

OSOCO, Inc. Page 1

TABLE OF CONTENTS SAMPLES SUBMITTED	2
PURPOSE OF TEST	3
PRODUCTS EVALUATED	4
SECTION A – CLEANING INTEGRALLY COLORED CMU's	
DESCRIPTION OF PRODUCTS EVALUATED	5
TEST METHOD	5
TEST RESULTS	6-7
PHOTOGRAPHS OF CMU CLEANING	8-9
CONCLUSIONS	10
RECOMMENDATIONS	10
SECTION B - COLOR UNIFORMITY	
DESCRIPTION OF PRODUCTS EVALUATED	11
TEST METHOD	11
TEST RESULTS	12-13
PHOTOGRAPHS OF CMU COLOR UNIFORMITY TESTING	14
CONCLUSIONS	15
RECOMMENDATIONS	15
SECTION C - PROTECTIVE WATER REPELLENTS	
DESCRIPTION OF PRODUCTS EVALUATED	16
TEST METHODS	17
TEST RESULTS	17-18
PHOTOGRAPHS OF CMU WATER REPELLENCY	19
CONCLUSIONS	20
RECOMMENDATIONS	20
SECTION D – GRAFFITI CONTROL	
DESCRIPTION OF PRODUCTS EVALUATED	21
TEST METHOD	22
TEST RESULTS	23-25
PHOTOGRAPH OF CMU GRAFFITI TESTING	26
CONCLUSIONS	27
RECOMMENDATIONS	27

ATTACHMENTS

Technical Services TECH Note RILEM Tube Test Procedures

Product Data literature for all products evaluated





Page 2

FOR: Joseph Jack cc: Mark Williams

Perry Surber John Bourne Steve Dean

SUBJECT: Bryce Hill, Inc.

Springfield, OH

DATE: September 15, 2003

PROJECT: 0307-14

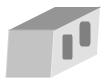
SAMPLES SUBMITTED: Twelve types of split-face CMU's, eight full block and four half block

<u>Block</u>	<u>Number</u>	<u>Color</u>	<u>Size</u>
	4	"Canyon Blend"	
	4	"Charcoal"	
	4	"Natural"	
	4	"Sandalwood"	16" x 8" x 8"
	4	"Walnut Brown"	10 X 8 X 8
		"Caramel"	
Split-face CMU's	4	"White"	
	4	"Desert Buff"	
	4 4 4	"London Red"	
		"Light Gray"	4.011 .011 .411
		"Dove Gray"	16" x 8" x 4"
	4	"Purple"	

Submitted by: Joseph Jack

Bryce Hill, Inc. Springfield, OH





Page 3

PURPOSE OF TESTING:

Twelve integrally colored split-face concrete blocks, all with large, small and fine aggregate were submitted for testing using PROSOCO's new construction cleaning and water repellent 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.

<u>Aggregate Exposure</u> 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.

<u>Surface Pigment Alteration/Removal*</u> 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:

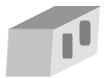
- 0 Worst match to through-body
- 3 **Good** match to through-body
- 1 **Poor** match to through-body
- 4 **Best** match to through-body
- 2 **Fair** match to through-body

* 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 Blok-Guard[®] & Graffiti Control 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 block samples. Sure Klean[®] Fast Acting Stripper, Defacer Eraser[®] Graffiti Release and Defacer Eraser[®] Graffiti Wipe were evaluated for their ability to remove graffiti from the submitted samples.



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
"Purple" split-face CMU	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
All Submitted CiviU's	Sure Klean [®] Weather Seal Blok-Guard & Graffiti Control	Concentrate

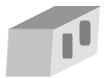
GRAFFITI CONTROL PRODUCTS EVALUATED

Block Type	Product		
All submitted CMU's	Sure Klean [®] Weather Seal Blok-Guard [®] & Graffiti Control		

GRAFFITI REMOVAL PRODUCTS EVALUATED

Block Type	Product		
	Sure Klean [®] Fast Acting Stripper		
All submitted CMU's	Defacer Eraser [®] Graffiti Wipe		
	Defacer Eraser [®] Graffiti Release		





Page 5

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 that removes rust, mud, oil, atmospheric dirt, mortar smears and other stains without altering the surface texture. Burnished Custom Masonry Cleaner adds depth to colors, brightens 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. Prewet the surface with water.
- 2. Apply the cleaner at the appropriate dilutions.
- 3. Allow appropriate dwell time for each cleaner:

- 4. Reapply the product 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.





