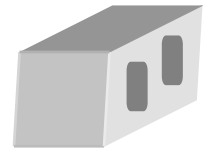




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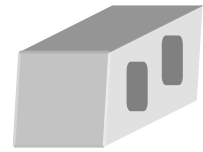
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ATTACHMENTS

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



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FOR: Ed Nagel
cc: Paul Tessier
Steve Dean

SUBJECT: Valley Block Company
Loveland, CO

DATE: February 3, 2004

PROJECT: PTP 0401-08

SAMPLES SUBMITTED: Five types of CMU's with split-face front-sides and smooth-face back-sides

Block	Color	Size
Split-face CMU	Grey "189"	16" x 8" x 8"
Smooth-face CMU	Grey "189"	
Split-face CMU	Brown "306"	
Smooth-face CMU	Brown "306"	
Split-face CMU	Grey "111"	
Smooth-face CMU	Grey "111"	
Split-face CMU	Red "130"	
Smooth-face CMU	Red "130"	
Split-face CMU	Grey	
Smooth-face CMU	Grey	

Submitted by: Ed Nagel



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PURPOSE OF TESTING:

Both sides of five integrally colored concrete blocks, 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 – 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	

* 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 were evaluated for their ability to provide water repellency to the submitted samples.

D. Graffiti Control – Sure Klean[®] Weather Seal Blok-Guard[®] & Graffiti Control 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.



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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, 1:14

GRAFFITI CONTROL PRODUCTS EVALUATED

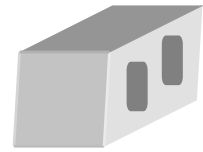
Block Type	Product
All Submitted CMU's	Sure Klean® Blok-Guard® & Graffiti Control

GRAFFITI REMOVAL PRODUCTS EVALUATED

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



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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 – 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. Burnished Custom Masonry Cleaner adds depth to colors and brightens white matrices and exposed aggregate.

TEST METHOD – Cleaning

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.
1. Allow appropriate dwell time for each cleaner:
 - Custom Masonry Cleaner 3 minutes
 - Burnished Custom Masonry Cleaner 3-5 minutes

Reapply the products and moderately agitate with a brush.

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.



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TEST RESULTS – Cleaning

% Removal of Type S Mortar

“Grey 189” Split-face CMU				
Product	Dilution	3 day	7 day	14 day
Custom Masonry Cleaner	1:2	100%	100%	100%
Custom Masonry Cleaner	1:4	100%	100%	100%
Custom Masonry Cleaner	1:6	100%	100%	100%
Burnished Custom Masonry Cleaner	1:2	95%	95%	95%
Burnished Custom Masonry Cleaner	1:3	95%	95%	95%
“Grey 189” Smooth-face CMU				
Product	Dilution	3 day	7 day	14 day
Custom Masonry Cleaner	1:2	100%	100%	95%
Custom Masonry Cleaner	1:4	100%	100%	95%
Custom Masonry Cleaner	1:6	100%	100%	95%
Burnished Custom Masonry Cleaner	1:2	95%	95%	90%
Burnished Custom Masonry Cleaner	1:3	95%	95%	90%
“Brown 306” Split-face CMU				
Product	Dilution	3 day	7 day	14 day
Custom Masonry Cleaner	1:2	95%	90%	85%
Custom Masonry Cleaner	1:4	90%	95%	85%
Custom Masonry Cleaner	1:6	95%	95%	85%
Burnished Custom Masonry Cleaner	1:2	90%	80%	75%
Burnished Custom Masonry Cleaner	1:3	80%	80%	75%
“Brown 306” Smooth-face CMU				
Product	Dilution	3 day	7 day	14 day
Custom Masonry Cleaner	1:2	85%	85%	85%
Custom Masonry Cleaner	1:4	95%	85%	85%
Custom Masonry Cleaner	1:6	95%	95%	95%
Burnished Custom Masonry Cleaner	1:2	90%	90%	70%
Burnished Custom Masonry Cleaner	1:3	80%	80%	70%
“Grey 111” Split-face CMU				
Product	Dilution	3 day	7 day	14 day
Custom Masonry Cleaner	1:2	100%	95%	100%
Custom Masonry Cleaner	1:4	100%	100%	100%
Custom Masonry Cleaner	1:6	100%	100%	100%
Burnished Custom Masonry Cleaner	1:2	95%	95%	95%
Burnished Custom Masonry Cleaner	1:3	95%	95%	95%



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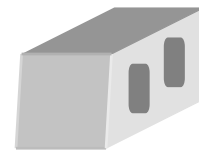
TEST RESULTS- Cleaning

