



# PALLET TAG PROGRAM LABORATORY REPORT



**PROSOCO, Inc.**

Page 1

## TABLE OF CONTENTS

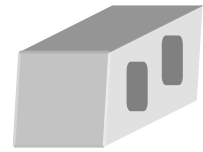
SAMPLES SUBMITTED .....	2
PURPOSE OF TEST .....	3
PRODUCTS EVALUATED .....	4
<b>SECTION A – CLEANING INTEGRALLY COLORED CMU’s</b>	
DESCRIPTION OF PRODUCTS EVALUATED .....	5
TEST METHOD .....	5
TEST RESULTS .....	6
PHOTOGRAPHS OF CMU CLEANING .....	8
CONCLUSIONS .....	11
RECOMMENDATIONS .....	11
<b>SECTION B – COLOR UNIFORMITY</b>	
DESCRIPTION OF PRODUCTS EVALUATED .....	12
TEST METHOD .....	12
TEST RESULTS .....	13
PHOTOGRAPHS OF CMU COLOR UNIFORMITY TESTING .....	15
CONCLUSIONS .....	16
RECOMMENDATIONS .....	16
<b>SECTION C - PROTECTIVE WATER REPELLENTS</b>	
DESCRIPTION OF PRODUCTS EVALUATED .....	17
TEST METHODS .....	17
TEST RESULTS .....	18
PHOTOGRAPHS OF CMU WATER REPELLENCY .....	19
CONCLUSIONS .....	20
RECOMMENDATIONS .....	20
<b>SECTION D – GRAFFITI CONTROL</b>	
DESCRIPTION OF PRODUCTS EVALUATED .....	21
TEST METHOD .....	22
TEST RESULTS .....	23
PHOTOGRAPH OF CMU GRAFFITI TESTING .....	25
CONCLUSIONS .....	26
RECOMMENDATIONS .....	26

## ATTACHMENTS

- Technical Services TECH Note RILEM Tube Test Procedures
- Product Data literature for all products evaluated



# PALLET TAG PROGRAM LABORATORY REPORT



**PROSOCO, Inc.**

**Page 2**

**FOR:** Ed Nagel  
**cc:** Paul Tessier

**SUBJECT:** Basalite Concrete Products, LLC.  
Denver, CO

**DATE:** August 12, 2004

**PROJECT:** PTP 0407-19

**SAMPLES SUBMITTED:** Six types of split-face CMU's, one type burnished CMU

Block	Color	Name	Size
"Split-face - Variegated" CMU	Dark Gray	"310"	16" x 8" x 8"
"Split-face - Fence Block" CMU	Orange	"385"	
"Split-face - Variegated" CMU	Red/brown	"426G"	
"Split-face" CMU	Light Gray	"530"	
"Split-face" CMU	White	"721"	
"Ground-face" CMU	Tan	"835"	
"Split-face" CMU	Red	"869"	

Submitted by: Ed Nagel



# PALLET TAG PROGRAM LABORATORY REPORT



**PROSOCO, Inc.**

**Page 3**

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## **PURPOSE OF TESTING:**

Six integrally colored split-face blocks and one integrally colored ground-face block, all with large, small and fine aggregate were submitted for testing using PROSOCO's new construction cleaning, water repellent products, and graffiti control products.

**A. Cleaning Concrete Masonry Units:** Sure Klean® Custom Masonry Cleaner and Sure Klean® Burnished Custom Masonry Cleaner were evaluated for removal of laboratory applied mortar.

To simulate new construction soiling, all concrete masonry units (CMU's) are placed on a bench with finished surface facing upward. Hollow cylinders measuring 50 mm in diameter and 75 mm tall are positioned on top of each CMU and filled with a wet mixture of Ash Grove® Type S mortar. The wet, mortar-filled cylinder is allowed to remain in contact with the CMU for 10 minutes before removal.

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

**B. Color Uniformity Testing\*** - Sure Klean® Custom Masonry Cleaner and Sure Klean® Burnished Custom Masonry Cleaner were evaluated at various dilutions to determine the optimal concentration of cleaner that leaves the external surface looking most like the natural through-body color of the CMU. 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 CMU.

Aggregate Exposure is the visual examination comparing aggregate exposure of the interior, through-body section of CMU 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 CMU 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  |                                       |

## **NOTE: When cleaning integrally colored CMU.**

Integrally colored concrete masonry units (CMU's) frequently have high amounts of pigments concentrated on the surface of the cured concrete unit. Variation of surface pigment concentrations from one CMU to the next creates a blotchy appearance in the completed wall. Allowed to remain on the surface of the CMU, the weakly bound pigment will weather and streak, further detracting from the appearance of the completed CMU wall.

In addition to removing excess mortar and construction related soiling, the goal of any cleaning operation undertaken on integrally colored CMU should include removal of unnaturally high concentrations of surface pigment. By revealing the natural through-body color on the integrally colored unit, the overall color uniformity and weathering resistance of the completed CMU wall is improved.

**C. Protective Water Repellents** – Sure Klean® Custom Masonry Sealer and Sure Klean® Weather Seal Siloxane WB Concentrate (1:9) were evaluated for their ability to provide water repellency to the submitted samples.

**D. Graffiti Control** – Sure Klean® Custom Masonry Sealer was evaluated for its 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.



# PALLET TAG PROGRAM LABORATORY REPORT



**PROSOCO, Inc.**

**Page 4**

## PRODUCTS EVALUATED FOR CLEANING AND COLOR UNIFORMITY

Block Type	Product	Dilution
All Submitted CMU's	Sure Klean® Custom Masonry Cleaner	1:2, 1:4, 1:6
	Sure Klean® Burnished Custom Masonry Cleaner	1:2, 1:3

## WATER REPELLENT PRODUCTS EVALUATED

Block Type	Product	Dilution
All Submitted CMU's	Sure Klean® Custom Masonry Sealer	Concentrate
	Sure Klean® Weather Seal Siloxane WB Concentrate	1:9

## GRAFFITI CONTROL PRODUCTS EVALUATED

Block Type	Product	Dilution
All Submitted CMU's	Sure Klean® Custom Masonry Sealer	Concentrate

## GRAFFITI REMOVAL PRODUCTS EVALUATED

Block Type	Product
All Submitted CMU's	Sure Klean® Fast Acting Stripper
	Defacer Eraser® Graffiti Wipe



# PALLET TAG PROGRAM LABORATORY REPORT



## SECTION A – CLEANING INTEGRALLY COLORED CMU's

### DESCRIPTION OF PRODUCTS EVALUATED

These cleaning trials were conducted to determine the optimal cleaning/cure time combination.