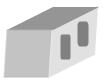
Page 6

TEST RESULTS - Cleaning

% removal

	"Canyon Blend" Split-	face CMU		
Product	Dilution	3 day	7 day	14 day
Custom Masonry Cleaner	1:2	90%	95%	95%
Custom Masonry Cleaner	1:4	90%	95%	90%
Custom Masonry Cleaner	1:6	90%	95%	90%
	"Charcoal" Split-fac	ce CMU		
Product	Dilution	3 day	7 day	14 day
Custom Masonry Cleaner	1:2	90%	95%	95%
Custom Masonry Cleaner	1:4	90%	95%	95%
Custom Masonry Cleaner	1:6	90%	95%	95%
	"Natural" Split-fac	e CMU		
Product	Dilution	3 day	7 day	14 day
Custom Masonry Cleaner	1:2	100%	100%	95%
Custom Masonry Cleaner	1:4	100%	100%	90%
Custom Masonry Cleaner	1:6	95%	100%	95%
	"Sandalwood" Split-f	ace CMU		
Product	Dilution	3 day	7 day	14 day
Custom Masonry Cleaner	1:2	95%	100%	100%
Custom Masonry Cleaner	1:4	95%	100%	85%
Custom Masonry Cleaner	1:6	95%	100%	85%
	"Walnut Brown" Split-	face CMU		
Product	Dilution	3 day	7 day	14 day
Custom Masonry Cleaner	1:2	95%	95%	95%
Custom Masonry Cleaner	1:4	95%	95%	95%
Custom Masonry Cleaner	1:6	95%	95%	95%
	"Caramel" Split-fac	e CMU		
Product	Dilution	3 day	7 day	14 day
Custom Masonry Cleaner	1:2	95%	95%	95%
Custom Masonry Cleaner	1:4	95%	95%	95%
Custom Masonry Cleaner	1:6	95%	95%	95%
	"White" Split-face	e CMU		
Product	Dilution	3 day	7 day	14 day
Custom Masonry Cleaner	1:2	100%	100%	95%
	1:4	100%	100%	95%
Custom Masonry Cleaner	1.4	10076	10070	3370





OSOCO, Inc. Page 7

"De	esert Buff" Split-fa	ace CMU		
Product	Dilution	3 day	7 day	14 day
Custom Masonry Cleaner	1:2	95%	95%	95%
Custom Masonry Cleaner	1:4	95%	95%	95%
Custom Masonry Cleaner	1:6	95%	95%	95%
"Lo	ndon Red" Split-f	ace CMU		
Product	Dilution	3 day	7 day	14 day
Custom Masonry Cleaner	1:2	95%	95%	95%
Custom Masonry Cleaner	1:4	95%	95%	95%
Custom Masonry Cleaner	1:6	95%	95%	95%
"Li	ight Gray" Split-fa	ice 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%
"D	ove Gray" Split-fa	ice 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%
er	Purple" Split-face	e CMU		
Product	Dilution	3 day	7 day	14 day
Custom Masonry Cleaner	1:2	95%	100%	*
Custom Masonry Cleaner	1:4	90%	95%	*
Custom Masonry Cleaner	1:6	90%	95%	100%
Burnished Custom Masonry Cleaner	1:2	*	*	90%
Burnished Custom Masonry Cleaner	1:3	*	*	90%

