	100%	100%*	90%*	70%	80%*	100%	<1%	<1%	100%
<b>4 hour</b>	100%	100%*	100%*	70%	80%*	100%	<1%	<1%	100%
<b>1 hour</b>	100%	100%*	100%*	90%	80%*	100%	<1%	<1%	100%
<b>10 min.</b>	100%	100%*	100%*	100%	80%*	100%	<1%	<1%	100%
<b>Stand Off® SLX100 Water &amp; Oil Repellent</b>									
	<b>Coca-Cola</b>	<b>Ketchup</b>	<b>Mustard</b>	<b>Red Wine</b>	<b>Balsamic Vinegar</b>	<b>Soy Sauce</b>	<b>Olive Oil</b>	<b>Wesson Oil</b>	<b>Hot Coffee</b>
<b>24 hr</b>	100%	100%*	100%*	90%	100%*	100%	70%	70%	100%
<b>4 hour</b>	100%	100%*	100%*	90%	100%*	100%	90%	90%	100%
<b>1 hour</b>	100%	100%*	100%*	100%	100%*	100%	95%	95%	100%
<b>10 min.</b>	100%	100%*	100%*	100%	100%*	100%	95%	95%	100%
<b>Stand Off® Stone, Tile &amp; Masonry Protector (STMP)</b>									
	<b>Coca-Cola</b>	<b>Ketchup</b>	<b>Mustard</b>	<b>Red Wine</b>	<b>Balsamic Vinegar</b>	<b>Soy Sauce</b>	<b>Olive Oil</b>	<b>Wesson Oil</b>	<b>Hot Coffee</b>
<b>24 hr</b>	100%	100%*	100%*	90%	100%*	100%	90%	90%	100%
<b>4 hour</b>	100%	100%*	100%*	90%	100%*	100%	95%	95%	100%
<b>1 hour</b>	100%	100%*	100%*	100%	100%*	100%	100%	100%	100%
<b>10 min.</b>	100%	100%*	100%*	100%	100%*	100%	100%	100%	100%

\*Indicates etching occurred due to the acidic nature of the staining agents.

**Test Results – Stain Repellency**

<b>“Red Blend”</b>									
<b>Untreated Control</b>									
	<b>Coca-Cola</b>	<b>Ketchup</b>	<b>Mustard</b>	<b>Red Wine</b>	<b>Balsamic Vinegar</b>	<b>Soy Sauce</b>	<b>Olive Oil</b>	<b>Wesson Oil</b>	<b>Hot Coffee</b>
<b>24 hr</b>	100%	100%	<1%	80%	100%	100%	<1%	<1%	100%
<b>4 hour</b>	100%	100%	90%	80%	100%	100%	<1%	<1%	100%
<b>1 hour</b>	100%	100%	100%	90%	100%	100%	<1%	<1%	100%
<b>10 min.</b>	100%	100%	100%	100%	100%	100%	<1%	<1%	100%
<b>Stand Off® SLX100 Water &amp; Oil Repellent</b>									
	<b>Coca-Cola</b>	<b>Ketchup</b>	<b>Mustard</b>	<b>Red Wine</b>	<b>Balsamic Vinegar</b>	<b>Soy Sauce</b>	<b>Olive Oil</b>	<b>Wesson Oil</b>	<b>Hot Coffee</b>
<b>24 hr</b>	100%	100%	100%	100%	100%	100%	90%	80%	100%
<b>4 hour</b>	100%	100%	100%	100%	100%	100%	100%	100%	100%
<b>1 hour</b>	100%	100%	100%	100%	100%	100%	100%	100%	100%
<b>10 min.</b>	100%	100%	100%	100%	100%	100%	100%	100%	100%
<b>Stand Off® Stone, Tile &amp; Masonry Protector (STMP)</b>									
	<b>Coca-Cola</b>	<b>Ketchup</b>	<b>Mustard</b>	<b>Red Wine</b>	<b>Balsamic Vinegar</b>	<b>Soy Sauce</b>	<b>Olive Oil</b>	<b>Wesson Oil</b>	<b>Hot Coffee</b>
<b>24 hr</b>	100%	100%	100%	95%	100%	100%	95%	95%	100%
<b>4 hour</b>	100%	100%	100%	95%	100%	100%	100%	100%	100%
<b>1 hour</b>	100%	100%	100%	100%	100%	100%	100%	100%	100%
<b>10 min.</b>	100%	100%	100%	100%	100%	100%	100%	100%	100%
<b>“Red River Blend”</b>									
<b>Untreated Control</b>									
	<b>Coca-Cola</b>	<b>Ketchup</b>	<b>Mustard</b>	<b>Red Wine</b>	<b>Balsamic Vinegar</b>	<b>Soy Sauce</b>	<b>Olive Oil</b>	<b>Wesson Oil</b>	<b>Hot Coffee</b>
<b>24 hr</b>	100%	100%*	<1%*	80%	100%*	100%	<1%	<1%	100%
<b>4 hour</b>	100%	100%*	100%*	90%	100%*	100%	<1%	<1%	100%
<b>1 hour</b>	100%	100%*	100%*	90%	100%*	100%	<1%	<1%	100%
<b>10 min.</b>	100%	100%*	100%*	100%	100%*	100%	<1%	<1%	100%
<b>Stand Off® SLX100 Water &amp; Oil Repellent</b>									
	<b>Coca-Cola</b>	<b>Ketchup</b>	<b>Mustard</b>	<b>Red Wine</b>	<b>Balsamic Vinegar</b>	<b>Soy Sauce</b>	<b>Olive Oil</b>	<b>Wesson Oil</b>	<b>Hot Coffee</b>
<b>24 hr</b>	100%	100%*	100%*	100%	100%*	100%	100%	100%	100%
<b>4 hour</b>	100%	100%*	100%*	100%	100%*	100%	100%	100%	100%
<b>1 hour</b>	100%	100%*	100%*	100%	100%*	100%	100%	100%	100%
<b>10 min.</b>	100%	100%*	100%*	100%	100%*	100%	100%	100%	100%
<b>Stand Off® Stone, Tile &amp; Masonry Protector (STMP)</b>									
	<b>Coca-Cola</b>	<b>Ketchup</b>	<b>Mustard</b>	<b>Red Wine</b>	<b>Balsamic Vinegar</b>	<b>Soy Sauce</b>	<b>Olive Oil</b>	<b>Wesson Oil</b>	<b>Hot Coffee</b>
<b>24 hr</b>	100%	100%*	100%*	100%	100%*	100%	100%	100%	100%
<b>4 hour</b>	100%	100%*	100%*	100%	100%*	100%	100%	100%	100%
<b>1 hour</b>	100%	100%*	100%*	100%	100%*	100%	100%	100%	100%
<b>10 min.</b>	100%	100%*	100%*	100%	100%*	100%	100%	100%	100%

\*Indicates etching occurred due to the acidic nature of the staining agents.