% Removal of Type S Mortar

“Grey 111” Smooth-face CMU				
Product	Dilution	3 day	7 day	14 day
Custom Masonry Cleaner	1:2	95%	95%	98%
Custom Masonry Cleaner	1:4	95%	95%	98%
Custom Masonry Cleaner	1:6	100%	95%	98%
Burnished Custom Masonry Cleaner	1:2	95%	95%	85%
Burnished Custom Masonry Cleaner	1:3	95%	95%	85%
“Red 130” Split-face CMU				
Product	Dilution	3 day	7 day	14 day
Custom Masonry Cleaner	1:2	85%	95%	90%
Custom Masonry Cleaner	1:4	90%	95%	95%
Custom Masonry Cleaner	1:6	90%	95%	95%
Burnished Custom Masonry Cleaner	1:2	85%	85%	90%
Burnished Custom Masonry Cleaner	1:3	85%	85%	90%
“Red 130” Smooth-face CMU				
Product	Dilution	3 day	7 day	14 day
Custom Masonry Cleaner	1:2	85%	90%	95%
Custom Masonry Cleaner	1:4	85%	90%	95%
Custom Masonry Cleaner	1:6	85%	90%	95%
Burnished Custom Masonry Cleaner	1:2	75%	75%	75%
Burnished Custom Masonry Cleaner	1:3	75%	75%	75%
“Grey” Split-face CMU				
Product	Dilution	3 day	7 day	14 day
Custom Masonry Cleaner	1:2	100%	100%	95%
Custom Masonry Cleaner	1:4	100%	100%	95%
Custom Masonry Cleaner	1:6	100%	100%	95%
Burnished Custom Masonry Cleaner	1:2	100%	95%	95%
Burnished Custom Masonry Cleaner	1:3	100%	95%	95%
“Grey” Smooth-face CMU				
Product	Dilution	3 day	7 day	14 day
Custom Masonry Cleaner	1:2	100%	100%	95%
Custom Masonry Cleaner	1:4	100%	100%	95%
Custom Masonry Cleaner	1:6	95%	100%	95%
Burnished Custom Masonry Cleaner	1:2	95%	95%	95%
Burnished Custom Masonry Cleaner	1:3	95%	95%	95%



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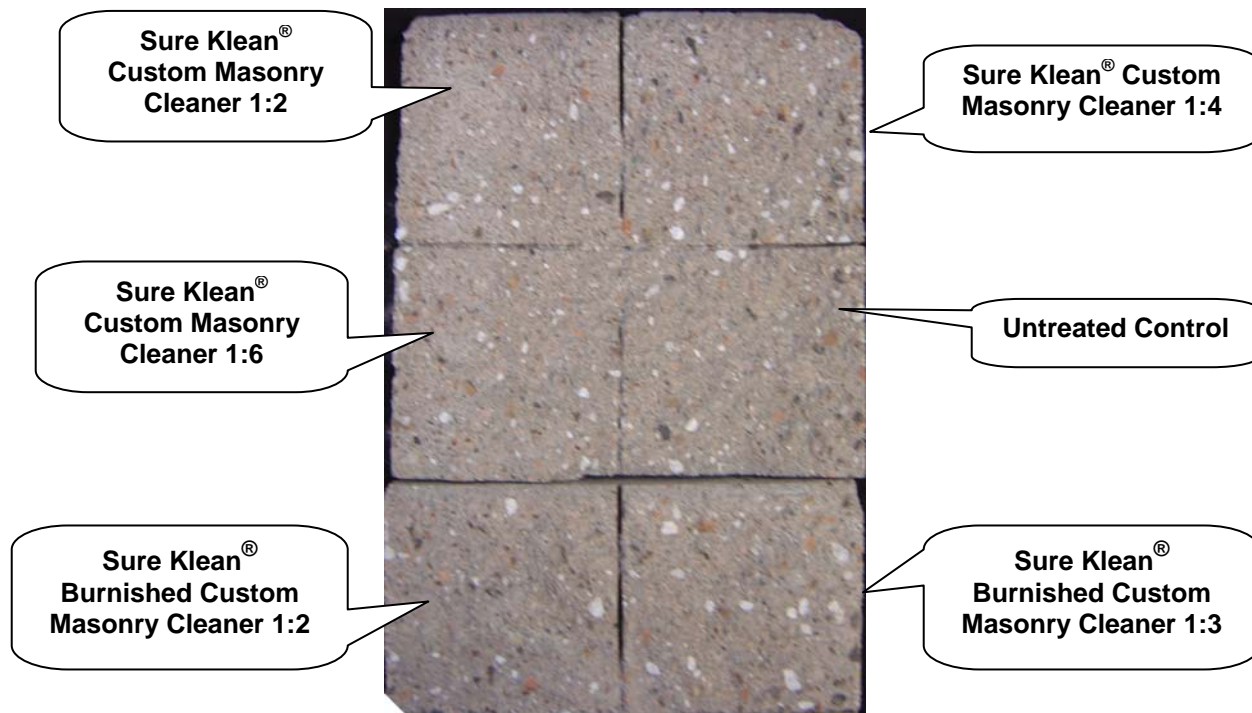