^{*} Please see the CONCLUSIONS section

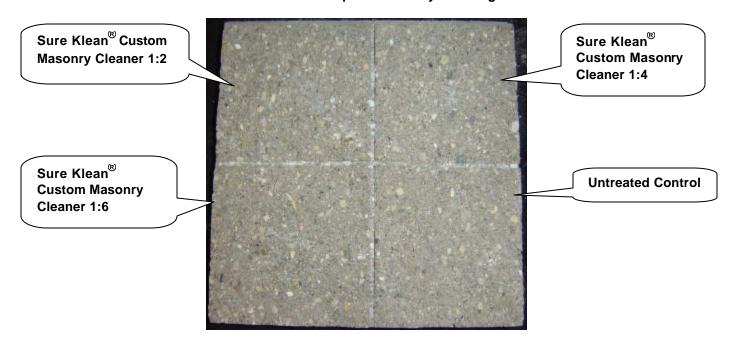




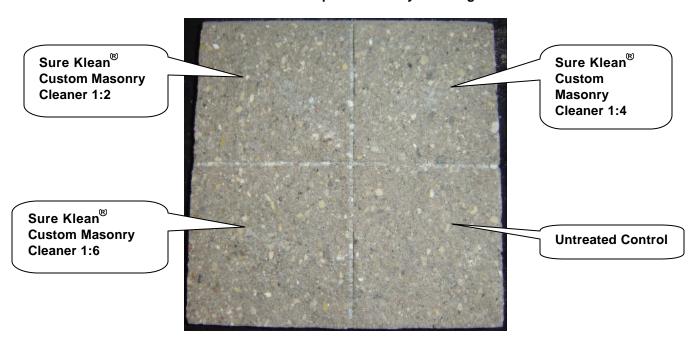
Page 8

PHOTOGRAPHS- Cleaning

"Sandalwood" Split-Face 3 Day Cleaning



"Sandalwood" Split-Face 7 Day Cleaning



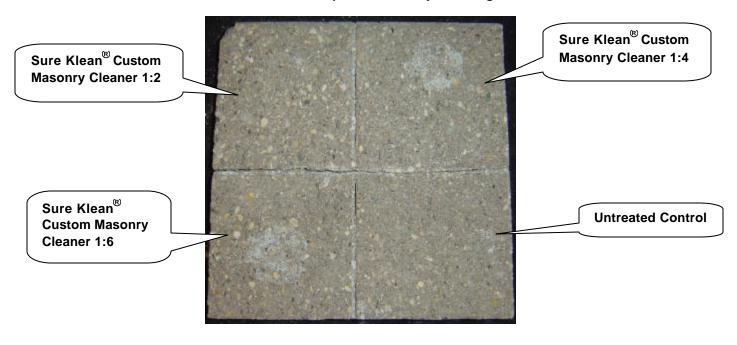




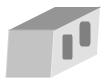
Page 9

PHOTOGRAPHS- Continued

"Sandalwood" Split-Face 14 Day Cleaning







Page 10

CONCLUSIONS – Cleaning

Based on the test data, all of the submitted samples were efficiently cleaned with a dilution of Sure Klean[®] Custom Masonry Cleaner. Use higher concentrations and surface agitation to maximize aggregate exposure. Use low concentration and surface agitation to minimize aggregate exposure.

Most dilutions of Sure Klean[®] 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.

Also note that because Sure Klean[®] Custom Masonry Cleaner was too harsh on the "Purple" split-face CMU, it was also cleaned with Sure Klean[®] Burnished Custom Masonry Cleaner in other dilutions. The results are reflected in the "Test Results" section and in the "Recommendations" section below

RECOMMENDED PRODUCTS AND DILUTIONS - CLEANING

Recommendations for cleaning for each type of CMU submitted by Bryce Hill, Inc., Springfield, OH 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 cleaning)
"Purple" Split-face CMU	Sure Klean [®] Burnished Custom Masonry Cleaner (1:2)
"Sandalwood" Split-face CMU	Sure Klean [®] Custom Masonry Cleaner (1:2)
All Other Submitted CMU's	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. Pressure rinsing equipment providing at least 400 psi at 4-6 gpm delivered though 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.





Page 11

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.

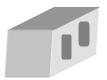
Sure Klean® Burnished Custom Masonry Cleaner - A general-purpose, non-etching acidic cleaner that removes rust, mud, oil, atmospheric dirt, mortar smears and other stains without altering the surface texture. Burnished Custom Masonry Cleaner adds depth to colors, brightens white matrices and exposed 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 at the appropriate dilutions.
- 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. 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.