**Test Results – Stain Repellency**

<b>“Slate”</b>									
<b>Untreated Control</b>									
	<b>Coca-Cola</b>	<b>Ketchup</b>	<b>Mustard</b>	<b>Red Wine</b>	<b>Balsamic Vinegar</b>	<b>Soy Sauce</b>	<b>Olive Oil</b>	<b>Wesson Oil</b>	<b>Hot Coffee</b>
<b>24 hr</b>	100%	100%*	90%*	80%	80%*	80%	<1%	<1%	100%
<b>4 hour</b>	100%	100%*	90%*	80%	80%*	80%	<1%	<1%	100%
<b>1 hour</b>	100%	100%*	95%*	80%	80%*	80%	<1%	<1%	100%
<b>10 min.</b>	100%	100%*	100%*	80%	80%*	80%	<1%	<1%	100%
<b>Stand Off® SLX100 Water &amp; Oil Repellent</b>									
	<b>Coca-Cola</b>	<b>Ketchup</b>	<b>Mustard</b>	<b>Red Wine</b>	<b>Balsamic Vinegar</b>	<b>Soy Sauce</b>	<b>Olive Oil</b>	<b>Wesson Oil</b>	<b>Hot Coffee</b>
<b>24 hr</b>	100%	100%	100%*	100%	100%*	100%	80%	80%	100%
<b>4 hour</b>	100%	100%	100%*	100%	100%*	100%	90%	90%	100%
<b>1 hour</b>	100%	100%	100%*	100%	100%*	100%	90%	90%	100%
<b>10 min.</b>	100%	100%	100%*	100%	100%*	100%	90%	90%	100%
<b>Stand Off® Stone, Tile &amp; Masonry Protector (STMP)</b>									
	<b>Coca-Cola</b>	<b>Ketchup</b>	<b>Mustard</b>	<b>Red Wine</b>	<b>Balsamic Vinegar</b>	<b>Soy Sauce</b>	<b>Olive Oil</b>	<b>Wesson Oil</b>	<b>Hot Coffee</b>
<b>24 hr</b>	100%	100%	100%*	100%	100%*	100%	90%	90%	100%
<b>4 hour</b>	100%	100%	100%*	100%	100%*	100%	90%	90%	100%
<b>1 hour</b>	100%	100%	100%*	100%	100%*	100%	100%	100%	100%
<b>10 min.</b>	100%	100%	100%*	100%	100%*	100%	100%	100%	100%
<b>“Warioto Blend”</b>									
<b>Untreated Control</b>									
	<b>Coca-Cola</b>	<b>Ketchup</b>	<b>Mustard</b>	<b>Red Wine</b>	<b>Balsamic Vinegar</b>	<b>Soy Sauce</b>	<b>Olive Oil</b>	<b>Wesson Oil</b>	<b>Hot Coffee</b>
<b>24 hr</b>	100%	100%*	90%*	80%	80%*	80%	<1%	<1%	100%
<b>4 hour</b>	100%	100%*	95%*	80%	80%*	80%	<1%	<1%	100%
<b>1 hour</b>	100%	100%*	100%*	80%	80%*	80%	<1%	<1%	100%
<b>10 min.</b>	100%	100%*	100%*	80%	80%*	80%	<1%	<1%	100%
<b>Stand Off® SLX100 Water &amp; Oil Repellent</b>									
	<b>Coca-Cola</b>	<b>Ketchup</b>	<b>Mustard</b>	<b>Red Wine</b>	<b>Balsamic Vinegar</b>	<b>Soy Sauce</b>	<b>Olive Oil</b>	<b>Wesson Oil</b>	<b>Hot Coffee</b>
<b>24 hr</b>	100%	100%*	100%*	100%	100%*	100%	100%	100%	100%
<b>4 hour</b>	100%	100%*	100%*	100%	100%*	100%	100%	100%	100%
<b>1 hour</b>	100%	100%*	100%*	100%	100%*	100%	100%	100%	100%
<b>10 min.</b>	100%	100%*	100%*	100%	100%*	100%	100%	100%	100%
<b>Stand Off® Stone, Tile &amp; Masonry Protector (STMP)</b>									
	<b>Coca-Cola</b>	<b>Ketchup</b>	<b>Mustard</b>	<b>Red Wine</b>	<b>Balsamic Vinegar</b>	<b>Soy Sauce</b>	<b>Olive Oil</b>	<b>Wesson Oil</b>	<b>Hot Coffee</b>
<b>24 hr</b>	100%	100%*	100%*	100%	100%*	100%	100%	100%	100%
<b>4 hour</b>	100%	100%*	100%*	100%	100%*	100%	100%	100%	100%
<b>1 hour</b>	100%	100%*	100%*	100%	100%*	100%	100%	100%	100%
<b>10 min.</b>	100%	100%*	100%*	100%	100%*	100%	100%	100%	100%

\*Indicates etching occurred due to the acidic nature of the staining agents.



**Photographs – Stain Repellency**

**“Red River Blend” Concrete Paver; Stains Applied**



<b>Stand Off<sup>®</sup> SLX100 Water &amp; Oil Repellent</b>	<b>Stand Off<sup>®</sup> Stone, Tile &amp; Masonry Protector (STMP)</b>	<b>Untreated Control</b>
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**“Red River Blend” Concrete Paver; Stains Removed**



<b>Stand Off<sup>®</sup> SLX100 Water &amp; Oil Repellent</b>	<b>Stand Off<sup>®</sup> Stone, Tile &amp; Masonry Protector (STMP)</b>	<b>Untreated Control</b>
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**Conclusions – Stain Repellency**

Based upon laboratory evaluations, both of the treatments evaluated improved the surface beading of the samples. In addition, at least one of the treatments evaluated was effective in repelling the staining agents, especially the oils, from the submitted samples.

**Recommendations – Stain Repellency**

Recommendations for stain resistance treatment for the concrete pavers submitted by Red River Concrete Products, Clarksville, TN 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
“Red River Blend” “Warioto Blend”	Stand Off® SLX100 Water & Oil Repellent OR Stand Off® Stone, Tile & Masonry Protector (STMP)	Enviro Klean® 2010 All Surface Cleaner (1:10)
“Pewter Blend”	Stand Off® SLX100 Water & Oil Repellent	Enviro Klean® 2010 All Surface Cleaner (1:10)
“Beige Blend” “Burley” “Cumberland Blend” “Gray” “Gray Blend” “Red” “Red Blend” “Slate”	Stand Off® Stone, Tile & Masonry Protector (STMP)	Enviro Klean® 2010 All Surface Cleaner (1:10)

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

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

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## **Color and Sheen Enhancement**

This evaluation compares the effectiveness of the evaluated products in providing color and sheen enhancement to the submitted samples.

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### **Description of Products Evaluated** – Color and Sheen Enhancement

**Sure Klean<sup>®</sup> Paver Enhancer** – A solvent-based blend of high-quality siloxanes modified to provide excellent water repellency and color enhancement to interlocking concrete, fired clay, porous tile and many types of natural stone surfaces. Paver Enhancer penetrates and reacts with the surface to form a chemical bond, providing long-term durability, alkali resistance and superior breatheability.

**Stand Off<sup>®</sup> Gloss 'N Guard** – A highly durable protective coating for tile, pavers, terrazzo and other polished and unpolished masonry. Gloss 'N Guard dries to a high-gloss finish that enhances the natural beauty of treated surfaces.