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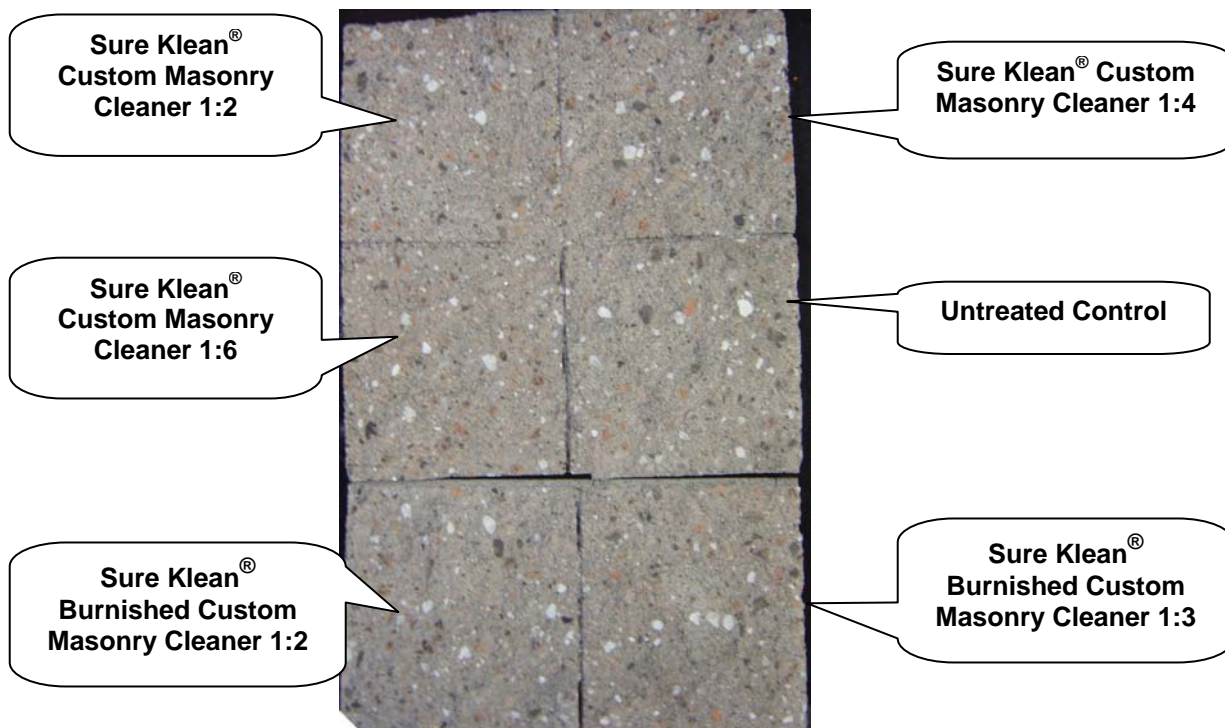
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PHOTOGRAPHS- Cleaning

"189 Grey" Split-face CMU; 3 Day Cleaning



"189 Grey" Split-face CMU; 7 Day Cleaning





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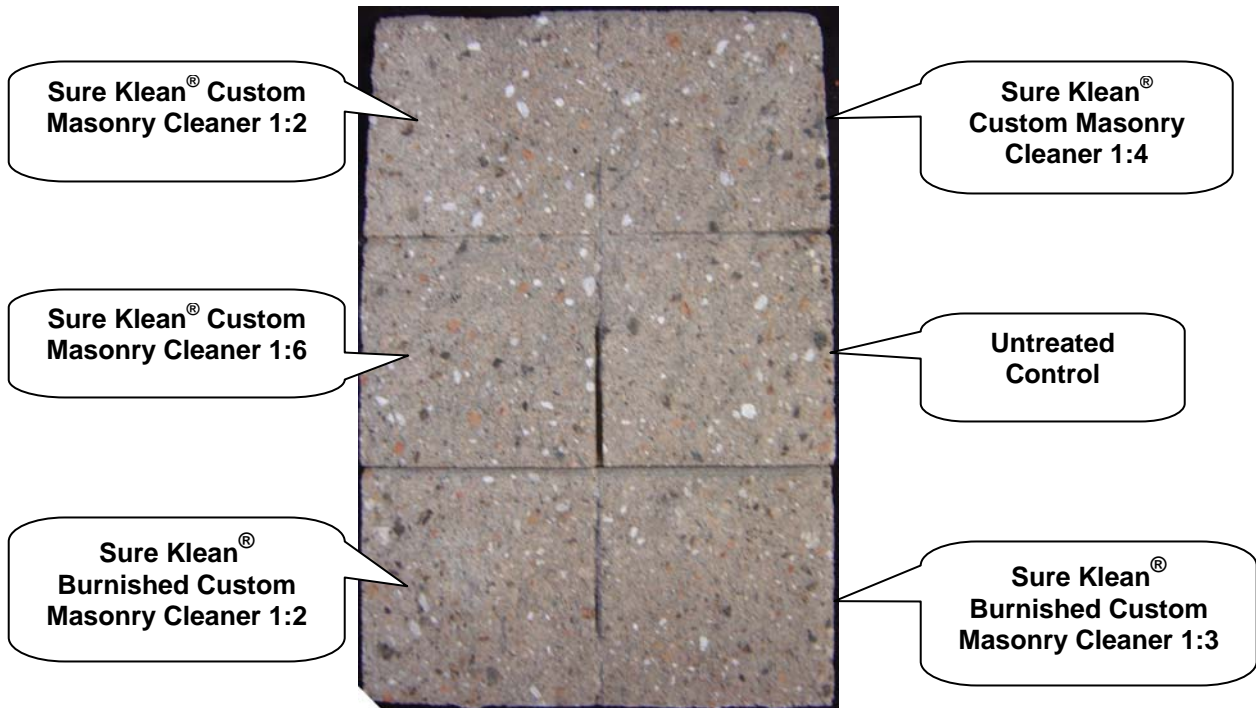


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PHOTOGRAPHS- Cleaning

“189 Grey” Split-face CMU; 14 Day Cleaning





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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[®] Custom Masonry Cleaner and Sure Klean[®] Burnished Custom Masonry Cleaner tested affected the substrate in a similar manner, removing slight to heavy concentrations of pigmented matrix from the CMU's, exposing small and large aggregate, enhancing the natural appearance of the integrally colored concrete masonry unit.