**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® Burnished Custom Masonry Cleaner** – A general purpose, non-etching acidic cleaner for most custom masonry and colored concrete. Removes rust, mud, oil, atmospheric dirt, mortar smears and other stains without altering the surface texture, while also adding depth to colors and brightening white matrices and exposed aggregate. Liquid concentrate for dilution with 2-3 parts water. Apply by brush or low-pressure spray.

### TEST METHOD – Cleaning

Dilution ratios refer to mixtures of parts concentrated cleaner : parts fresh water. Chemical cleaners were evaluated using the following procedure:

1. Pre-wet the surface with water.
2. Apply each cleaner at the appropriate dilutions.
3. Allow appropriate dwell time for each cleaner:
  - Custom Masonry Cleaner ..... 3 minutes
  - Burnished Custom Masonry Cleaner ..... 3-5 minutes
4. Reapply the products and moderately agitate with a brush.
5. Pressure rinse thoroughly.\*
6. Allow the surface to dry for at least 18 hours and visually examine.

\*Pressure rinsing was conducted at approximately 1300 psi with a warm water flow rate of 1.9 gallons per minute.



# PALLET TAG PROGRAM LABORATORY REPORT



**PROSOCO, Inc.**

Page 6

**TEST RESULTS – Cleaning**

**% Removal of Type S Mortar**

<b>“310 Split-face – Variegated” CMU</b>				
<b>Product</b>	<b>Dilution</b>	<b>3 day</b>	<b>7 day</b>	<b>14 day</b>
Custom Masonry Cleaner	1:2	95%	95%	90%
Custom Masonry Cleaner	1:4	90%	90%	90%
Custom Masonry Cleaner	1:6	95%	95%	85%
Burnished Custom Masonry Cleaner	1:2	90%	80%	85%
Burnished Custom Masonry Cleaner	1:3	90%	80%	85%
<b>“385 Split-face – Fence Block” CMU</b>				
<b>Product</b>	<b>Dilution</b>	<b>3 day</b>	<b>7 day</b>	<b>14 day</b>
Custom Masonry Cleaner	1:2	95%	90%	75%
Custom Masonry Cleaner	1:4	90%	80%	75%
Custom Masonry Cleaner	1:6	90%	90%	75%
Burnished Custom Masonry Cleaner	1:2	90%	90%	80%
Burnished Custom Masonry Cleaner	1:3	80%	90%	80%
<b>“426G Split-face – Variegated” CMU</b>				
<b>Product</b>	<b>Dilution</b>	<b>3 day</b>	<b>7 day</b>	<b>14 day</b>
Custom Masonry Cleaner	1:2	80%	70%	70%
Custom Masonry Cleaner	1:4	85%	70%	70%
Custom Masonry Cleaner	1:6	85%	70%	70%
Burnished Custom Masonry Cleaner	1:2	80%	65%	65%
Burnished Custom Masonry Cleaner	1:3	80%	65%	65%
<b>“530 Split-face” CMU</b>				
<b>Product</b>	<b>Dilution</b>	<b>3 day</b>	<b>7 day</b>	<b>14 day</b>
Custom Masonry Cleaner	1:2	90%	90%	85%
Custom Masonry Cleaner	1:4	90%	80%	80%
Custom Masonry Cleaner	1:6	90%	80%	80%
Burnished Custom Masonry Cleaner	1:2	90%	85%	85%
Burnished Custom Masonry Cleaner	1:3	95%	80%	85%



# PALLET TAG PROGRAM LABORATORY REPORT



PROSOCO, Inc.

Page 7

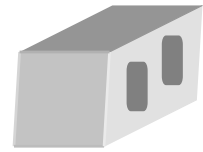
## TEST RESULTS – Cleaning

### % Removal of Type S Mortar

<b>“721 Split-face” CMU</b>				
<b>Product</b>	<b>Dilution</b>	<b>3 day</b>	<b>7 day</b>	<b>14 day</b>
Custom Masonry Cleaner	1:2	98%	98%	95%
Custom Masonry Cleaner	1:4	98%	95%	85%
Custom Masonry Cleaner	1:6	98%	95%	85%
Burnished Custom Masonry Cleaner	1:2	98%	95%	85%
Burnished Custom Masonry Cleaner	1:3	95%	80%	85%
<b>“835 Ground-face” CMU</b>				
<b>Product</b>	<b>Dilution</b>	<b>3 day</b>	<b>7 day</b>	<b>14 day</b>
Custom Masonry Cleaner	1:2	90%	90%	95%
Custom Masonry Cleaner	1:4	90%	80%	95%
Custom Masonry Cleaner	1:6	90%	80%	90%
Burnished Custom Masonry Cleaner	1:2	90%	85%	95%
Burnished Custom Masonry Cleaner	1:3	95%	80%	95%
<b>“869 Split-face” CMU</b>				
<b>Product</b>	<b>Dilution</b>	<b>3 day</b>	<b>7 day</b>	<b>14 day</b>
Custom Masonry Cleaner	1:2	98%	95%	85%
Custom Masonry Cleaner	1:4	95%	90%	85%
Custom Masonry Cleaner	1:6	95%	90%	85%
Burnished Custom Masonry Cleaner	1:2	98%	95%	85%
Burnished Custom Masonry Cleaner	1:3	90%	85%	85%