**Paver Kare<sup>®</sup> Deep Sheen** – The perfect treatment for pavers, inside or out. This durable protective treatment weather- and stain-proofs new or newly cleaned pavers, giving them a premium, vibrant gloss and shine. Not just for concrete, Deep Sheen adds luster and brings out the real beauty of clay and stone pavers, too. Highly tested Deep Sheen will not “yellow,” blush or dull-out.

**Paver Kare<sup>®</sup> Deep Sheen WB** – The perfect treatment for concrete, clay or stone pavers, inside or out. This durable, water-borne protective treatment weather- and stain-proofs new or newly cleaned pavers, giving them a premium, vibrant gloss and shine. This water-borne treatment complies with all known AIM VOC regulations nationwide. Deep Sheen WB's glossy finish guards pavers against etching and staining from acidic and alkaline contaminants, including food, drinks, cleaning chemicals and more. Fast-drying, non-blushing and non-yellowing, Deep Sheen WB is ideal for paver installations of any size – new or old.

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### **Sample Preparation** – Color and Sheen Enhancement

Samples were cleaned with Enviro Klean<sup>®</sup> 2010 All Surface Cleaner diluted with 10 parts water and allowed to dry for 24 hours prior to treatment.

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### **Test Method** – Color and Sheen Enhancement

All products were applied by brush in accordance with the application instructions in the current PROSOCO, Inc. Product Data Sheets. After 24 hours, a visual evaluation was conducted to determine the level of color and sheen enhancement the treatments provided as compared to the untreated control.

**Test Results – Color and Sheen Enhancement**

<b>“Beige Blend”</b>		
<b>Treatment</b>	<b>Color Enhancement</b>	<b>Sheen Enhancement</b>
Paver Kare® Paver Enhancer	3	0
Stand Off® Gloss ‘N Guard	3	1
Paver Kare® Deep Sheen	3	2
Paver Kare® Deep Sheen WB	1	3
<b>“Burley”</b>		
<b>Treatment</b>	<b>Color Enhancement</b>	<b>Sheen Enhancement</b>
Paver Kare® Paver Enhancer	3	0
Stand Off® Gloss ‘N Guard	3	1
Paver Kare® Deep Sheen	3	2
Paver Kare® Deep Sheen WB	1	3
<b>“Cumberland Blend”</b>		
<b>Treatment</b>	<b>Color Enhancement</b>	<b>Sheen Enhancement</b>
Paver Kare® Paver Enhancer	3	0
Stand Off® Gloss ‘N Guard	3	1
Paver Kare® Deep Sheen	3	1
Paver Kare® Deep Sheen WB	1	2
<b>“Gray”</b>		
<b>Treatment</b>	<b>Color Enhancement</b>	<b>Sheen Enhancement</b>
Paver Kare® Paver Enhancer	2	0
Stand Off® Gloss ‘N Guard	2	0
Paver Kare® Deep Sheen	3	1
Paver Kare® Deep Sheen WB	0	2
<b>“Gray Blend”</b>		
<b>Treatment</b>	<b>Color Enhancement</b>	<b>Sheen Enhancement</b>
Paver Kare® Paver Enhancer	3	0
Stand Off® Gloss ‘N Guard	3	0
Paver Kare® Deep Sheen	3	1
Paver Kare® Deep Sheen WB	1	2
<b>“Pewter Blend”</b>		
<b>Treatment</b>	<b>Color Enhancement</b>	<b>Sheen Enhancement</b>
Paver Kare® Paver Enhancer	2	0
Stand Off® Gloss ‘N Guard	2	0
Paver Kare® Deep Sheen	2	1
Paver Kare® Deep Sheen WB	1	2
<b>“Red”</b>		
<b>Treatment</b>	<b>Color Enhancement</b>	<b>Sheen Enhancement</b>
Paver Kare® Paver Enhancer	3	0
Stand Off® Gloss ‘N Guard	2	2
Paver Kare® Deep Sheen	3	3
Paver Kare® Deep Sheen WB	1	3

**Scale: 0 - No Enhancement; Dull**

**1 - Slight Enhancement**

**2 - Moderate Enhancement**

**3 - Significant Enhancement**

"Red Blend"		
Treatment	Color Enhancement	Sheen Enhancement
Paver Kare® Paver Enhancer	3	0
Stand Off® Gloss 'N Guard	2	0
Paver Kare® Deep Sheen	3	1
Paver Kare® Deep Sheen WB	1	3
"Red River Blend"		
Treatment	Color Enhancement	Sheen Enhancement
Paver Kare® Paver Enhancer	3	0
Stand Off® Gloss 'N Guard	2	1
Paver Kare® Deep Sheen	2	1
Paver Kare® Deep Sheen WB	1	3
"Slate"		
Treatment	Color Enhancement	Sheen Enhancement
Paver Kare® Paver Enhancer	3	0
Stand Off® Gloss 'N Guard	3	1
Paver Kare® Deep Sheen	3	1
Paver Kare® Deep Sheen WB	1	3
"Warioto Blend"		
Treatment	Color Enhancement	Sheen Enhancement
Paver Kare® Paver Enhancer	3	0
Stand Off® Gloss 'N Guard	2	1
Paver Kare® Deep Sheen	3	1
Paver Kare® Deep Sheen WB	1	3

Scale: 0 - No Enhancement; Dull  
 1 - Slight Enhancement  
 2 - Moderate Enhancement  
 3 - Significant Enhancement

**Photographs – Color and Sheen Enhancement**

"Red" Concrete Paver; Treatment Applied



**Recommendations – Color and Sheen Enhancement**

Recommendations for color and sheen enhancement for the concrete pavers submitted by Red River Concrete Products, Clarksville, TN are provided in the chart below. Recommendations are based on the treatment that proved most effective in providing color and sheen enhancement to the submitted samples.

Sample	Color Enhancement	Sheen Enhancement
"Beige Blend" "Burley"	*Paver Kare <sup>®</sup> Paver Enhancer OR *Stand Off <sup>®</sup> Gloss 'N Guard OR *Paver Kare <sup>®</sup> Deep Sheen	*Paver Kare <sup>®</sup> Deep Sheen OR Paver Kare <sup>®</sup> Deep Sheen WB
"Cumberland Blend" "Gray" "Gray Blend" "Pewter Blend" "Red Blend" "Red River Blend" "Slate" "Warioto Blend"	*Paver Kare <sup>®</sup> Paver Enhancer OR *Stand Off <sup>®</sup> Gloss 'N Guard OR *Paver Kare <sup>®</sup> Deep Sheen	Paver Kare <sup>®</sup> Deep Sheen WB
"Red"	*Paver Kare <sup>®</sup> Paver Enhancer OR *Stand Off <sup>®</sup> Gloss 'N Guard OR *Paver Kare <sup>®</sup> Deep Sheen	*Stand Off <sup>®</sup> Gloss 'N Guard OR *Paver Kare <sup>®</sup> Deep Sheen OR Paver Kare <sup>®</sup> Deep Sheen WB

**\*NOTE:** Paver Kare<sup>®</sup> Paver Enhancer, Stand Off<sup>®</sup> Gloss 'N Guard, and Paver Kare<sup>®</sup> Deep Sheen are manufactured and marketed in compliance with USEPA AIM VOC regulations (40 CFR 59.403). These products may not be suitable for sale in states and districts with more restrictive AIM VOC regulations.