PROSOCO, Inc. Page 12

TEST RESULTS – Color Uniformity

Substrate: Split-face CMU	Pigment Cole	or: "Canyon Blend"	
Product	Dilution	Aggregate Exposure	Surface Pigment Alteration/Removal
Custom Masonry Cleaner	1:2	1	2
Custom Masonry Cleaner	1:4	2	2
Custom Masonry Cleaner	1:6	3	3
Substrate: Split-face CMU	Pigment Cold	or: "Charcoal"	
Product	Dilution	Aggregate Exposure	Surface Pigment Alteration/Removal
Custom Masonry Cleaner	1:2	1	3
Custom Masonry Cleaner	1:4	2	3
Custom Masonry Cleaner	1:6	4	3
Substrate: Split-face CMU	Pigment Cole	or: "Natural"	
Product	Dilution	Aggregate Exposure	Surface Pigment Alteration/Removal
Custom Masonry Cleaner	1:2	2	2
Custom Masonry Cleaner	1:4	2	2
Custom Masonry Cleaner	1:6	3	3
Substrate: Split-face CMU	Pigment Cold	or: "Sandalwood"	
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
Substrate: Split-face CMU	Pigment Cole	or: "Walnut Brown"	
Product	Dilution	Aggregate Exposure	Surface Pigment Alteration/Removal
Custom Masonry Cleaner	1:2	1	2
Custom Masonry Cleaner	1:4	2	2
Custom Masonry Cleaner	1:6	3	3

Scale used for reporting results of both categories

0 – **Worst** match to through-body

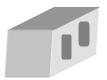
3 – **Good** match to through-body

1 – **Poor** match to through-body

4 – **Best** match to through-body

2 - Fair match to through-body





OSOCO, Inc. Page 13

TEST RESULTS- Color Uniformity Continued

Substrate: Split-face CMU	Pigment Col	or: "Caramel"		
Product	Dilution	Aggregate Exposure	Surface Pigment Alteration/Removal	
Custom Masonry Cleaner	1:2	1	2	
Custom Masonry Cleaner	1:4	2	2	
Custom Masonry Cleaner	1:6	3	3	
Substrate: Split-face CMU	Pigment Cole	or: "White"		
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	
Substrate: Split-face CMU	Pigment Col	or: "Desert Buff"		
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	
Substrate: Split-face CMU	Pigment Cole	or: "London Red"		
Product	Dilution	Aggregate Exposure	Surface Pigment Alteration/Removal	
Custom Masonry Cleaner	1:2	1	2	
Custom Masonry Cleaner	1:4	2	2	
Custom Masonry Cleaner	1:6	3	3	
Substrate: Split-face CMU	Pigment Col	or: "Light Gray"		
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	

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





PROSOCO, Inc. Page 14

TEST RESULTS- Color Uniformity Continued

ce CMU Pigment Color: "Dove Gray"						
Dilution	Aggregate Exposure	Surface Pigment Alteration/Removal				
1:2	4	4				
1:4	4	4				
1:6	4	4				
Substrate: Split-face CMU Pigment Color: "Purple"						
Pigment Col	ior: Purple					
Dilution	Aggregate Exposure	Surface Pigment Alteration/Removal				
1:2	0	0				
1:4	0	0				
1:6	1	1				
1:2	4	3				
1:3	3	3				
	Dilution 1:2 1:4 1:6 Pigment Col Dilution 1:2 1:4 1:6 1:2	Dilution Aggregate Exposure 1:2 4 1:4 4 1:6 4 Pigment Color: "Purple" Dilution Aggregate Exposure 1:2 0 1:4 0 1:6 1 1:2 4				

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 – Color Uniformity

"Sandalwood" Through- Body







Page 15

CONCLUSIONS: Color Uniformity

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. The recommended dilutions enhanced the natural appearance of the integrally colored CMU.

Also note that because Sure Klean[®] Custom Masonry Cleaner was too harsh on the "Purple" split-face CMU, it was also cleaned with Sure Klean[®] Burnished Custom Masonry Cleaner in other dilutions. The results are reflected in the "Test Results" section and in the "Recommendations" section below.

RECOMMENDATIONS - COLOR UNIFORMITY

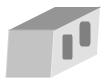
Recommendations for color uniformity for each type of CMU submitted by Bryce Hill, Inc., Springfield, OH are provided in the chart below. Recommendations are based on the optimum dilution that provides the best color uniformity.

Block	Color Uniformity		
"Purple" split-face CMU	Sure Klean [®] Burnished Custom Masonry Cleaner (1:2)		
"Sandalwood", "Light Gray", "Dove Gray", "White" and "Desert Buff" split-face CMU's	Sure Klean [®] Custom Masonry Cleaner (1:2), (1:4), (1:6)		
"Canyon Blend", "Charcoal", "Natural", "Walnut Brown", "Caramel" and "London Red" split-face CMU's	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. Pressure rinsing equipment providing at least 400 psi at 4-6 gpm delivered though 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.