# PALLET TAG PROGRAM LABORATORY REPORT

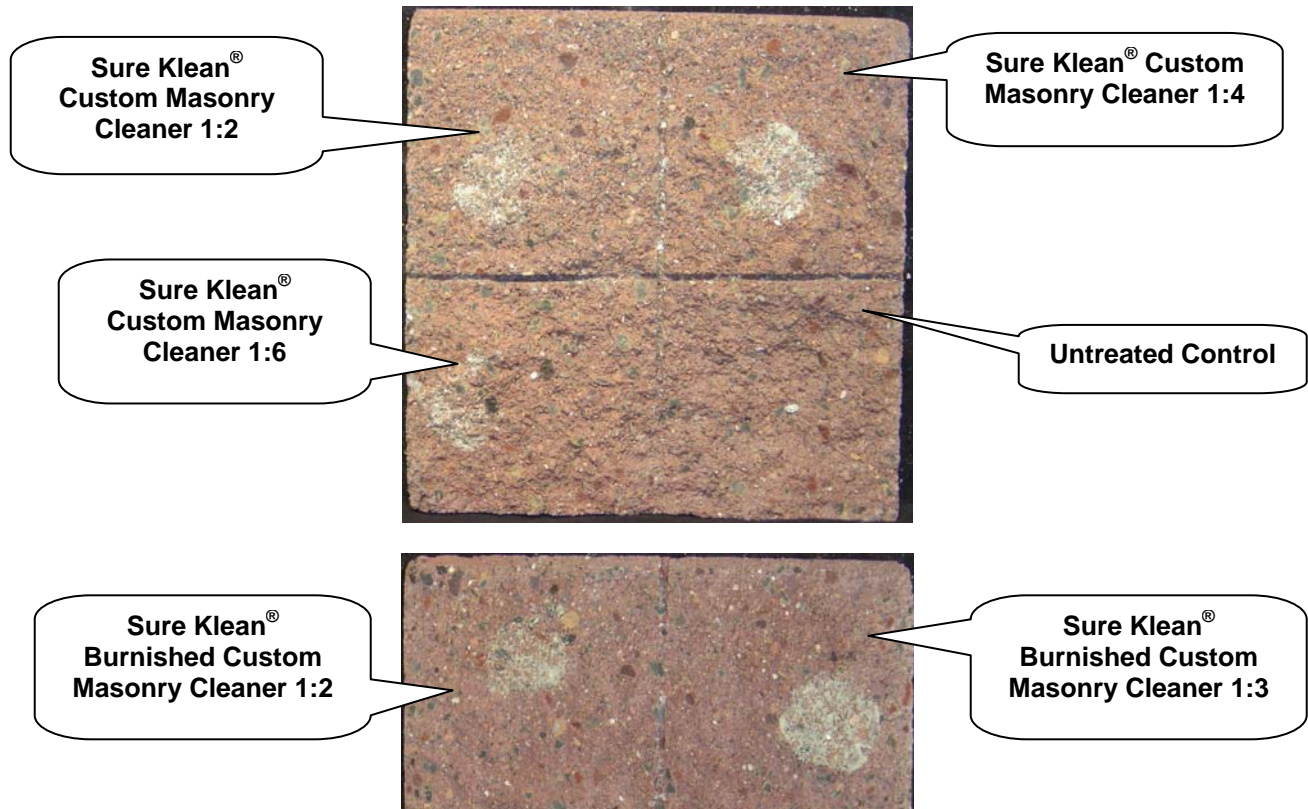


PROSOCO, Inc.