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 product and procedures for a particular project. See product literature for additional application and product information.

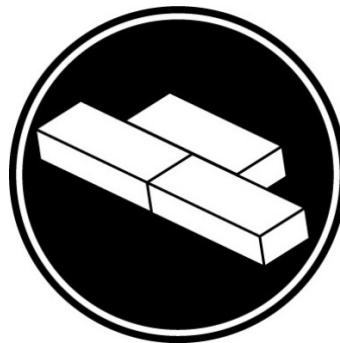


Christopher A. Moore  
 Project Testing Laboratory Technician  
 CAM



***PALLET TAG PROGRAM***  
*Laboratory Report*

Red River Concrete Products  
P.O. Box 30399  
Clarksville, TN 37040



*Project No. 0606-15 PTP*

*Prepared For:*  
**PROSOCO**  
SINCE 1939

*Prepared By:*  
AMT Laboratories  
August 2006

**Table of Contents**

**Executive Summary** ..... i

**Submitted Information** ..... 1

**Introduction** ..... 2

**Purpose of Testing**..... 2

**Products Evaluated**..... 3

**New Construction Cleaning** ..... 4

    Description of Products Evaluated – New Construction Cleaning ..... 4

    Sample Preparation – New Construction Cleaning ..... 4

    Test Method – New Construction Cleaning ..... 4

    Test Results – New Construction Cleaning ..... 5

    Test Results – Color Uniformity ..... 5

    Photographs – New Construction Cleaning ..... 6

    Photographs – Color Uniformity ..... 7

    Conclusions – New Construction Cleaning ..... 8

    Recommendations – New Construction Cleaning ..... 8

**Protective Water Repellents**..... 9

    Description of Products Evaluated – Protective Water Repellents ..... 9

    Sample Preparation – Protective Water Repellents ..... 9

    Test Methods – Protective Water Repellents ..... 9

    Test Results – Protective Water Repellents ..... 10

    Photographs – Protective Water Repellents ..... 11

    Conclusions – Protective Water Repellents ..... 11

    Recommendations – Protective Water Repellents ..... 11

**Graffiti Control**..... 12

    Description of Products Evaluated – Graffiti Control ..... 12

    Sample Preparation – Graffiti Control ..... 12

    Test Method – Graffiti Control ..... 13

    Test Results – Graffiti Control ..... 13

    Photographs – Graffiti Control ..... 15

    Conclusions – Graffiti Control ..... 16

    Recommendations – Graffiti Control ..... 16

**Attachments**

    Technical Services TECH Note RILEM Tube Test Procedures

    Product Data literature for all products evaluated



**Submitted Information**

**For:** James Holt  
**cc:** Paul Tessier

**Subject:** Red River Concrete Products  
 Clarksville, TN

**Date:** August 22, 2006

**Project:** 0606-15 PTP

**Samples Submitted:** 5 types of concrete brick

Sample	Name	Color	Integral Water Repellent	Size
Concrete Brick	"Autumn Fire"	Orange/Brown	ACM Chemistries Rain Block	7 ½" x 2 ¼" x 3 ½"
Concrete Brick	"Desert Storm"	Tan	ACM Chemistries Rain Block	7 ½" x 2 ¼" x 3 ½"
Concrete Brick	"Red Clay"	Orange	ACM Chemistries Rain Block	7 ½" x 2 ¼" x 3 ½"
Concrete Brick	"Red River"	Red/Dark Gray	ACM Chemistries Rain Block	7 ½" x 2 ¼" x 3 ½"
Concrete Brick	"Smoke"	Tan/Dark Gray	ACM Chemistries Rain Block	7 ½" x 2 ¼" x 3 ½"

Submitted by: James Holt

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## **Introduction**

Architectural Materials Testing (AMT) Laboratories is a Boyer Industries company that provides laboratory testing and consulting services for the construction industry. Laboratory testing includes evaluating chemical cleaning products and protective treatments for a variety of new and existing architectural materials.

This report includes descriptions of the PROSOCO, Inc. products and test methods that were used. Following test results and conclusions, the report provides recommendations for the most effective products and procedures.

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## **Purpose of Testing**

Five types of concrete brick, all with large, small and fine aggregate were submitted for testing to AMT Laboratories by PROSOCO, Inc. to determine the optimal concentration of cleaner for complete removal of mortar and related new construction soiling which also leaves the external surface looking most like the uncleaned surface of the concrete brick. The effectiveness of protective water repellents and graffiti control suitable for concrete brick was also evaluated.

**New Construction Cleaning** – Sure Klean® Custom Masonry Cleaner and Sure Klean® Concrete Brick Cleaner were evaluated to determine the optimal concentration of cleaner for removal of laboratory applied mortar which also leaves the external surface looking most like the uncleaned surface of the concrete brick.

To simulate new construction soiling all samples were placed on a bench with finished surface facing upward. Hollow cylinders measuring 50 mm in diameter and 75 mm tall were positioned on top of each sample and filled with a wet mixture of Type S mortar. The wet, mortar-filled cylinder was allowed to remain in contact with the samples for 10 minutes before removal.

Heavy deposits of mortar were removed with dry scraping after 24 hours. Prepared cleaning solutions were then evaluated for their effectiveness in removing residual Type S mortar staining after 3 days, 7 days, and 14 days of curing.

Color uniformity was evaluated by comparing aggregate exposure and surface pigment alternation/removal of each cleaned surface with the uncleaned surface of the submitted concrete brick.

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

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

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

- |   |  |
|---|--|
| 0 – <b>Worst</b> match to uncleaned surface | 3 – <b>Good</b> match to uncleaned surface |
| 1 – <b>Poor</b> match to uncleaned surface  | 4 – <b>Best</b> match to uncleaned surface |
| 2 – <b>Fair</b> match to uncleaned surface  |  |

**Protective Water Repellents** – Sure Klean® Custom Masonry Sealer, Sure Klean® Weather Seal Blok-Guard® & Graffiti Control II, and Sure Klean® Weather Seal Siloxane WB Concentrate were evaluated for their ability to provide water repellency to the submitted samples.

**Graffiti Control** – Sure Klean® Custom Masonry Sealer and Sure Klean® Weather Seal Blok-Guard® & Graffiti Control II were evaluated for their ability to control graffiti on the submitted samples. Sure Klean® Fast Acting Stripper and Defacer Eraser® Graffiti Wipe were evaluated for their ability to remove graffiti from the submitted samples.

**Products Evaluated****New Construction Cleaning Products Evaluated**

Sample	Product	Dilution
All Submitted Concrete Brick	Sure Klean® Concrete Brick Cleaner	1:2, 1:3
	Sure Klean® Custom Masonry Cleaner	1:6

**Protective Water Repellent Products Evaluated**

Sample	Product	Dilution
All Submitted Concrete Brick	Sure Klean® Custom Masonry Sealer	Concentrate
	Sure Klean® Weather Seal Blok-Guard® & Graffiti Control II	Concentrate
	Sure Klean® Weather Seal Siloxane WB Concentrate	1:9

**Graffiti Control Products Evaluated**

Sample	Product	Dilution
All Submitted Concrete Brick	Sure Klean® Custom Masonry Sealer	Concentrate
	Sure Klean® Weather Seal Blok-Guard® & Graffiti Control II	Concentrate

**Graffiti Removal Products Evaluated**

Sample	Product	Dilution
All Submitted Concrete Brick	Sure Klean® Fast Acting Stripper	Concentrate
	Defacer Eraser® Graffiti Wipe	Concentrate

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## **New Construction Cleaning**

These cleaning trials were conducted to determine the optimal concentration of cleaner to most efficiently remove Type S mortar from the submitted samples while providing the best color uniformity when compared to the uncleaned surface of the submitted concrete brick.