Page 16

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:

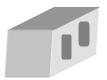
Sure Klean® Custom Masonry Sealer - A clear, solvent-based silicone elastomer formulated to weatherproof custom masonry units, cast stone, architectural concrete block, precast concrete, wood and porous masonry. Custom Masonry Sealer penetrates and fills pores to prevent water penetration through exterior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

Sure Klean® Weather Seal Blok-Guard & Graffiti Control - A clear, solvent-based silicone elastomer formulated to weatherproof concrete block and other porous masonry materials. Blok-Guard® & Graffiti Control protects masonry surfaces from repeated graffiti attacks without altering the natural appearance. Blok-Guard® & Graffiti Control penetrates and fills pores to prevent water penetration through exterior walls exposed to normal weathering. Graffiti removal is fast and easy using PROSOCO's graffiti removal products. Blok-Guard® & Graffiti Control is easy to apply with low-pressure spray, brush or roller.

SAMPLE PREPARATION - Protective Water Repellents:

The submitted blocks were scored, allowed to dry, and to reabsorb atmospheric humidity for 24 hours prior to treatment. All products were applied in accordance with the recommendations in the PROSOCO, Inc. product guide. All treatments were allowed to cure at least 3 days prior to testing.





Page 17

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
"Canyon Blend" split-face (СМИ
Untreated Control	< 40 mph
Custom Masonry Sealer	57 mph
Blok-Guard & Graffiti Control	57 mph
"Charcoal" split-face CM	IU
Untreated Control	< 40 mph
Custom Masonry Sealer	58 mph
Blok-Guard & Graffiti Control	58 mph
"Natural" split-face CML	J
Untreated Control	< 40 mph
Custom Masonry Sealer	< 40 mph
Blok-Guard & Graffiti Control	< 40 mph
"Sandalwood" split-face C	MU
Untreated Control	< 40 mph
Custom Masonry Sealer	58 mph
Blok-Guard & Graffiti Control	58 mph
"Walnut Brown" split-face C	CMU
Untreated Control	< 40 mph
Custom Masonry Sealer	55 mph
Blok-Guard & Graffiti Control	55 mph





Page 18

TEST RESULTS - Protective Water Repellents (Cont.)

Results

"Caramel" split-face CM	J
Untreated Control	< 40 mph
Custom Masonry Sealer	60 mph
Blok-Guard & Graffiti Control	60 mph
"White" split-face CMU	
Untreated Control	< 40 mph
Custom Masonry Sealer	57 mph
Blok-Guard & Graffiti Control	57 mph
"Desert Buff" split-face CM	U
Untreated Control	< 40 mph
Custom Masonry Sealer	< 40 mph
Blok-Guard & Graffiti Control	< 40 mph
"London Red" split-face Cl	MU
Untreated Control	< 40 mph
Custom Masonry Sealer	58 mph
Blok-Guard & Graffiti Control	58 mph
"Light Gray" split-face CMI	J
Untreated Control	< 40 mph
Custom Masonry Sealer	59 mph
Blok-Guard & Graffiti Control	59 mph
"Dove Gray" split-face CM	1U
Untreated Control	< 40 mph
Custom Masonry Sealer	58 mph
Blok-Guard & Graffiti Control	58 mph
"Purple" split-face CMU	
Untreated Control	< 40 mph
Custom Masonry Sealer	< 40 mph
Blok-Guard & Graffiti Control	< 40 mph





Page 19

PHOTOGRAPHS – Protective Water Repellents

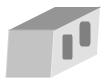
"Canyon Blend" split-face: RILEM testing



"Canyon Blend" split-face: RILEM testing







Page 20

CONCLUSIONS - PROTECTIVE WATER REPELLENTS

Sure Klean[®] Custom Masonry Sealer and Sure Klean[®] Weather Seal Blok-Guard[®] & Graffiti Control provided slight color enhancement to the submitted samples.

Neither Sure Klean[®] Custom Masonry Sealer nor Sure Klean[®] Weather Seal Blok-Guard[®] & Graffiti Control were able to provide adequate water repellency to the "Desert Buff", "Natural" or "Purple" split-face CMU samples. Without adequate performance on those samples no recommendation can be made.