Page 8

## PHOTOGRAPHS- Cleaning

"869 Split-face" CMU; 3 Day Cleaning



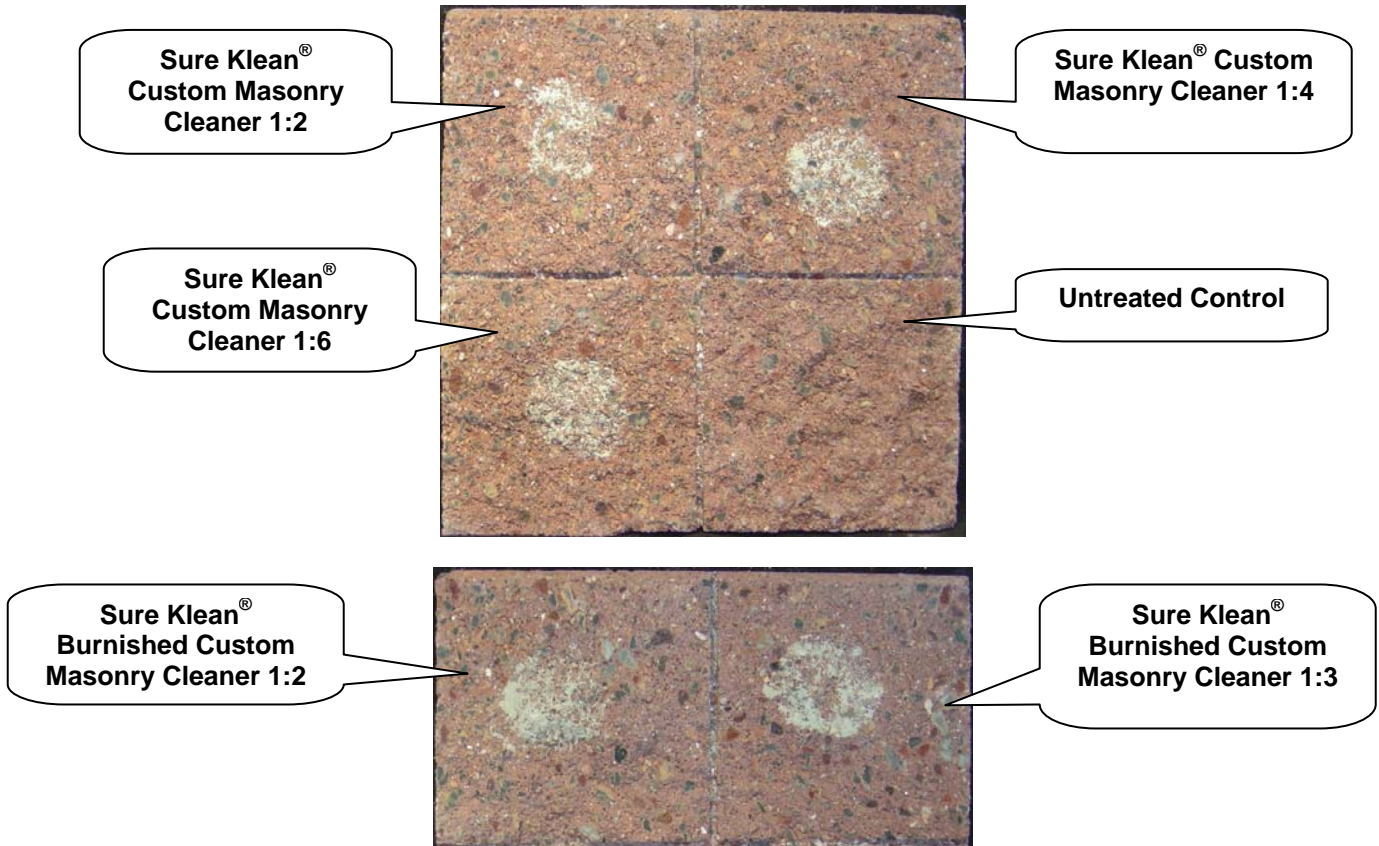




# PALLET TAG PROGRAM LABORATORY REPORT



## "869 Split-face" CMU; 7 Day Cleaning

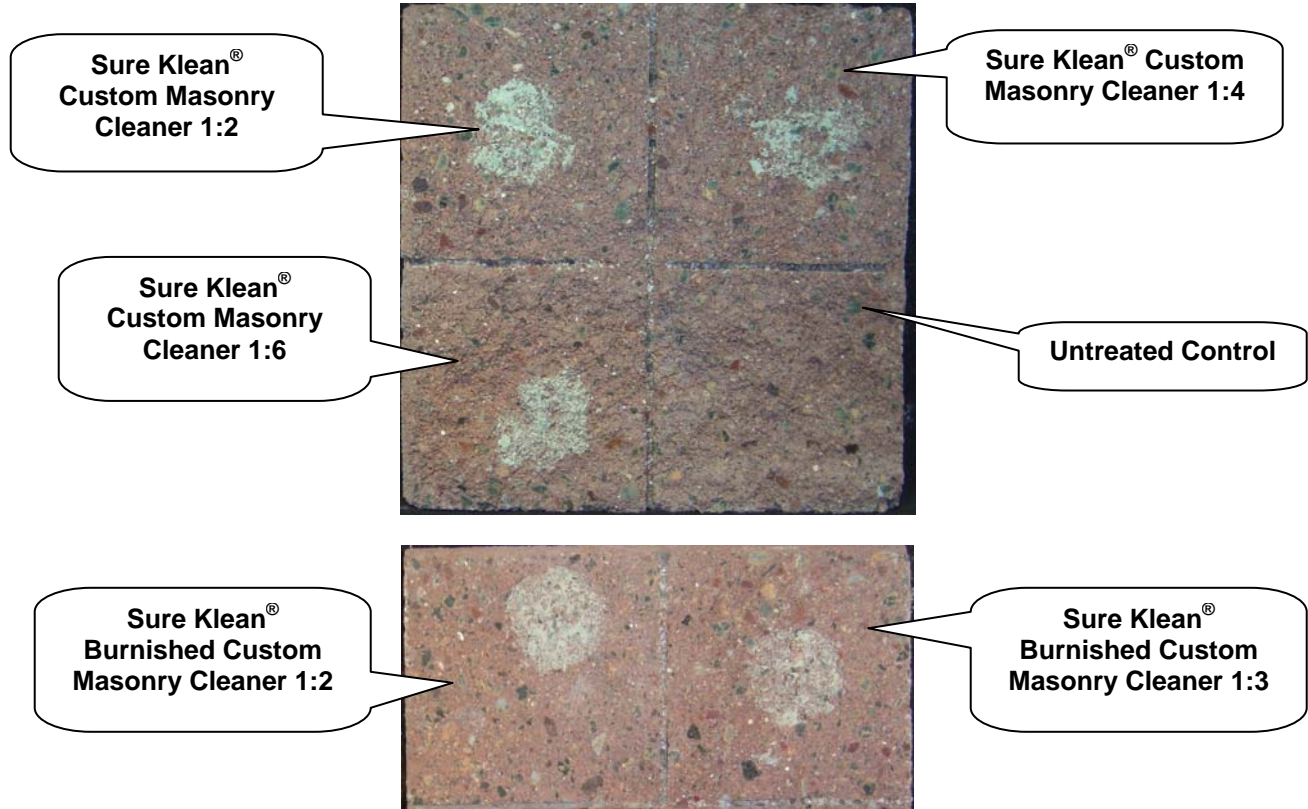




# PALLET TAG PROGRAM LABORATORY REPORT



## "869 Split-face" CMU; 14 Day Cleaning





# PALLET TAG PROGRAM LABORATORY REPORT



**PROSOCO, Inc.**

**Page 11**

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## CONCLUSIONS – Cleaning

Based on the test data, all of the submitted block samples were efficiently cleaned with a dilution of the selected PROSOCO Inc. cleaning product. Use higher concentrations and surface agitation to maximize aggregate exposure. Use low concentration and surface agitation to minimize aggregate exposure.

All dilutions of Sure Klean<sup>®</sup> Custom Masonry Cleaner and Sure Klean<sup>®</sup> Burnished Custom Masonry Cleaner tested affected the substrate in a similar manner, removing slight to heavy concentrations of pigmented matrix from the blocks, exposing small and large aggregate, and enhancing the natural appearance of the integrally colored concrete masonry unit.

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## RECOMMENDED PRODUCTS AND DILUTIONS – CLEANING

Recommendations for cleaning for each type of CMU submitted by Basalite Concrete Products, LLC., Denver, CO, are provided in the chart below. Recommendations are based on the optimum dilution for complete removal of mortar.

<b>Block</b>	<b>New Construction Cleaning (Type S mortar, 14 day)</b>
All "Split-face" CMU's	Sure Klean <sup>®</sup> Custom Masonry Cleaner (1:2)
"835 Ground-face" CMU	Sure Klean <sup>®</sup> Burnished Custom Masonry Cleaner (1:2)

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. Pressure rinsing equipment providing at least 400 psi at 4-6 gpm delivered through a 15-40 degree fan spray often produces best cleaning results.

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



# PALLET TAG PROGRAM LABORATORY REPORT



**SECTION B – COLOR UNIFORMITY:**

**DESCRIPTION OF PRODUCTS EVALUATED – Color Uniformity:**

**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® Burnished Custom Masonry Cleaner** – A general purpose, non-etching acidic cleaner for most custom masonry and colored concrete. Removes rust, mud, oil, atmospheric dirt, mortar smears and other stains without altering the surface texture, while also adding depth to colors and brightening white matrices and exposed aggregate. Liquid concentrate for dilution with 2-3 parts water. Apply by brush or low-pressure spray.

**TEST METHOD – Color Uniformity Testing:**

Dilution ratios refer to mixtures of parts concentrated cleaner: parts fresh water. Chemical cleaners were evaluated using the following procedure:

1. Prewet the surface with water.
2. Apply each cleaner at the appropriate dilutions.
3. Allow appropriate dwell time, as specified:
  - Custom Masonry Cleaner ..... 3 minutes
  - Burnished Custom Masonry Cleaner .....3-5 minutes
4. Reapply the products 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. Break the sample in half and compare the through-body surfaces to the cleaned surfaces for the best match.