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### **Description of Products Evaluated – New Construction Cleaning**

**Sure Klean® Custom Masonry Cleaner** – A general purpose, concentrated acidic cleaner for most custom masonry and colored concrete. Removes concrete splashes, excess mortar, mud, heavy efflorescence and surface soiling, leaving the masonry clean and uniform with no acid burning or streaking. Liquid concentrate for dilution with 2-6 parts water. Apply by brush or low-pressure spray.

**Sure Klean® Concrete Brick Cleaner** – Removes common construction and atmospheric staining from concrete brick and other architectural concrete surfaces. This general-purpose, non-etching, acidic cleaner removes rust, mud, oil, atmospheric dirt, mortar smears and other stains without altering the surface texture. Concrete Brick Cleaner adds depth to colors and brightens white matrices and exposed aggregate.

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### **Sample Preparation – New Construction Cleaning**

Type S mortar was prepared in compliance with the manufacturer's instructions, applied to the samples' surfaces and allowed to cure for 3, 7, and 14 days. Mortar removal was accomplished using chemical assistance and a high-pressure water rinse with pressure rinsing equipment. The removal of Type S masonry mortar was visually evaluated after 3, 7, and 14 days of curing. A visual examination was also made to determine the optimal dilution of the tested cleaners that provide the best color uniformity when compared to the uncleaned surface of the submitted concrete brick.

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### **Test Method – New Construction Cleaning**

Chemical cleaners were evaluated using the following procedure:

1. Pre-wet the surface with water.
2. Apply at the appropriate dilutions.
3. Allow appropriate dwell time, as specified.
 

Sure Klean® Custom Masonry Cleaner.....	3 minutes
Sure Klean® Concrete Brick Cleaner .....	3-5 minutes
4. Reapply the product and moderately agitate with a brush.
5. Pressure rinse thoroughly.\*
6. Allow the sample to dry for at least 18 hours and visually examine.
7. Visually compare the color of the cleaned surfaces of the concrete brick to an uncleaned surface for the best match.

**\*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 – New Construction Cleaning****Cleaning Effectiveness (% Type S Mortar Removal)**

<b>“Autumn Fire” Concrete Brick</b>				
<b>Product</b>	<b>Dilution</b>	<b>3 day</b>	<b>7 day</b>	<b>14 day</b>
Sure Klean® Concrete Brick Cleaner	1:2	100%	100%	100%
Sure Klean® Concrete Brick Cleaner	1:3	100%	100%	100%
Sure Klean® Custom Masonry Cleaner	1:6	100%	100%	100%
<b>“Desert Storm” Concrete Brick</b>				
<b>Product</b>	<b>Dilution</b>	<b>3 day</b>	<b>7 day</b>	<b>14 day</b>
Sure Klean® Concrete Brick Cleaner	1:2	100%	100%	100%
Sure Klean® Concrete Brick Cleaner	1:3	100%	100%	100%
Sure Klean® Custom Masonry Cleaner	1:6	100%	100%	100%
<b>“Red Clay” Concrete Brick</b>				
<b>Product</b>	<b>Dilution</b>	<b>3 day</b>	<b>7 day</b>	<b>14 day</b>
Sure Klean® Concrete Brick Cleaner	1:2	100%	100%	100%
Sure Klean® Concrete Brick Cleaner	1:3	100%	100%	100%
Sure Klean® Custom Masonry Cleaner	1:6	100%	100%	100%
<b>“Red River” Concrete Brick</b>				
<b>Product</b>	<b>Dilution</b>	<b>3 day</b>	<b>7 day</b>	<b>14 day</b>
Sure Klean® Concrete Brick Cleaner	1:2	100%	100%	100%
Sure Klean® Concrete Brick Cleaner	1:3	100%	100%	100%
Sure Klean® Custom Masonry Cleaner	1:6	100%	100%	100%
<b>“Smoke” Concrete Brick</b>				
<b>Product</b>	<b>Dilution</b>	<b>3 day</b>	<b>7 day</b>	<b>14 day</b>
Sure Klean® Concrete Brick Cleaner	1:2	100%	100%	100%
Sure Klean® Concrete Brick Cleaner	1:3	100%	100%	100%
Sure Klean® Custom Masonry Cleaner	1:6	100%	100%	100%

**Test Results – Color Uniformity**

<b>Substrate: Concrete Brick</b>		<b>Pigment Color: “Autumn Fire”</b>		
<b>Product</b>	<b>Dilution</b>	<b>Aggregate Exposure</b>	<b>Surface Pigment Alteration/Removal</b>	
Sure Klean® Concrete Brick Cleaner	1:2	4	4	
Sure Klean® Concrete Brick Cleaner	1:3	4	4	
Sure Klean® Custom Masonry Cleaner	1:6	3	3	
<b>Substrate: Concrete Brick</b>		<b>Pigment Color: “Desert Storm”</b>		
<b>Product</b>	<b>Dilution</b>	<b>Aggregate Exposure</b>	<b>Surface Pigment Alteration/Removal</b>	
Sure Klean® Concrete Brick Cleaner	1:2	4	4	
Sure Klean® Concrete Brick Cleaner	1:3	4	4	
Sure Klean® Custom Masonry Cleaner	1:6	3	3	

Scale used for reporting results of both categories:

- 0 – **Worst** match to uncleaned surface    3 – **Good** match to uncleaned surface  
 1 – **Poor** match to uncleaned surface    4 – **Best** match to uncleaned surface  
 2 – **Fair** match to uncleaned surface

**Test Results – Color Uniformity**

<b>Substrate:</b> Concrete Brick		<b>Pigment Color:</b> “Red Clay”		
Product	Dilution	Aggregate Exposure	Surface Pigment Alteration/Removal	
Sure Klean® Concrete Brick Cleaner	1:2	4	4	
Sure Klean® Concrete Brick Cleaner	1:3	4	4	
Sure Klean® Custom Masonry Cleaner	1:6	3	3	
<b>Substrate:</b> Concrete Brick		<b>Pigment Color:</b> “Red River”		
Product	Dilution	Aggregate Exposure	Surface Pigment Alteration/Removal	
Sure Klean® Concrete Brick Cleaner	1:2	4	4	
Sure Klean® Concrete Brick Cleaner	1:3	4	4	
Sure Klean® Custom Masonry Cleaner	1:6	3	3	
<b>Substrate:</b> Concrete Brick		<b>Pigment Color:</b> “Smoke”		
Product	Dilution	Aggregate Exposure	Surface Pigment Alteration/Removal	
Sure Klean® Concrete Brick Cleaner	1:2	4	4	
Sure Klean® Concrete Brick Cleaner	1:3	4	4	
Sure Klean® Custom Masonry Cleaner	1:6	3	3	