RECOMMENDATIONS - PROTECTIVE WATER REPELLENTS

Recommendations for water repellency treatment for each type of CMU submitted by Bryce Hill, Inc., Springfield, OH 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		
"Desert Buff", "Natural" and "Purple" split-face CMU's	No recommendation		
All Other Submitted CMU's	Sure Klean [®] Custom Masonry Sealer OR Sure Klean [®] Weather Seal Blok-Guard [®] & Graffiti Control		

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.





Page 21

SECTION D - GRAFFITI CONTROL

DESCRIPTION OF PRODUCTS EVALUATED

These trials were conducted to determine the optimal graffiti control treatment for the submitted concrete block samples.

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 materials. Blok-Guard® & Graffiti Control protects masonry surfaces from repeated graffiti attacks without altering the natural appearance. Blok-Guard® & Graffiti Control penetrates and fills pores to prevent water penetration through exterior walls exposed to normal weathering. Graffiti removal is fast and easy using PROSOCO's graffiti removal products. Blok-Guard® & Graffiti Control 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, wood and metal surfaces.

Defacer Eraser® Graffiti Release - An easy-to-use graffiti remover that does not contain methanol, methylene chloride or other "halogenated" solvents prohibited on many projects. Graffiti Release 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)





Page 22

SAMPLE PREPARATION – Graffiti Control

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

Sections of the concrete block samples were treated with Sure Klean[®] Weather Seal Blok-guard[®] & Graffiti Control, in accordance with PROSOCO, Inc.'s Product Guide application recommendations 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 either Defacer Eraser[®] Graffiti Wipe, Defacer Eraser[®] Graffiti Release or 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
Graffiti Release	15 minutes
Fast Acting Stripper	

- 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.



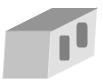


PROSOCO, Inc. Page 23

TEST RESULTS – Graffiti Control

"Canyon Blend" split-face CMU					
Untreated Control	Red Paint	Black Marker	Green Marker	Red Marker	% Avg. Removal
Fast Acting Stripper	80%	50%	50%	50%	58%
Graffiti Wipe	80%	50%	50%	50%	58%
Graffiti Release	40%	30%	30%	30%	38%
Blok-Guard [®] & Graffiti Control	Red	Black	Green	Red	% Avg.
Biok-Guard & Graniti Control	Paint	Marker	Marker	Marker	Removal
Fast Acting Stripper	95%	100%	100%	100%	99%
Graffiti Wipe	100%	95%	95%	95%	96%
Graffiti Release	70%	90%	90%	90%	85%
	"Charcoal'	' split-face CN	IU		
Untreated Control	Red Paint	Black Marker	Green Marker	Red Marker	% Avg. Removal
Fast Acting Stripper	90%	80%	80%	80%	83%
Graffiti Wipe	90%	80%	80%	80%	83%
Graffiti Release	70%	80%	80%	80%	73%
Blok-Guard [®] & Graffiti Control	Red Paint	Black Marker	Green Marker	Red Marker	% Avg. Removal
Fast Acting Stripper	95%	100%	100%	100%	99%
Graffiti Wipe	100%	98%	98%	98%	99%
Graffiti Release	90%	95%	95%	95%	94%
	"Natural"	split-face CM	U		
	Red	Black	Green	Red	% Avg.
Untreated Control	Paint	Marker	Marker	Marker	Removal
Fast Acting Stripper	90%	65%	65%	65%	71%
Graffiti Wipe	85%	65%	65%	65%	70%
Graffiti Release	75%	65%	65%	65%	68%
Blok-Guard [®] & Graffiti Control	Red Paint	Black Marker	Green Marker	Red Marker	% Avg. Removal
Fast Acting Stripper	90%	98%	98%	98%	96%
Graffiti Wipe	95%	90%	90%	90%	91%
Graffiti Release	75%	85%	85%	85%	83%
"Sandalwood" split-face CMU					
Untreated Control	Red Paint	Black Marker	Green Marker	Red Marker	% Avg. Removal
Fast Acting Stripper	80%	70%	70%	70%	73%
Graffiti Wipe	75%	60%	60%	60%	64%
Graffiti Release	80%	60%	60%	60%	65%
Blok-Guard [®] & Graffiti Control	Red Paint	Black	Green	Red	% Avg.
	90%	Marker 95%	Marker 95%	Marker 95%	Removal 94%
Fast Acting Stripper Graffiti Wipe	100%	95%	95% 95%	95%	94%
	90%	95%	90%	95%	90%
Graffiti Release					