RECOMMENDED PRODUCTS AND DILUTIONS – CLEANING

Recommendations for cleaning for each type of CMU submitted by Valley Block Company, Loveland, CO, are provided in the chart below. Recommendations are based on the optimum dilution for complete removal of mortar.

Block	New Construction Cleaning (Type S mortar, 14 day)
"189 Grey" Split-face CMU, "306 Brown" Split-face CMU "111 Grey" Smooth-face CMU	Sure Klean [®] Custom Masonry Cleaner (1:4)
"189 Grey" Smooth-face CMU, "306 Brown" Smooth-face CMU "130 Red" Smooth-face CMU "Grey" Smooth-face CMU	Sure Klean [®] Custom Masonry Cleaner (1:6)
"111 Grey" Split-face CMU "130 Red" Split-face CMU "Grey" Split-face CMU	Sure Klean [®] 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.



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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 – Removes common construction and atmospheric staining from custom masonry and other architectural concrete surfaces. This general-purpose, nonetching acidic cleaner removes rust, mud, oil, atmospheric dirt, mortar smears and other stains without altering the surface texture. Burnished Custom Masonry Cleaner adds depth to colors and brightens white matrices and exposed aggregate.

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.

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 | |



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TEST RESULTS – Color Uniformity

Substrate: Split-face CMU		Pigment Color: "Grey 189"	
Product	Dilution	Aggregate Exposure	Surface Pigment Alteration/Removal
Custom Masonry Cleaner	1:2	3	3
Custom Masonry Cleaner	1:4	4	4
Custom Masonry Cleaner	1:6	3	3
Burnished Custom Masonry Cleaner	1:2	3	3
Burnished Custom Masonry Cleaner	1:3	3	3
Substrate: Smooth-face CMU		Pigment Color: "Grey 189"	
Product	Dilution	Aggregate Exposure	Surface Pigment Alteration/Removal
Custom Masonry Cleaner	1:2	3	3
Custom Masonry Cleaner	1:4	3	3
Custom Masonry Cleaner	1:6	4	4
Burnished Custom Masonry Cleaner	1:2	3	3
Burnished Custom Masonry Cleaner	1:3	3	3
Substrate: Split-face CMU		Pigment Color: "Brown 306"	
Product	Dilution	Aggregate Exposure	Surface Pigment Alteration/Removal
Custom Masonry Cleaner	1:2	3	3
Custom Masonry Cleaner	1:4	4	4
Custom Masonry Cleaner	1:6	3	3
Burnished Custom Masonry Cleaner	1:2	3	3
Burnished Custom Masonry Cleaner	1:3	3	3
Substrate: Smooth-face CMU		Pigment Color: "Brown 306"	
Product	Dilution	Aggregate Exposure	Surface Pigment Alteration/Removal
Custom Masonry Cleaner	1:2	3	3
Custom Masonry Cleaner	1:4	4	4
Custom Masonry Cleaner	1:6	3	3
Burnished Custom Masonry Cleaner	1:2	3	3
Burnished Custom Masonry Cleaner	1:3	3	3
Substrate: Split-face CMU		Pigment Color: "Grey 111"	
Product	Dilution	Aggregate Exposure	Surface Pigment Alteration/Removal
Custom Masonry Cleaner	1:2	3	3
Custom Masonry Cleaner	1:4	3	3
Custom Masonry Cleaner	1:6	3	3
Burnished Custom Masonry Cleaner	1:2	4	4
Burnished Custom Masonry Cleaner	1:3	3	3



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TEST RESULTS – Color Uniformity

Substrate: Smooth-face CMU		Pigment Color: “Grey 111”	
Product	Dilution	Aggregate Exposure	Surface Pigment Alteration/Removal
Custom Masonry Cleaner	1:2	3	3
Custom Masonry Cleaner	1:4	4	4
Custom Masonry Cleaner	1:6	3	3
Burnished Custom Masonry Cleaner	1:2	3	3
Burnished Custom Masonry Cleaner	1:3	3	3
Substrate: Split-face CMU		Pigment Color: “Red 130”	
Product	Dilution	Aggregate Exposure	Surface Pigment Alteration/Removal
Custom Masonry Cleaner	1:2	1	1
Custom Masonry Cleaner	1:4	1	1
Custom Masonry Cleaner	1:6	2	2
Burnished Custom Masonry Cleaner	1:2	4	4
Burnished Custom Masonry Cleaner	1:3	3	3
Substrate: Smooth-face CMU		Pigment Color: “Red 130”	
Product	Dilution	Aggregate Exposure	Surface Pigment Alteration/Removal
Custom Masonry Cleaner	1:2	3	3
Custom Masonry Cleaner	1:4	3	3
Custom Masonry Cleaner	1:6	4	4
Burnished Custom Masonry Cleaner	1:2	3	3
Burnished Custom Masonry Cleaner	1:3	3	3
Substrate: Split-face CMU		Pigment Color: “Grey”	
Product	Dilution	Aggregate Exposure	Surface Pigment Alteration/Removal
Custom Masonry Cleaner	1:2	3	3
Custom Masonry Cleaner	1:4	3	3
Custom Masonry Cleaner	1:6	3	3
Burnished Custom Masonry Cleaner	1:2	4	4
Burnished Custom Masonry Cleaner	1:3	3	3
Substrate: Smooth-face CMU		Pigment Color: “Grey”	
Product	Dilution	Aggregate Exposure	Surface Pigment Alteration/Removal
Custom Masonry Cleaner	1:2	3	3
Custom Masonry Cleaner	1:4	3	3
Custom Masonry Cleaner	1:6	4	4
Burnished Custom Masonry Cleaner	1:2	3	3
Burnished Custom Masonry Cleaner	1:3	3	3