Scale used for reporting results of both categories:

- 0 – **Worst** match to uncleaned surface
- 1 – **Poor** match to uncleaned surface
- 2 – **Fair** match to uncleaned surface
- 3 – **Good** match to uncleaned surface
- 4 – **Best** match to uncleaned surface

**Photographs – New Construction Cleaning**

“Smoke” Concrete Brick; 3 Day Cleaning

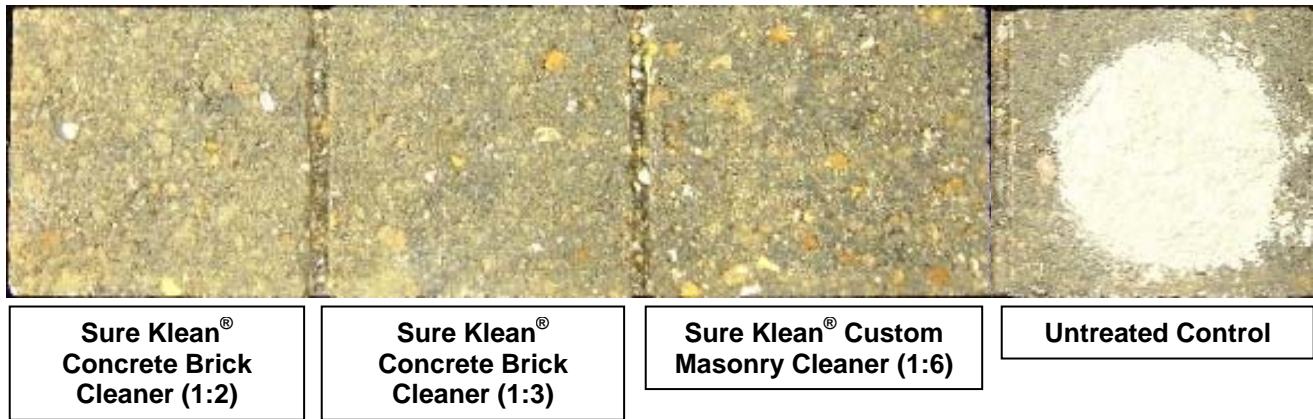


**Photographs – New Construction Cleaning**

**“Smoke” Concrete Brick; 7 Day Cleaning**



**“Smoke” Concrete Brick; 14 Day Cleaning**



**Photographs – Color Uniformity**

**“Smoke” Concrete Brick; Color Uniformity**



**Conclusions – New Construction Cleaning**

Based on the test results, all of the PROSOCO, Inc. products tested performed well in removing excess Type S mortar from the submitted samples even after allowing the mortar to remain on the surface of the samples for 14 days.

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

**NOTE:** Based on lab tests and conversations with the manufacturer, Sure Klean® Concrete Brick Cleaner diluted with two or three parts water, and Sure Klean® Custom Masonry Cleaner diluted with six parts water can be recommended for new construction cleaning operations.

**Recommendations – New Construction Cleaning**

Recommendations for cleaning for each type of concrete brick submitted by Red River Concrete Products, Clarksville, TN are provided in the chart below. Recommendations are based on the optimum dilution for complete removal of mortar while providing the best match to the uncleaned surface of the concrete brick.

Sample	New Construction Cleaning (Type S mortar, 14 day cleaning)
All Submitted Concrete Brick	Sure Klean® Concrete Brick Cleaner (1:2) OR (1:3) OR Sure Klean® Custom Masonry Cleaner (1:6)

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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## **Protective Water Repellents**

The testing described below evaluates the suitability of water repellent treatments.

The surface treatments evaluated were selected for their suitability for application based on the following selection criteria:

1. Weatherproofing properties
  2. Color change
  3. Ease of application
- 

## **Description of Products Evaluated – Protective Water Repellents**

**Sure Klean® Custom Masonry Sealer** – A clear, solvent-based silicone elastomer formulated to weatherproof custom masonry units, cast stone, architectural concrete block, pre-cast concrete, wood and porous masonry. Custom Masonry Sealer penetrates and fills pores to prevent water penetration through exterior walls exposed to normal weathering.

**Sure Klean® Weather Seal Blok-Guard® & Graffiti Control II** – A clear-drying, water-based silicone emulsion for weatherproofing concrete block and other porous masonry materials. Blok-Guard® & Graffiti Control II also protects masonry surfaces from graffiti attacks without altering the natural appearance. Blok-Guard® & Graffiti Control II protects exterior walls exposed to normal weathering. Graffiti removal from treated surfaces is fast and easy using Defacer Eraser® Graffiti Wipe. Blok-Guard® & Graffiti Control II is easy to apply with low-pressure spray, brush or roller.

**Sure Klean® Weather Seal Siloxane WB Concentrate** – A self-emulsifying water repellent concentrate designed for dilution with fresh water at the job site. This solvent-free blend of silanes and oligomeric alkoxy siloxanes mixes easily with water to produce a penetrating water repellent ideal for application to dense or porous masonry surfaces.

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## **Sample Preparation – Protective Water Repellents**

The submitted samples were scored and allowed to dry for 24 hours prior to treatment. All treatments were applied by brush in accordance with the current PROSOCO, Inc. Product Data Sheet application instructions. All treatments were allowed to cure for at least 72 hours prior to testing.

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## **Test Methods – Protective Water Repellents**

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

The water absorption tube test simulating wind driven rain conditions was performed. This test simulates 60 mile per hour wind driven rain conditions for a period of 20 minutes. See Technical Services TECH Note RILEM Tube Test Procedures.

**Test Results – Protective Water Repellents****Water Absorption Tube Test: RILEM II.4, 60 mph, 20 Minutes****RESULTS**

<b>“Autumn Fire” Concrete Brick</b>	
Untreated Control	59 mph
Sure Klean® Custom Masonry Sealer	60 mph
Sure Klean® Weather Seal Blok-Guard® & Graffiti Control II	60 mph
Sure Klean® Weather Seal Siloxane WB (1:9)	60 mph
<b>“Desert Storm” Concrete Brick</b>	
Untreated Control	59 mph
Sure Klean® Custom Masonry Sealer	60 mph
Sure Klean® Weather Seal Blok-Guard® & Graffiti Control II	60 mph
Sure Klean® Weather Seal Siloxane WB (1:9)	60 mph
<b>“Red Clay” Concrete Brick</b>	
Untreated Control	52 mph
Sure Klean® Custom Masonry Sealer	60 mph
Sure Klean® Weather Seal Blok-Guard® & Graffiti Control II	60 mph
Sure Klean® Weather Seal Siloxane WB (1:9)	60 mph
<b>“Red River” Concrete Brick</b>	
Untreated Control	48 mph
Sure Klean® Custom Masonry Sealer	60 mph
Sure Klean® Weather Seal Blok-Guard® & Graffiti Control II	60 mph
Sure Klean® Weather Seal Siloxane WB (1:9)	60 mph
<b>“Smoke” Concrete Brick</b>	
Untreated Control	47 mph
Sure Klean® Custom Masonry Sealer	60 mph
Sure Klean® Weather Seal Blok-Guard® & Graffiti Control II	60 mph
Sure Klean® Weather Seal Siloxane WB (1:9)	60 mph

**Photographs – Protective Water Repellents**

**“Red River” Concrete Brick; RILEM II.4, 60 mph, 20 Minutes**

**Conclusions – Protective Water Repellents**

Based upon laboratory evaluations, all of the PROSOCO, Inc. products tested provided excellent water repellency to each of the submitted samples. In addition, Sure Klean® Custom Masonry Sealer and Sure Klean® Weather Seal Blok-Guard® & Graffiti Control II provided a slight color enhancement to the submitted samples. Sure Klean® Weather Seal Siloxane WB Concentrate diluted with nine parts water did not alter the appearance of the samples in any way.