\*Pressure rinsing was conducted at approximately 1300 psi with a warm water flow rate of 1.9 gallons per minute.



# PALLET TAG PROGRAM LABORATORY REPORT



**TEST RESULTS – Color Uniformity**

<b>Substrate: Split-face CMU</b>		<b>Pigment Color: "310 Variegated"</b>	
Product	Dilution	Aggregate Exposure	Surface Pigment Alteration/Removal
Custom Masonry Cleaner	1:2	4	4
Custom Masonry Cleaner	1:4	4	4
Custom Masonry Cleaner	1:6	4	4
Burnished Custom Masonry Cleaner	1:2	4	4
Burnished Custom Masonry Cleaner	1:3	4	4
<b>Substrate: Split-face CMU</b>		<b>Pigment Color: "385 Fence Block"</b>	
Product	Dilution	Aggregate Exposure	Surface Pigment Alteration/Removal
Custom Masonry Cleaner	1:2	4	4
Custom Masonry Cleaner	1:4	4	4
Custom Masonry Cleaner	1:6	4	4
Burnished Custom Masonry Cleaner	1:2	4	4
Burnished Custom Masonry Cleaner	1:3	4	4
<b>Substrate: Split-face CMU</b>		<b>Pigment Color: "426G Variegated"</b>	
Product	Dilution	Aggregate Exposure	Surface Pigment Alteration/Removal
Custom Masonry Cleaner	1:2	4	4
Custom Masonry Cleaner	1:4	4	4
Custom Masonry Cleaner	1:6	4	4
Burnished Custom Masonry Cleaner	1:2	4	4
Burnished Custom Masonry Cleaner	1:3	4	4
<b>Substrate: Split-face CMU</b>		<b>Pigment Color: "530"</b>	
Product	Dilution	Aggregate Exposure	Surface Pigment Alteration/Removal
Custom Masonry Cleaner	1:2	4	4
Custom Masonry Cleaner	1:4	4	4
Custom Masonry Cleaner	1:6	4	4
Burnished Custom Masonry Cleaner	1:2	4	4
Burnished Custom Masonry Cleaner	1:3	4	4

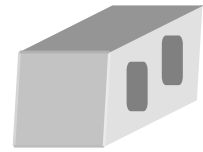
Scale used for reporting results of both categories

- 0 – **Worst** match to through-body
- 1 – **Poor** match to through-body
- 2 – **Fair** match to through-body

- 3 – **Good** match to through-body
- 4 – **Best** match to through-body



# PALLET TAG PROGRAM LABORATORY REPORT



**TEST RESULTS – Color Uniformity**

<b>Substrate: Split-face CMU</b>		<b>Pigment Color: "721"</b>	
Product	Dilution	Aggregate Exposure	Surface Pigment Alteration/Removal
Custom Masonry Cleaner	1:2	4	4
Custom Masonry Cleaner	1:4	4	4
Custom Masonry Cleaner	1:6	4	4
Burnished Custom Masonry Cleaner	1:2	4	4
Burnished Custom Masonry Cleaner	1:3	4	4
<b>Substrate: Ground-face CMU</b>		<b>Pigment Color: "835"</b>	
Product	Dilution	Aggregate Exposure	Surface Pigment Alteration/Removal
Custom Masonry Cleaner	1:2	4	4
Custom Masonry Cleaner	1:4	4	4
Custom Masonry Cleaner	1:6	4	4
Burnished Custom Masonry Cleaner	1:2	4	4
Burnished Custom Masonry Cleaner	1:3	4	4
<b>Substrate: Split-face CMU</b>		<b>Pigment Color: "869"</b>	
Product	Dilution	Aggregate Exposure	Surface Pigment Alteration/Removal
Custom Masonry Cleaner	1:2	4	4
Custom Masonry Cleaner	1:4	4	4
Custom Masonry Cleaner	1:6	4	4
Burnished Custom Masonry Cleaner	1:2	4	4
Burnished Custom Masonry Cleaner	1:3	4	4

Scale used for reporting results of both categories

- 0 – **Worst** match to through-body
- 1 – **Poor** match to through-body
- 2 – **Fair** match to through-body

- 3 – **Good** match to through-body
- 4 – **Best** match to through-body



# PALLET TAG PROGRAM LABORATORY REPORT



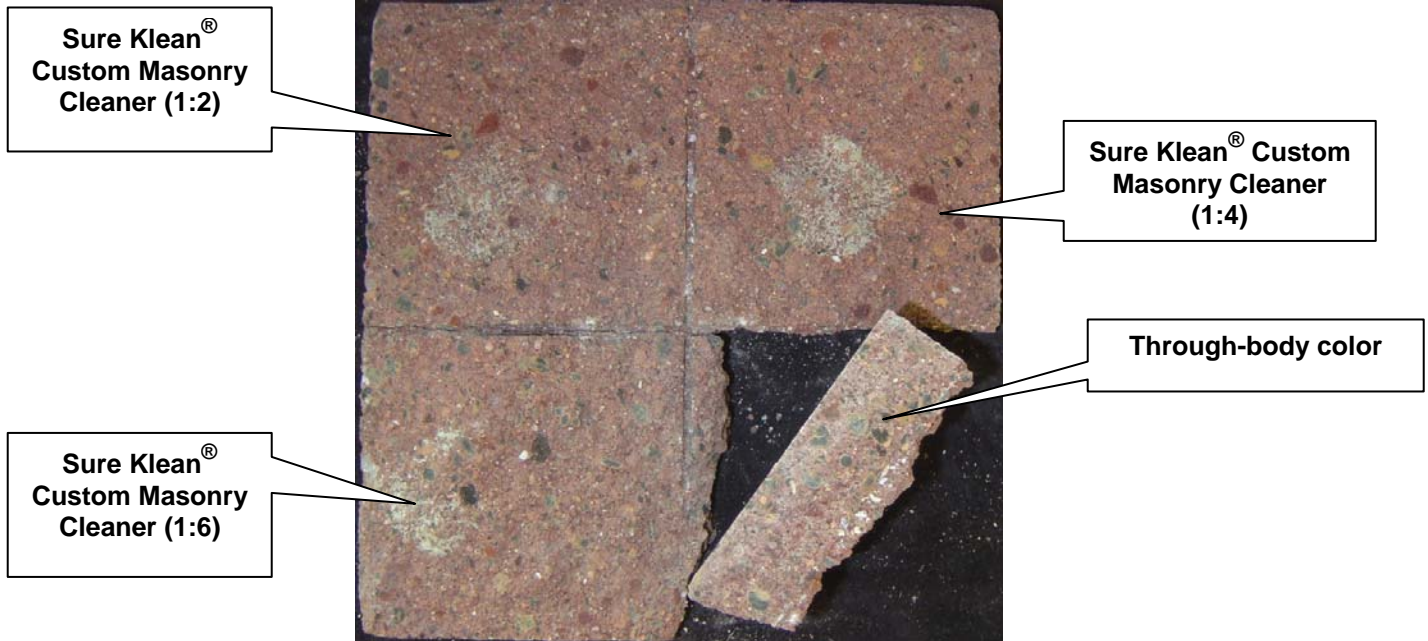
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Page 15