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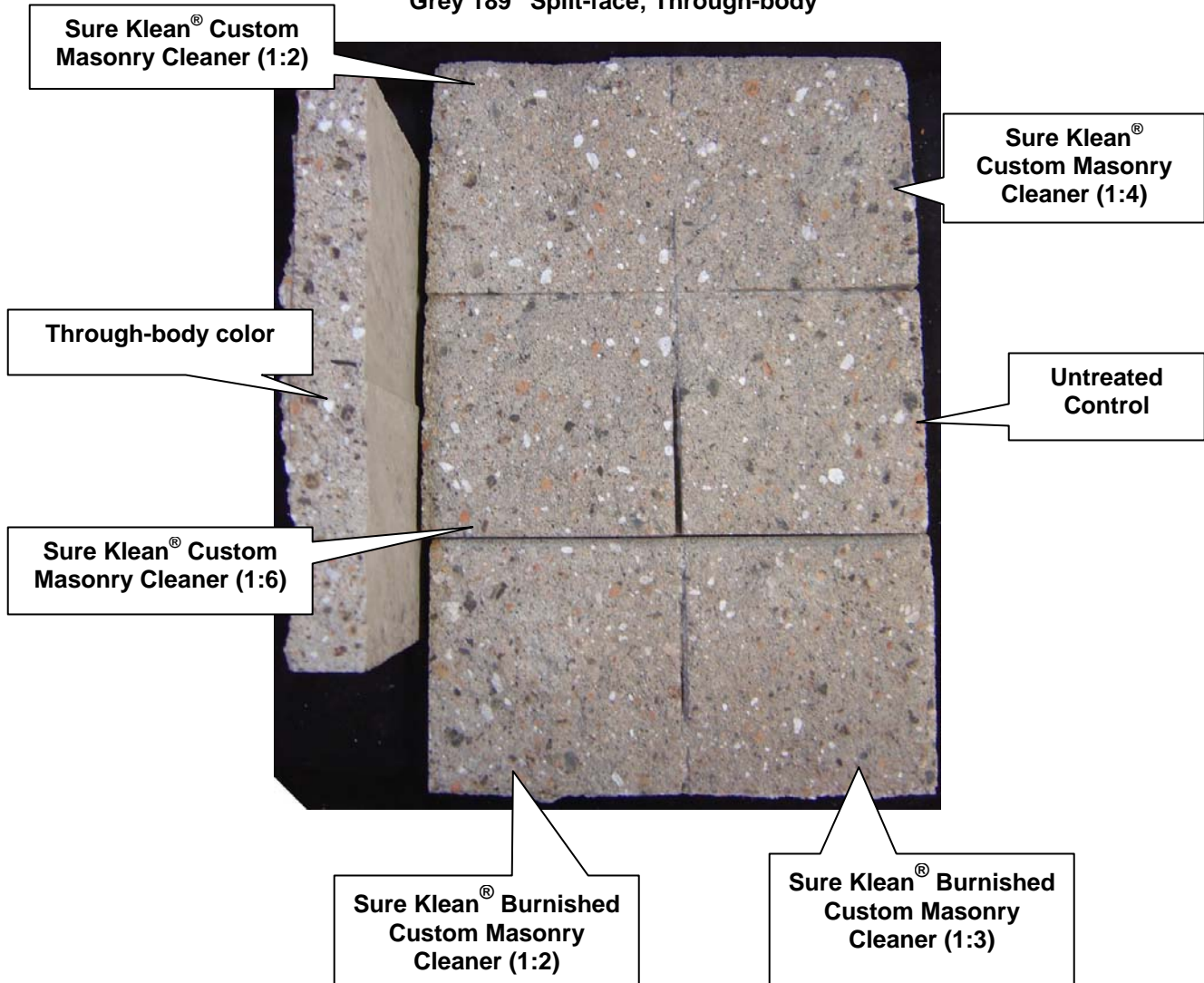


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PHOTOGRAPHS – Color Uniformity

“Grey 189” Split-face; Through-body





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CONCLUSIONS: COLOR UNIFORMITY:

All dilutions of Sure Klean[®] Custom Masonry Cleaner and Sure Klean[®] 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.

RECOMMENDATIONS – COLOR UNIFORMITY

Recommendations for color uniformity for each type of CMU submitted by the Valley Block Company, Loveland, CO, are provided in the chart below. Recommendations are based on the optimum dilution that provides the best color uniformity.

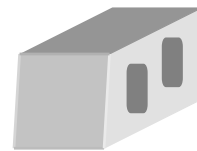
Block	Color Uniformity
"189 Grey" Split-face CMU, "306 Brown" Split-face CMU "111 Grey" Smooth-face CMU	Sure Klean [®] Custom Masonry Cleaner (1:4)
"189 Grey" Smooth-face CMU, "306 Brown" Smooth-face CMU "130 Red" Smooth-face CMU "Grey" Smooth-face CMU	Sure Klean [®] Custom Masonry Cleaner (1:6)
"111 Grey" Split-face CMU "130 Red" Split-face CMU "Grey" Split-face CMU	Sure Klean [®] 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.