**Recommendations – Protective Water Repellents**

Recommendations for water repellency for each type of concrete brick submitted by Red River Concrete Products, Clarksville, TN are provided in the chart below. Recommendations are based on the treatment(s) that proved most effective at providing water repellency on all types submitted.

Sample	Protective Water Repellents
All Submitted Concrete Brick	*Sure Klean® Custom Masonry Sealer OR Sure Klean® Weather Seal Blok-Guard® & Graffiti Control II OR Sure Klean® Weather Seal Siloxane WB Concentrate (1:9)

**\*NOTE:** Sure Klean® Custom Masonry Sealer is manufactured and marketed in compliance with USEPA AIM VOC regulations (40 CFR 59.403). This product may not be suitable for sale in states and districts with more restrictive AIM VOC regulations.

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 water repellent product and procedures for a particular project. See product literature for additional application and product information.

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## **Graffiti Control**

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

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### **Description of Products Evaluated – Graffiti Control**

#### **Graffiti Control Treatments**

**Sure Klean® Custom Masonry Sealer** – A clear, solvent-based silicone elastomer formulated to weatherproof custom masonry units, cast stone, architectural concrete block, pre-cast concrete, wood and porous masonry. Custom Masonry Sealer penetrates and fills pores to prevent water penetration through exterior walls exposed to normal weathering.

**Sure Klean® Weather Seal Blok-Guard® & Graffiti Control II** – A clear-drying, water-based silicone emulsion for weatherproofing concrete block and other porous masonry materials. Blok-Guard® & Graffiti Control II also protects masonry surfaces from graffiti attacks without altering the natural appearance. Blok-Guard® & Graffiti Control II protects exterior walls exposed to normal weathering. Graffiti removal from treated surfaces is fast and easy using Defacer Eraser® Graffiti Wipe. Blok-Guard® & Graffiti Control II is easy to apply with low-pressure spray, brush or roller.

#### **Products Evaluated for Graffiti Removal**

**Defacer Eraser® Graffiti Wipe** – An easy-to-use graffiti remover that does not contain methanol, methylene chloride or other halogenated solvents prohibited on many projects. Graffiti Wipe removes a variety of graffiti stains from most smooth masonry, split-face concrete block, wood and metal surfaces.

**Sure Klean® Fast Acting Stripper** – A thixotropic stripping compound formulated specifically for removal of high strength paints and coatings such as epoxies, polyurethanes, and floor enamels. Additionally, Fast Acting Stripper dissolves most spray paints, marking pens, lacquers and other graffiti.

#### **Graffiti Agents**

Interior/Exterior Spray Paint (Red)  
Permanent Marker (Green)  
Permanent Marker (Red)  
Permanent Marker (Black)

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### **Sample Preparation – Graffiti Control**

Sections of the concrete block samples were treated with Sure Klean® Custom Masonry Sealer and Sure Klean® Weather Seal Blok-Guard® & Graffiti Control II, in accordance with the current PROSOCO, Inc. Product Data Sheet application instructions and were then allowed to cure for at least one day. At the end of the cure period, a visual adverse effects evaluation was made and then the graffiti agents were applied to the substrates.

Spray paint and markers were applied as graffiti agents to all treated surfaces no sooner than one day following application of Sure Klean® Custom Masonry Sealer 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 Defacer Eraser® Graffiti Wipe and Sure Klean® Fast Acting Stripper.

**Test Method – Graffiti Control**

Chemical cleaners were evaluated using the following procedure:

1. Apply the product to a dry surface, soiled with graffiti.
2. Allow appropriate dwell time:
  - Graffiti Wipe .....5 minutes
  - Fast Acting Stripper .....20 minutes
3. Pressure 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 – Graffiti Control**

<b>“Autumn Fire” Concrete Brick</b>					
<b>Untreated Control</b>	<b>Red Paint</b>	<b>Black Marker</b>	<b>Green Marker</b>	<b>Red Marker</b>	<b>% Avg. Removal</b>
Fast Acting Stripper	75%	95%	20%	90%	<b>70%</b>
Graffiti Wipe	85%	40%	20%	70%	<b>54%</b>
<b>Custom Masonry Sealer</b>	<b>Red Paint</b>	<b>Black Marker</b>	<b>Green Marker</b>	<b>Red Marker</b>	<b>% Avg. Removal</b>
Fast Acting Stripper	95%	100%	90%	98%	<b>96%</b>
Graffiti Wipe	98%	95%	90%	98%	<b>95%</b>
<b>Blok-Guard® &amp; Graffiti Control II</b>	<b>Red Paint</b>	<b>Black Marker</b>	<b>Green Marker</b>	<b>Red Marker</b>	<b>% Avg. Removal</b>
Fast Acting Stripper	99%	100%	80%	98%	<b>94%</b>
Graffiti Wipe	99%	80%	60%	80%	<b>80%</b>
<b>“Desert Storm” Concrete Brick</b>					
<b>Untreated Control</b>	<b>Red Paint</b>	<b>Black Marker</b>	<b>Green Marker</b>	<b>Red Marker</b>	<b>% Avg. Removal</b>
Fast Acting Stripper	90%	90%	80%	90%	<b>88%</b>
Graffiti Wipe	60%	10%	20%	50%	<b>35%</b>
<b>Custom Masonry Sealer</b>	<b>Red Paint</b>	<b>Black Marker</b>	<b>Green Marker</b>	<b>Red Marker</b>	<b>% Avg. Removal</b>
Fast Acting Stripper	95%	95%	90%	90%	<b>93%</b>
Graffiti Wipe	99%	85%	70%	80%	<b>84%</b>
<b>Blok-Guard® &amp; Graffiti Control II</b>	<b>Red Paint</b>	<b>Black Marker</b>	<b>Green Marker</b>	<b>Red Marker</b>	<b>% Avg. Removal</b>
Fast Acting Stripper	95%	95%	85%	90%	<b>91%</b>
Graffiti Wipe	99%	85%	70%	80%	<b>84%</b>
<b>“Red Clay” Concrete Brick</b>					
<b>Untreated Control</b>	<b>Red Paint</b>	<b>Black Marker</b>	<b>Green Marker</b>	<b>Red Marker</b>	<b>% Avg. Removal</b>
Fast Acting Stripper	85%	95%	90%	90%	<b>90%</b>
Graffiti Wipe	10%	10%	30%	70%	<b>30%</b>
<b>Custom Masonry Sealer</b>	<b>Red Paint</b>	<b>Black Marker</b>	<b>Green Marker</b>	<b>Red Marker</b>	<b>% Avg. Removal</b>
Fast Acting Stripper	99%	100%	90%	100%	<b>97%</b>
Graffiti Wipe	99%	90%	90%	100%	<b>95%</b>
<b>Blok-Guard® &amp; Graffiti Control II</b>	<b>Red Paint</b>	<b>Black Marker</b>	<b>Green Marker</b>	<b>Red Marker</b>	<b>% Avg. Removal</b>
Fast Acting Stripper	98%	100%	95%	100%	<b>98%</b>
Graffiti Wipe	99%	80%	80%	80%	<b>85%</b>