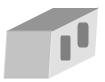


Page 24

TEST RESULTS – Graffiti Control Continued

	"Walnut Brow	wn" split-face	CMU		
Untreated Control	Red Paint	Black Marker	Green Marker	Red Marker	% Avg. Removal
Fast Acting Stripper	95%	90%	90%	90%	91%
Graffiti Wipe	90%	80%	90%	90%	88%
Graffiti Release	95%	80%	90%	90%	89%
Blok-Guard [®] & Graffiti Control	Red Paint	Black Marker	Green Marker	Red Marker	% Avg. Removal
Fast Acting Stripper	95%	100%	100%	100%	99%
Graffiti Wipe	100%	100%	100%	100%	100%
Graffiti Release	90%	95%	95%	95%	94%
	"Caramel"	' split-face CM	U		
Untreated Control	Red Paint	Black Marker	Green Marker	Red Marker	% Avg. Removal
Fast Acting Stripper	80%	70%	70%	70%	73%
Graffiti Wipe	90%	60%	60%	60%	68%
Graffiti Release	40%	60%	60%	60%	55%
Blok-Guard & Graffiti Control	Red Paint	Black Marker	Green Marker	Red Marker	% Avg. Removal
Fast Acting Stripper	95%	100%	100%	100%	99%
Graffiti Wipe	95%	100%	100%	100%	99%
Graffiti Release	90%	95%	100%	95%	95%
	"White"	split-face CMU			
Untreated Control	Red Paint	Black Marker	Green Marker	Red Marker	% Avg. Removal
Fast Acting Stripper	70%	70%	70%	70%	70%
Graffiti Wipe	70%	70%	70%	70%	70%
Graffiti Release	40%	70%	60%	60%	58%
Blok-Guard [®] & Graffiti Control	Red Paint	Black Marker	Green Marker	Red Marker	% Avg. Removal
Fast Acting Stripper	70%	80%	80%	80%	78%
Graffiti Wipe	80%	80%	80%	80%	80%
Graffiti Release	40%	70%	70%	70%	63%
	"Desert Buf	f" split-face C	MU		
Untreated Control	Red Paint	Black Marker	Green Marker	Red Marker	% Avg. Removal
Fast Acting Stripper	90%	70%	70%	70%	75%
Graffiti Wipe	90%	70%	70%	70%	75%
Graffiti Release	90%	60%	60%	60%	68%
Blok-Guard [®] & Graffiti Control	Red Paint	Black Marker	Green Marker	Red Marker	% Avg. Removal
Fast Acting Stripper	95%	100%	100%	100%	99%
Graffiti Wipe	95%	98%	98%	98%	97%
Graffiti Release	90%	95%	98%	95%	95%