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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

DESCRIPTIONS OF PRODUCTS EVALUATED – Protective Water Repellents:

Sure Klean[®] Weather Seal Siloxane WB Concentrate – A concentrated water repellent designed for dilution with fresh water at the jobsite. 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.

Sure Klean[®] 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.

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 two wet-on-wet brush applications. All treatments were allowed to cure at least 3 days prior to testing.

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.



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TEST RESULTS – Protective Water Repellents:

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

	RESULTS
“Grey 189” Split-face CMU	
Untreated Control	< 40 mph
Custom Masonry Sealer	59 mph
Weather Seal Siloxane WB 1:9	< 40 mph
Weather Seal Siloxane WB 1:14	< 40 mph
“Grey 189” Smooth-face CMU	
Untreated Control	< 40 mph
Custom Masonry Sealer	< 40 mph
Weather Seal Siloxane WB 1:9	< 40 mph
Weather Seal Siloxane WB 1:14	54 mph
“Brown 306” Split-face CMU	
Untreated Control	< 40 mph
Custom Masonry Sealer	58 mph
Weather Seal Siloxane WB 1:9	< 40 mph
Weather Seal Siloxane WB 1:14	< 40 mph
“Brown 306” Smooth-face CMU	
Untreated Control	< 40 mph
Custom Masonry Sealer	< 40 mph
Weather Seal Siloxane WB 1:9	59 mph
Weather Seal Siloxane WB 1:14	< 40 mph
“Grey 111” Split-face CMU	
Untreated Control	< 40 mph
Custom Masonry Sealer	57 mph
Weather Seal Siloxane WB 1:9	< 40 mph
Weather Seal Siloxane WB 1:14	< 40 mph



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TEST RESULTS – Protective Water Repellents:

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

"Grey 111" Smooth-face CMU	
Untreated Control	< 40 mph
Custom Masonry Sealer	56 mph
Weather Seal Siloxane WB 1:9	< 40 mph
Weather Seal Siloxane WB 1:14	< 40 mph
"Red 130" Split-face CMU	
Untreated Control	< 40 mph
Custom Masonry Sealer	59 mph
Weather Seal Siloxane WB 1:9	59 mph
Weather Seal Siloxane WB 1:14	59 mph
"Red 130" Smooth-face CMU	
Untreated Control	< 40 mph
Custom Masonry Sealer	60 mph
Weather Seal Siloxane WB 1:9	< 40 mph
Weather Seal Siloxane WB 1:14	< 40 mph
"Grey" Split-face CMU	
Untreated Control	< 40 mph
Custom Masonry Sealer	57 mph
Weather Seal Siloxane WB 1:9	59 mph
Weather Seal Siloxane WB 1:14	< 40 mph
"Grey" Smooth-face CMU	
Untreated Control	< 40 mph
Custom Masonry Sealer	< 40 mph
Weather Seal Siloxane WB 1:9	60 mph
Weather Seal Siloxane WB 1:14	58 mph



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PHOTOGRAPHS- Protective Water Repellents

“Brown 306” Smooth-face CMU- RILEM Testing



Sure Klean® Weather Seal Siloxane WB Concentrate (1:9)

Sure Klean® Weather Seal Siloxane WB Concentrate (1:14)

Sure Klean® Custom Masonry Sealer

Untreated Control



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CONCLUSIONS - Protective Water Repellents

Based upon laboratory evaluations, at least one of the products tested provided above average water repellency to the submitted samples. Sure Klean[®] Custom Masonry Sealer enhanced the appearance of each CMU, while Sure Klean[®] Weather Seal Siloxane WB in either dilution did not cause any change to the appearance of the CMU's.

RECOMMENDATIONS - PROTECTIVE WATER REPELLENTS

Recommendations for water repellency treatment for each type of CMU submitted by Valley Block Company, Loveland, 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
"130 Red" Split-face CMU	Sure Klean [®] Weather Seal Siloxane WB Concentrate (1:9) OR Sure Klean [®] Weather Seal Siloxane WB Concentrate (1:14) OR Sure Klean [®] Custom Masonry Sealer
"189 Grey" Smooth-face CMU	Sure Klean [®] Weather Seal Siloxane WB Concentrate (1:14)
"189 Grey" Split-face, "111 Grey" Smooth-face, "111 Grey" Split-face, "306 Brown" Split-face, "130 Red" Smooth-face CMUs	Sure Klean [®] Custom Masonry Sealer
"Grey" Smooth-face CMU	Sure Klean [®] Weather Seal Siloxane WB Concentrate (1:9) OR Sure Klean [®] Weather Seal Siloxane WB Concentrate (1:14)
"Grey" Split-face CMU	Sure Klean [®] Weather Seal Siloxane WB Concentrate (1:9) OR Sure Klean [®] Custom Masonry Sealer
"306 Brown" Smooth-face CMU	Sure Klean [®] Weather Seal Siloxane WB Concentrate (1:9)

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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SECTION D – GRAFFITI CONTROL

DESCRIPTION OF PRODUCTS EVALUATED

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

Graffiti Control Treatments

Sure Klean® Weather Seal Blok-Guard® & Graffiti Control – A clear, solvent-based silicone elastomer formulated to weatherproof concrete block and other porous masonry material. Sure Klean® Weather Seal Blok-Guard® & Graffiti Control 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)



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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® Weather Seal Blok-Guard® & Graffiti Control, 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® Weather Seal Blok-Guard® & Graffiti Control. 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 Stripper20 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.