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## PHOTOGRAPHS – Color Uniformity

“869” Split-face; Through-body





# PALLET TAG PROGRAM LABORATORY REPORT



**PROSOCO, Inc.**

**Page 16**

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## CONCLUSIONS: COLOR UNIFORMITY:

All dilutions of Sure Klean<sup>®</sup> Custom Masonry Cleaner and Sure Klean<sup>®</sup> Burnished Custom Masonry Cleaner tested affected the substrate in a similar manner. Higher concentrations of cleaner removed moderate to heavy concentrations of pigmented matrix, exposing small and large aggregate. Lower concentrations of cleaner removed slight to moderate concentrations of pigmented matrix, exposing small and large aggregate. All dilutions enhanced the natural appearance of the integrally colored CMU.

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## RECOMMENDATIONS – COLOR UNIFORMITY

Recommendations for color uniformity for each type of CMU submitted by Basalite Concrete Products, LLC., Denver, CO, are provided in the chart below. Recommendations are based on the optimum dilution that provides the best color uniformity.

Block	Color Uniformity
All "Split-face" CMU's	Sure Klean <sup>®</sup> Custom Masonry Cleaner (1:2)
"835 Ground-face" CMU	Sure Klean <sup>®</sup> Burnished Custom Masonry Cleaner (1:2)

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. Pressure rinsing equipment providing at least 400 psi at 4-6 gpm delivered through a 15-40 degree fan spray often produces best cleaning results.

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





# PALLET TAG PROGRAM LABORATORY REPORT



**PROSOCO, Inc.**

**Page 17**

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## **SECTION C – 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

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## **DESCRIPTIONS OF PRODUCTS EVALUATED – Protective Water Repellents:**

**Sure Klean<sup>®</sup> Custom Masonry Sealer** – A clear, solvent-based silicone elastomer formulated to weatherproof custom masonry units, cast stone, architectural concrete block, precast 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<sup>®</sup> Weather Seal Siloxane WB Concentrate** – A concentrated water repellent designed for dilution with fresh water at the jobsite. This solvent-free blend of siloxanes and oligomeric alkoxy-siloxanes mixes easily with water to produce a penetrating water repellent ideal for application to dense or porous masonry surfaces. An effective alternative to conventional solvent-based silanes or siloxanes, Siloxane WB penetrates and chemically bonds deep within the masonry substrate to provide long-lasting protection against water-related staining or deterioration. Will not darken, produce a surface film or impair the natural breathing characteristics of treated surfaces.

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## **SAMPLE PREPARATION – Protective Water Repellents:**

The submitted blocks were scored, allowed to dry, and to reabsorb atmospheric humidity for 24 hours prior to treatment. The treatment method consisted of a wet-on-wet brush application. All treatments were allowed to cure at least 3 days prior to testing.

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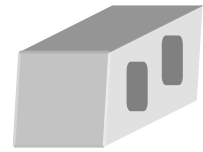
## **TEST METHODS – Protective Water Repellents:**

### **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.



# PALLET TAG PROGRAM LABORATORY REPORT



PROSOCO, Inc.

Page 18

## TEST RESULTS – Protective Water Repellents:

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

	RESULTS
<b>"310 Split-face Variegated" CMU</b>	
Untreated Control	< 40 mph
Custom Masonry Sealer	58 mph
Siloxane WB 1:9	56 mph
<b>"385 Split-face Fence Block" CMU</b>	
Untreated Control	< 40 mph
Custom Masonry Sealer	45 mph
Siloxane WB 1:9	58 mph
<b>"426G Split-face Variegated" CMU</b>	
Untreated Control	< 40 mph
Custom Masonry Sealer	57 mph
Siloxane WB 1:9	59 mph
<b>"530 Split-face" CMU</b>	
Untreated Control	< 40 mph
Custom Masonry Sealer	< 40 mph
Siloxane WB 1:9	60 mph
<b>"721 Split-face" CMU</b>	
Untreated Control	< 40 mph
Custom Masonry Sealer	59 mph
Siloxane WB 1:9	60 mph
<b>"835 Ground-face" CMU</b>	
Untreated Control	* < 40 mph
Custom Masonry Sealer	* < 40 mph
Siloxane WB 1:9	*56 mph
<b>"869 Split-face" CMU</b>	
Untreated Control	< 40 mph
Custom Masonry Sealer	60 mph
Siloxane WB 1:9	< 40 mph