Page 25

TEST RESULTS – Graffiti Control Continued

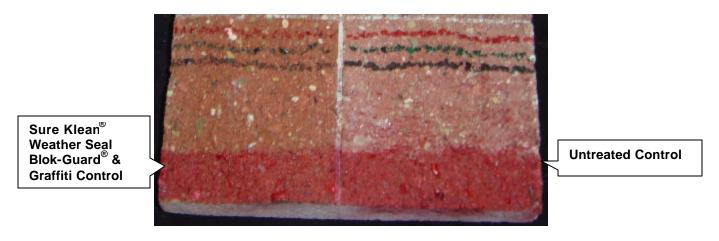
"London Red" split-face CMU					
Untreated Control	Red Paint	Black Marker	Green Marker	Red Marker	% Avg. Removal
Fast Acting Stripper	90%	90%	95%	95%	93%
Graffiti Wipe	90%	85%	95%	95%	92%
Graffiti Release	90%	80%	80%	80%	83%
Blok-Guard [®] & Graffiti Control	Red	Black	Green	Red	% Avg.
	Paint	Marker	Marker	Marker	Removal
Fast Acting Stripper	100%	100%	100%	100%	100%
Graffiti Wipe	100%	100%	100%	100%	100%
Graffiti Release	95%	95%	100%	95%	96%
	"Light Gray	" split-face Cl	MU		
Untreated Control	Red Paint	Black Marker	Green Marker	Red Marker	% Avg. Removal
Fast Acting Stripper	60%	60%	60%	60%	60%
Graffiti Wipe	50%	50%	50%	50%	50%
Graffiti Release	50%	50%	50%	50%	50%
Blok-Guard [®] & Graffiti Control	Red Paint	Black Marker	Green Marker	Red Marker	% Avg. Removal
Fast Acting Stripper	85%	85%	85%	85%	85%
Graffiti Wipe	90%	85%	85%	85%	86%
Graffiti Release	40%	75%	75%	75%	66%
	"Dove Gray	" split-face Cl	MU		
Untreated Control	Red Paint	Black Marker	Green Marker	Red Marker	% Avg. Removal
Fast Acting Stripper	80%	70%	70%	70%	73%
Graffiti Wipe	70%	50%	50%	50%	55%
Graffiti Release	70%	50%	50%	50%	55%
Blok-Guard [®] & Graffiti Control	Red Paint	Black Marker	Green Marker	Red Marker	% Avg. Removal
Fast Acting Stripper	85%	95%	95%	95%	93%
Graffiti Wipe	95%	90%	90%	90%	91%
Graffiti Release	75%	75%	75%	75%	75%
"Purple" split-face CMU					
Untreated Control	Red Paint	Black Marker	Green Marker	Red Marker	% Avg. Removal
Fast Acting Stripper	95%	95%	95%	95%	95%
Graffiti Wipe	95%	85%	100%	100%	95%
Graffiti Release	95%	85%	90%	90%	90%
Blok-Guard [®] & Graffiti Control	Red Paint	Black Marker	Green Marker	Red Marker	% Avg. Removal
Fast Acting Stripper	98%	100%	100%	100%	100%
Graffiti Wipe	98%	100%	100%	100%	100%
Graffiti Release	95%	95%	100%	95%	96%



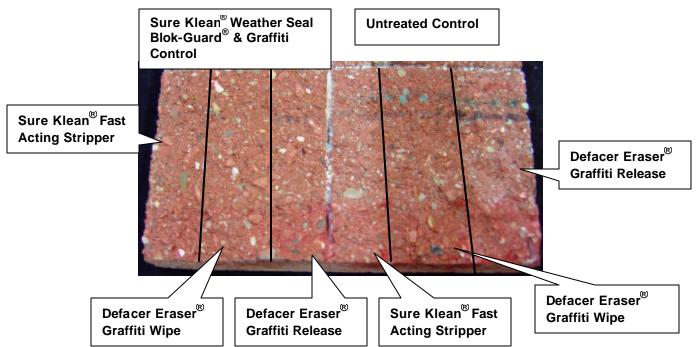
Page 26

PHOTOGRAPHS - Graffiti Control

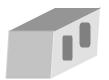
"London Red" split-face Before Graffiti Removal



"London Red" split-face After Graffiti Removal







ROSOCO, Inc. Page 27

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 provided a slight color enhancement to the submitted samples.

RECOMMENDATIONS - GRAFFITI CONTROL

Recommendations for graffiti control treatment for each type of block submitted by Bryce Hill, Inc., Springfield, OH 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
"Canyon Blend", "Natural", "White", "Light Grey", "Dove Grey" and "Purple" split-face CMU's	Sure Klean [®] Weather Seal Blok-Guard [®] & Graffiti Control	Sure Klean [®] Fast Acting Stripper OR Defacer Eraser [®] Graffiti Wipe
"Charcoal", "Sandalwood", "Walnut Brown", "Caramel", "Desert Buff" and "London Red" split-face CMU's		Sure Klean [®] Fast Acting Stripper OR Defacer Eraser [®] Graffiti Wipe OR Defacer Eraser [®] Graffiti Release

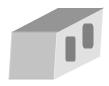
Apply all products in accordance with the manufacturer's recommendation provided on container labels and product data sheets. Because the severity of graffiti varies from location to location, on-site testing should be conducted to determine the most appropriate graffiti control product and procedure 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 and Defacer Eraser[®] Graffiti Release are recommended for job-site testing. See product literature for additional application and product information.

Nathan R. Colaner Technical Analyst

flat R Colm

NRC/



Laboratory Report

Pallet Tag Program Evaluation

Bryce Hill, Inc. Springfield, OH

Project No. 0307-14 PTP

Prepared For:

Joseph Jack Bryce Hill, Inc. Springfield, OH

Prepared By:



PROSOCO, Inc. September 2003