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TEST RESULTS – Graffiti Control

“Grey 189” Split-face CMU					
Untreated Control	Red Paint	Black Marker	Green Marker	Red Marker	% Avg. Removal
Fast Acting Stripper	80%	95%	85%	85%	86%
Graffiti Wipe	90%	90%	85%	85%	88%
Blok-Guard® & Graffiti Control	Red Paint	Black Marker	Green Marker	Red Marker	% Avg. Removal
Fast Acting Stripper	90%	100%	98%	95%	96%
Graffiti Wipe	95%	100%	100%	95%	98%
“Grey 189” Smooth-face CMU					
Untreated Control	Red Paint	Black Marker	Green Marker	Red Marker	% Avg. Removal
Fast Acting Stripper	95%	100%	95%	95%	96%
Graffiti Wipe	98%	98%	95%	95%	97%
Blok-Guard® & Graffiti Control	Red Paint	Black Marker	Green Marker	Red Marker	% Avg. Removal
Fast Acting Stripper	95%	100%	100%	100%	99%
Graffiti Wipe	98%	100%	100%	100%	100%
“Brown 306” Split-face CMU					
Untreated Control	Red Paint	Black Marker	Green Marker	Red Marker	% Avg. Removal
Fast Acting Stripper	95%	95%	85%	90%	91%
Graffiti Wipe	95%	95%	85%	90%	91%
Blok-Guard® & Graffiti Control	Red Paint	Black Marker	Green Marker	Red Marker	% Avg. Removal
Fast Acting Stripper	98%	98%	98%	98%	98%
Graffiti Wipe	98%	98%	98%	98%	98%
“Brown 306” Smooth-face CMU					
Untreated Control	Red Paint	Black Marker	Green Marker	Red Marker	% Avg. Removal
Fast Acting Stripper	98%	95%	90%	95%	95%
Graffiti Wipe	98%	95%	90%	95%	95%
Blok-Guard® & Graffiti Control	Red Paint	Black Marker	Green Marker	Red Marker	% Avg. Removal
Fast Acting Stripper	98%	98%	98%	98%	98%
Graffiti Wipe	98%	98%	98%	98%	98%
“Grey 111” Split-face CMU					
Untreated Control	Red Paint	Black Marker	Green Marker	Red Marker	% Avg. Removal
Fast Acting Stripper	90%	100%	85%	90%	91%
Graffiti Wipe	95%	90%	85%	90%	90%
Blok-Guard® & Graffiti Control	Red Paint	Black Marker	Green Marker	Red Marker	% Avg. Removal
Fast Acting Stripper	90%	100%	98%	98%	97%
Graffiti Wipe	98%	100%	98%	98%	99%



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TEST RESULTS – Graffiti Control

“Grey 111” Smooth-face CMU					
Untreated Control	Red Paint	Black Marker	Green Marker	Red Marker	% Avg. Removal
Fast Acting Stripper	90%	90%	85%	90%	89%
Graffiti Wipe	100%	85%	85%	90%	90%
Blok-Guard® & Graffiti Control	Red Paint	Black Marker	Green Marker	Red Marker	% Avg. Removal
Fast Acting Stripper	90%	100%	100%	98%	97%
Graffiti Wipe	100%	100%	100%	100%	100%
“Red 130” Split-face CMU					
Untreated Control	Red Paint	Black Marker	Green Marker	Red Marker	% Avg. Removal
Fast Acting Stripper	95%	98%	85%	90%	92%
Graffiti Wipe	90%	95%	90%	100%	89%
Blok-Guard® & Graffiti Control	Red Paint	Black Marker	Green Marker	Red Marker	% Avg. Removal
Fast Acting Stripper	98%	98%	98%	98%	98%
Graffiti Wipe	98%	98%	98%	98%	98%
“Red 130” Smooth-face CMU					
Untreated Control	Red Paint	Black Marker	Green Marker	Red Marker	% Avg. Removal
Fast Acting Stripper	98%	95%	85%	90%	92%
Graffiti Wipe	98%	90%	85%	90%	90%
Blok-Guard® & Graffiti Control	Red Paint	Black Marker	Green Marker	Red Marker	% Avg. Removal
Fast Acting Stripper	98%	98%	98%	98%	98%
Graffiti Wipe	98%	98%	95%	98%	97%
“Grey” Split-face CMU					
Untreated Control	Red Paint	Black Marker	Green Marker	Red Marker	% Avg. Removal
Fast Acting Stripper	75%	95%	70%	90%	83%
Graffiti Wipe	65%	90%	70%	85%	78%
Blok-Guard® & Graffiti Control	Red Paint	Black Marker	Green Marker	Red Marker	% Avg. Removal
Fast Acting Stripper	75%	98%	98%	98%	92%
Graffiti Wipe	98%	100%	100%	98%	99%
“Grey” Smooth-face CMU					
Untreated Control	Red Paint	Black Marker	Green Marker	Red Marker	% Avg. Removal
Fast Acting Stripper	70%	100%	80%	90%	85%
Graffiti Wipe	90%	60%	60%	60%	68%
Blok-Guard® & Graffiti Control	Red Paint	Black Marker	Green Marker	Red Marker	% Avg. Removal
Fast Acting Stripper	90%	100%	98%	98%	97%
Graffiti Wipe	98%	100%	98%	98%	99%