**Test Results – Graffiti Control**

<b>“Red River” Concrete Brick</b>					
<b>Untreated Control</b>	<b>Red Paint</b>	<b>Black Marker</b>	<b>Green Marker</b>	<b>Red Marker</b>	<b>% Avg. Removal</b>
Fast Acting Stripper	90%	90%	70%	80%	<b>83%</b>
Graffiti Wipe	70%	10%	70%	80%	<b>58%</b>
<b>Custom Masonry Sealer</b>	<b>Red Paint</b>	<b>Black Marker</b>	<b>Green Marker</b>	<b>Red Marker</b>	<b>% Avg. Removal</b>
Fast Acting Stripper	95%	100%	100%	100%	<b>99%</b>
Graffiti Wipe	99%	100%	100%	100%	<b>100%</b>
<b>Blok-Guard® &amp; Graffiti Control II</b>	<b>Red Paint</b>	<b>Black Marker</b>	<b>Green Marker</b>	<b>Red Marker</b>	<b>% Avg. Removal</b>
Fast Acting Stripper	99%	100%	90%	100%	<b>97%</b>
Graffiti Wipe	99%	95%	90%	90%	<b>94%</b>
<b>“Smoke” Concrete Brick</b>					
<b>Untreated Control</b>	<b>Red Paint</b>	<b>Black Marker</b>	<b>Green Marker</b>	<b>Red Marker</b>	<b>% Avg. Removal</b>
Fast Acting Stripper	95%	90%	70%	95%	<b>88%</b>
Graffiti Wipe	90%	60%	70%	80%	<b>75%</b>
<b>Custom Masonry Sealer</b>	<b>Red Paint</b>	<b>Black Marker</b>	<b>Green Marker</b>	<b>Red Marker</b>	<b>% Avg. Removal</b>
Fast Acting Stripper	98%	100%	100%	100%	<b>100%</b>
Graffiti Wipe	100%	100%	100%	100%	<b>100%</b>
<b>Blok-Guard® &amp; Graffiti Control II</b>	<b>Red Paint</b>	<b>Black Marker</b>	<b>Green Marker</b>	<b>Red Marker</b>	<b>% Avg. Removal</b>
Fast Acting Stripper	99%	100%	90%	100%	<b>97%</b>
Graffiti Wipe	100%	90%	90%	90%	<b>93%</b>

**Photographs – Graffiti Control**

**“Red Clay” Concrete Brick; Before Graffiti Removal**

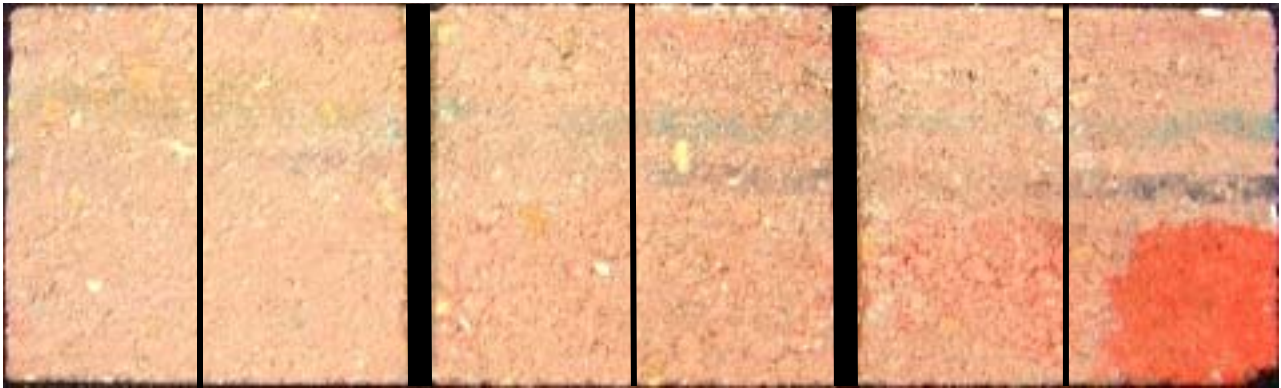


**Sure Klean® Custom  
Masonry Sealer**

**Sure Klean® Weather Seal  
Blok-Guard® & Graffiti  
Control II**

**Untreated Control**

**“Red Clay” Concrete Brick; After Graffiti Removal**



**Sure Klean®  
Fast Acting  
Stripper**

**Defacer  
Eraser®  
Graffiti Wipe**

**Sure Klean®  
Fast Acting  
Stripper**

**Defacer  
Eraser®  
Graffiti Wipe**

**Sure Klean®  
Fast Acting  
Stripper**

**Defacer  
Eraser®  
Graffiti Wipe**

**Sure Klean® Custom  
Masonry Sealer**

**Sure Klean® Weather Seal  
Blok-Guard® & Graffiti  
Control II**

**Untreated Control**

**Conclusions – Graffiti Control**

Based upon laboratory evaluations, graffiti removal was improved when the submitted samples were treated with Sure Klean® Custom Masonry Sealer and Sure Klean® Weather Seal Blok-Guard® & Graffiti Control II prior to graffiti application. In addition, both treatments provided a slight color enhancement to the submitted samples.

**Recommendations – Graffiti Control**

Recommendations for graffiti control treatment for each type of concrete brick submitted by Red River Concrete Products, Clarksville, TN are provided in the chart below. Recommendations are based on the treatment that proved most effective for providing graffiti repellency and the product that was most effective at removing the graffiti on all types submitted.

Sample	Graffiti Repellents	Graffiti Removers
All Submitted Concrete Brick	*Sure Klean® Custom Masonry Sealer OR Sure Klean® Weather Seal Blok-Guard® & Graffiti Control II	Defacer Eraser® Graffiti Wipe OR Sure Klean® Fast Acting Stripper

**\*NOTE:** Sure Klean® Custom Masonry Sealer is manufactured and marketed in compliance with USEPA AIM VOC regulations (40 CFR 59.403). This product may not be suitable for sale in states and districts with more restrictive AIM VOC regulations.

Apply all products in accordance with the manufacturer's recommendation provided on container labels and product data sheets. Because the severity of graffiti varies from location to location, on-site testing should be conducted to determine the most appropriate graffiti control product and procedure for a particular project.



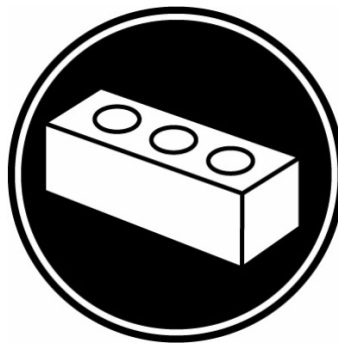
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CAM





***PALLET TAG PROGRAM***  
*Laboratory Report*

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