# PALLET TAG PROGRAM LABORATORY REPORT



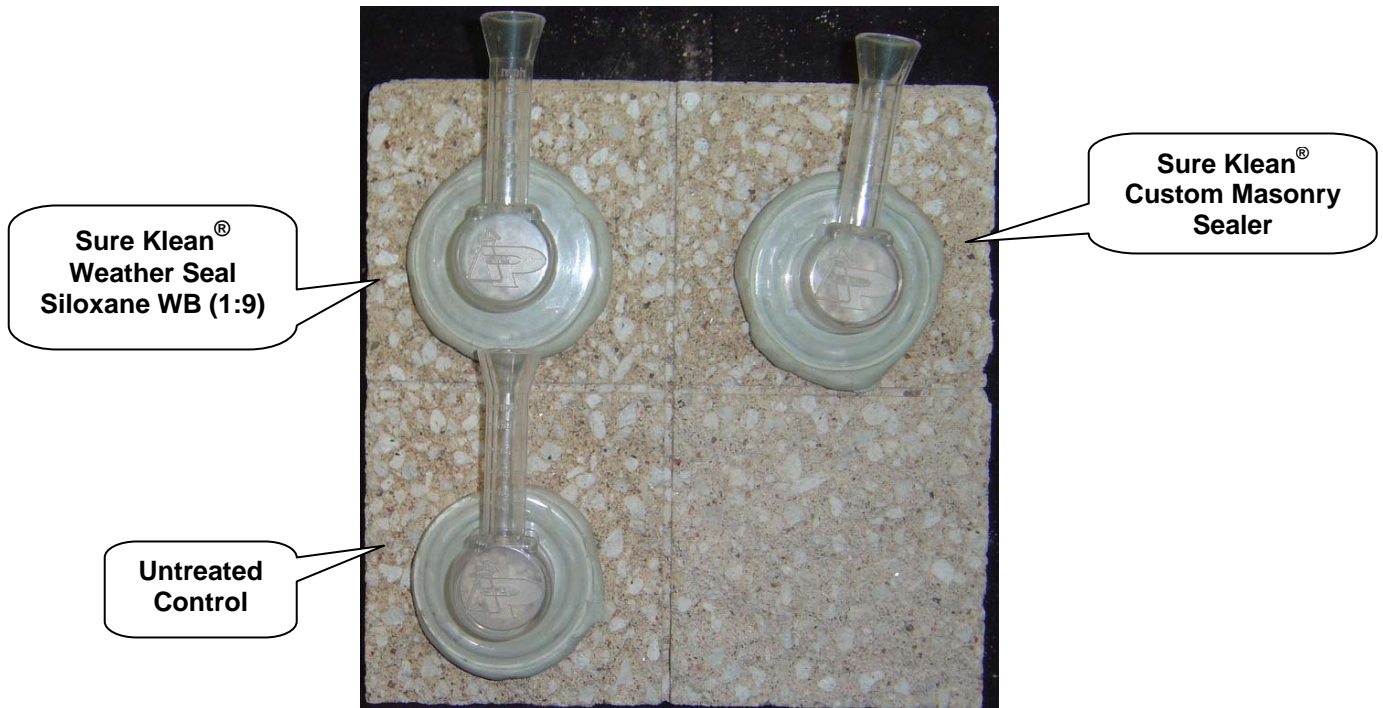
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**Page 19**

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## PHOTOGRAPHS- Protective Water Repellents

### "721" Split-face CMU - RILEM Testing





# PALLET TAG PROGRAM LABORATORY REPORT



## CONCLUSIONS - Protective Water Repellents

Based upon laboratory evaluations, either Sure Klean® Custom Masonry Sealer or Sure Klean® Weather Seal Siloxane WB Concentrate diluted with nine parts water provided excellent water repellency to all submitted samples. In addition, Sure Klean® Custom Masonry Sealer enhanced the appearance of each CMU.

**\*Note: Laboratory testing was conducted on “835 Ground-face” CMU that were not previously treated with an in-plant sealer. If an in-plant sealer is applied to the “835 Ground-face” CMU, treatment with the water repellents evaluated (Sure Klean® Custom Masonry Sealer and Sure Klean® Weather Seal Siloxane WB) Concentrate is NOT recommended.**

## RECOMMENDATIONS - PROTECTIVE WATER REPELLENTS

Recommendations for water repellency treatment for each type of CMU submitted by Basalite Concrete Products, LLC, Denver, CO, are provided in the chart below. Recommendations are based on the treatment that proved most effective and can provide water repellency on all types submitted.

Block Type	Water Repellents
“310 Split-face Variegated” CMU	Sure Klean® Custom Masonry Sealer OR Sure Klean® Weather Seal Siloxane WB Concentrate 1:9
“385 Split-face Fence Block” CMU	Sure Klean® Weather Seal Siloxane WB Concentrate 1:9
“426G Split-face Variegated” CMU	Sure Klean® Custom Masonry Sealer OR Sure Klean® Weather Seal Siloxane WB Concentrate 1:9
“530 Split-face” CMU	Sure Klean® Weather Seal Siloxane WB Concentrate 1:9
“721 Split-face” CMU	Sure Klean® Custom Masonry Sealer OR Sure Klean® Weather Seal Siloxane WB Concentrate 1:9
*“835 Ground-face” CMU (see note under “Conclusions” section above)	Sure Klean® Weather Seal Siloxane WB Concentrate 1:9
“869 Split-face” CMU	Sure Klean® Custom Masonry Sealer

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.



# PALLET TAG PROGRAM LABORATORY REPORT



PROSOCO, Inc.

Page 21

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## SECTION D – GRAFFITI CONTROL

### DESCRIPTION OF PRODUCTS EVALUATED

These trials were conducted to determine the optimal graffiti control treatment.

#### Graffiti Control Treatments

**Sure Klean® Custom Masonry Sealer** – A clear, solvent-based silicone elastomer formulated to weatherproof concrete block and other porous masonry material. Sure Klean® Custom Masonry Sealer protects masonry surfaces from repeated graffiti attacks without altering the natural appearance.

#### 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, 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)



# PALLET TAG PROGRAM LABORATORY REPORT



## **SAMPLE PREPARATION – Graffiti Control**

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

Sections of the concrete samples were treated with one coat of Sure Klean<sup>®</sup> Custom Masonry Sealer, in accordance with PROSOCO, Inc.'s Product Guide application instructions and then allowed to cure for at least one day. At the end of the one-day 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<sup>®</sup> Custom Masonry Sealer. Removal of the graffiti agents was attempted 24 hours after application of the graffiti agents, using Defacer Eraser<sup>®</sup> Graffiti Wipe and Sure Klean<sup>®</sup> 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 was conducted at approximately 1300 psi with a warm water flow rate of 1.9 gallons per minute.