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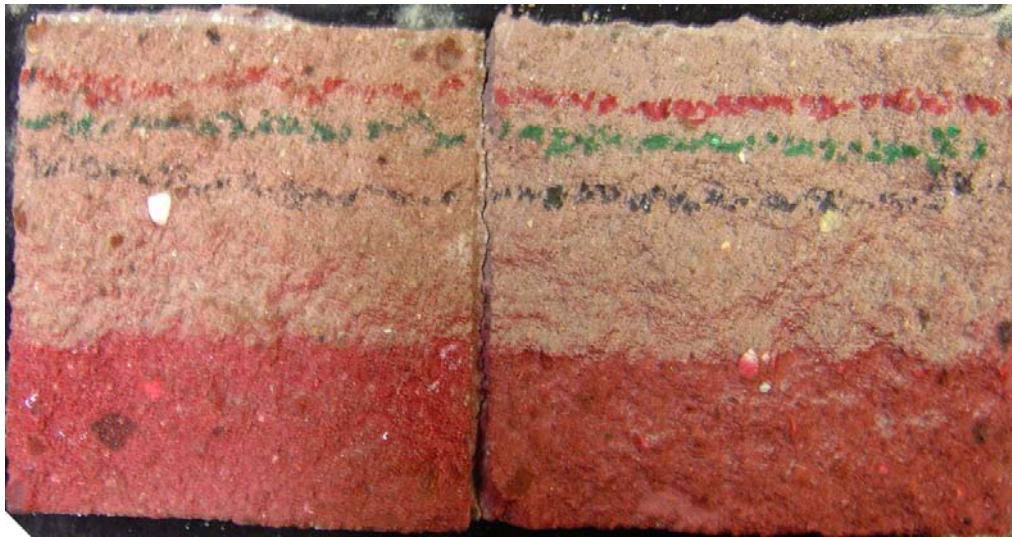


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PHOTOGRAPHS – Graffiti Control

“Red 130” Split-face CMU Before Graffiti Removal



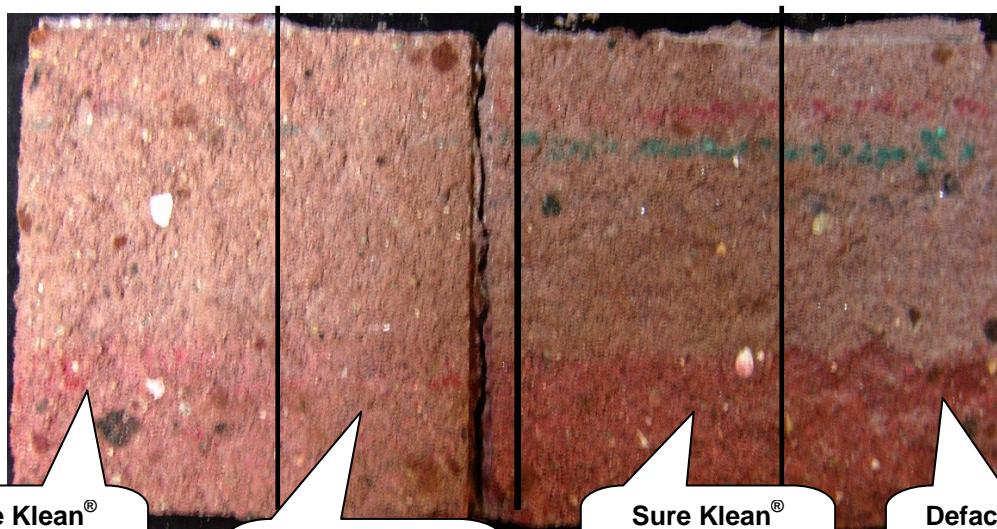
Sure Klean® Weather Seal Blok-Guard® & Graffiti Control

Untreated Control

“Red 130” Split-face CMU After Graffiti Removal

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

Untreated Control



Sure Klean® Fast Acting Stripper

Defacer Eraser® Graffiti Wipe

Sure Klean® Fast Acting Stripper

Defacer Eraser® Graffiti Wipe



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CONCLUSIONS – Graffiti Control

Based upon laboratory evaluations, graffiti removal was improved when the submitted samples were treated with Sure Klean® Weather Seal Blok-Guard® & Graffiti Control prior to graffiti application. In addition, Sure Klean® Weather Seal Blok-Guard® & Graffiti Control enhanced the appearance of CMU's.

RECOMMENDATIONS – GRAFFITI CONTROL

Recommendations for graffiti control treatment for each type of CMU submitted by Valley Block Company, Loveland, 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.

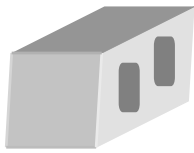
Block Type	Graffiti Repellents	Graffiti Removers
All Submitted CMU's	Sure Klean® Weather Seal Blok-Guard® & Graffiti Control	Sure Klean® Fast Acting Stripper OR Defacer Eraser® Graffiti Wipe

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.

Nathan R. Colaner
Technical Analyst

NRC/



Laboratory Report

Pallet Tag Program Evaluation

**Valley Block Company
Loveland, CO**

Project No. 0401-08 PTP

Prepared For:

**Valley Block Company
Loveland, CO**

Prepared By:



***PROSOCO, Inc.
February 2004***