# PALLET TAG PROGRAM LABORATORY REPORT



**TEST RESULTS – Graffiti Control**

<b>“310 Split-face Variegated” CMU</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	80%	95%	80%	85%	<b>85%</b>
Graffiti Wipe	80%	95%	90%	90%	<b>89%</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	90%	95%	95%	95%	<b>94%</b>
Graffiti Wipe	90%	95%	90%	95%	<b>93%</b>
<b>“385 Split-face Fence Block” CMU</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%	98%	80%	85%	<b>90%</b>
Graffiti Wipe	98%	90%	80%	85%	<b>88%</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	100%	100%	100%	100%	<b>100%</b>
Graffiti Wipe	100%	98%	95%	98%	<b>98%</b>
<b>“426G Split-face Variegated” CMU</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%	75%	75%	<b>83%</b>
Graffiti Wipe	85%	90%	75%	80%	<b>83%</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	85%	98%	90%	95%	<b>92%</b>
Graffiti Wipe	95%	98%	90%	95%	<b>95%</b>
<b>“530 Split-face” CMU</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	80%	80%	75%	80%	<b>79%</b>
Graffiti Wipe	85%	80%	75%	85%	<b>81%</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%	98%	98%	<b>98%</b>
Graffiti Wipe	98%	100%	98%	98%	<b>99%</b>



# PALLET TAG PROGRAM LABORATORY REPORT



**PROSOCO, Inc.**

Page 24

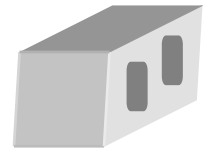
**TEST RESULTS – Graffiti Control**

<b>“721 Split-face” CMU</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%	80%	75%	75%	<b>79%</b>
Graffiti Wipe	85%	80%	75%	75%	<b>79%</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	90%	90%	90%	90%	<b>90%</b>
Graffiti Wipe	95%	95%	90%	90%	<b>93%</b>
<b>“835 Ground-face” CMU</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%	100%	90%	90%	<b>93%</b>
Graffiti Wipe	95%	95%	95%	95%	<b>95%</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	90%	100%	100%	98%	<b>97%</b>
Graffiti Wipe	95%	100%	98%	98%	<b>98%</b>
<b>“869 Split-face” CMU</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	98%	98%	90%	95%	<b>95%</b>
Graffiti Wipe	98%	95%	85%	90%	<b>92%</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	100%	100%	100%	100%	<b>100%</b>
Graffiti Wipe	100%	100%	100%	100%	<b>100%</b>





# PALLET TAG PROGRAM LABORATORY REPORT



PROSOCO, Inc.

Page 25

## PHOTOGRAPHS – Graffiti Control

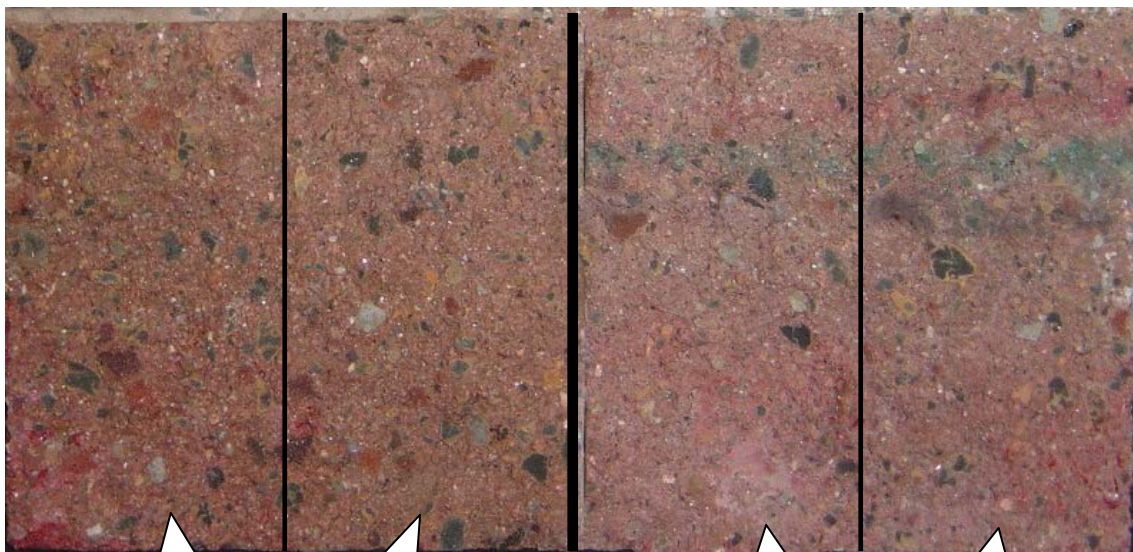
“869 (Red)” Split-face CMU Before Graffiti Removal



Sure Klean<sup>®</sup> Custom Masonry  
Sealer

Untreated  
Control

“869 (Red)” Split-face CMU After Graffiti Removal



Sure Klean<sup>®</sup> Fast  
Acting Stripper

Defacer Eraser<sup>®</sup>  
Graffiti Wipe

Sure Klean<sup>®</sup> Fast  
Acting Stripper

Defacer Eraser<sup>®</sup>  
Graffiti Wipe



# PALLET TAG PROGRAM LABORATORY REPORT



**PROSOCO, Inc.**

**Page 26**

## **CONCLUSIONS – Graffiti Control**

Based upon laboratory evaluations, graffiti removal was improved when the submitted samples were treated with Sure Klean® Custom Masonry Sealer prior to graffiti application. In addition, Sure Klean® Custom Masonry Sealer enhanced the appearance of the CMU's.

## **RECOMMENDATIONS – GRAFFITI CONTROL**

Recommendations for graffiti control treatment for each type of CMU submitted by Basalite Concrete Products, LLC, Denver, CO, 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.

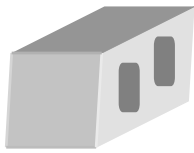
<b>Block Type</b>	<b>Graffiti Repellents</b>	<b>Graffiti Removers</b>
All Submitted CMU's	Sure Klean® Custom Masonry Sealer	Sure Klean® Fast Acting Stripper OR Defacer Eraser® Graffiti Wipe

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.

For the most severe graffiti cases Sure Klean® Fast Acting Stripper is recommended for job-site testing. For mild graffiti cases, Defacer Eraser® Graffiti Wipe is recommended for job-site testing. See product literature for additional application and product information.

Christopher A. Moore  
Technical Analyst

CAM



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***Laboratory Report***

**Pallet Tag Program Evaluation**

**Basalite Concrete Products, LLC.  
Denver, CO**

***Project No. 0407-19 PTP***

***Prepared For:***

**Basalite Concrete Products LLC.  
4900 Race St.  
Denver, CO 80216**

***Prepared By:***



***PROSOCO, Inc.  
August 2004***