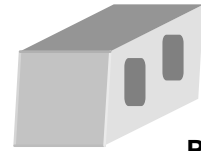




BLOCK PROGRAM LABORATORY REPORT



PROSOCO, Inc.

Page 1

TABLE OF CONTENTS

SAMPLES SUBMITTED 2

PURPOSE OF TEST 3-4

PRODUCTS EVALUATED 5

SECTION A – CLEANING INTEGRALLY COLORED CMUs

DESCRIPTION OF PRODUCTS EVALUATED 6

TEST METHOD 6

TEST RESULTS 7

CONCLUSIONS 8

RECOMMENDATIONS 8

SECTION B – SURFACE ALTERATIONS

DESCRIPTION OF PRODUCTS EVALUATED 9

TEST METHOD 9

TEST RESULTS 10-11

CONCLUSIONS 12

RECOMMENDATIONS 12

SECTION C – PROTECTIVE WATER REPELLENTS

DESCRIPTION OF PRODUCTS EVALUATED 13

TEST METHODS 13

TEST RESULTS 14

CONCLUSIONS 15

RECOMMENDATIONS 15

ATTACHMENTS

Attachment #1 – PHOTO A & B

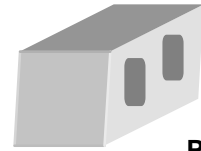
Attachment #2 – PHOTO C

Technical Services TECH Note RILEM Test Method No. II.4

Product Data literature for all products evaluated



BLOCK PROGRAM LABORATORY REPORT



PROSOCO, Inc.

Page 2

FOR: Herron Odle
cc: Lance Escue
Paul Tessier

SUBJECT: Southern Concrete Products
Oakland, TN

DATE: September 28, 2001

PROJECT: 0108-23 BP

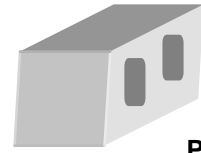
SAMPLES SUBMITTED: Five different colors of full sized concrete CMUs;
(side A split-face, side B smooth)

<u>Sample</u>	<u>Color</u>	<u>Size</u>
A (3) Split-face CMU	"Charcoal"	8" x 8" x 16"
A (3) Split-face CMU	"Buff"	8" x 8" x 16"
A (3) Split-face CMU	"Red"	8" x 8" x 16"
A (3) Split-face CMU	"Chocolate"	8" x 8" x 16"
A (3) Split-face CMU	"Natural Gray"	8" x 8" x 16"
B (3) Smooth CMU	"Charcoal"	8" x 8" x 16"
B (3) Smooth CMU	"Buff"	8" x 8" x 16"
B (3) Smooth CMU	"Red"	8" x 8" x 16"
B (3) Smooth CMU	"Chocolate"	8" x 8" x 16"
B (3) Smooth CMU	"Natural Gray"	8" x 8" x 16"

Submitted by: Lance Escue



BLOCK PROGRAM LABORATORY REPORT



PROSOCO, Inc.

Page 3

PURPOSE OF TESTING

Five different integrally colored full size CMUs with a split-face and smooth side were submitted for testing using PROSOCO, Inc.'s new construction cleaning and water repellent products.

A. Cleaning Concrete Masonry Units – Sure Klean[®] Custom Masonry Cleaner was tested at various dilutions for the removal of laboratory applied mortar from both faces of the CMUs. Sure Klean[®] Burnished Custom Masonry Cleaner was tested at various dilutions for the removal of laboratory-applied mortar from the smooth faces only.

To simulate new construction soiling, all CMUs 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 cementitious mortar. The wet, mortar-filled cylinder is allowed to remain in contact with the CMU for 10 minutes before removal.

Soiled CMUs are allowed to dry before test cleaning.

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.

Refer to “*Note: When cleaning integrally colored CMU” in the following section, “Surface Alteration Testing.”

B. Surface Alteration Testing – Sure Klean[®] Custom Masonry Cleaner and Sure Klean[®] Burnished Custom Masonry Cleaner were tested at various dilutions to determine if a cleaning program implemented to remove excess mortar and related new construction soiling would otherwise alter the appearance of cleaned surfaces. Surface Alteration was evaluated visually based upon perceived discoloration or erosion/etching of the masonry unit.

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

Surface Pigment Alteration/Removal* is the visual examination of the CMU comparing the surface pigmentation of the untreated control to surfaces cleaned with selected product(s) at given dilutions.

Matrix Erosion is the visual examination comparing the untreated control surface to surfaces cleaned with selected products at given dilutions looking for any potential erosion/digestion of the cementitious matrix of the CMU.

Staining is the visual examination for changes that are the result of a chemical reaction that leaves a staining precipitate.

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

0 – no change	3 – heavy
1 – slight	4 – excessive
2 – moderate	

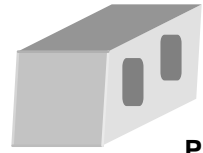
*** NOTE: When cleaning integrally colored CMU.**

Integrally colored concrete masonry units (CMUs) 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.



BLOCK PROGRAM LABORATORY REPORT



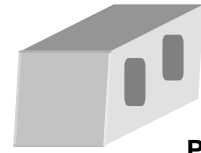
PROSOCO, Inc.

Page 4

C. Protective Water Repellents – Sure Klean[®] Custom Masonry Sealer was evaluated for its ability to provide water repellency to the submitted samples.



BLOCK PROGRAM LABORATORY REPORT



PROSOCO, Inc.

Page 5

CLEANING PRODUCTS EVALUATED

SAMPLE	Sure Klean [®] Custom Masonry Cleaner	Sure Klean [®] Burnished Custom Masonry Cleaner
All colors of split-face CMUs	1:2	N/A
	1:4	N/A
	1:6	N/A
All colors of smooth CMUs	1:4	1:2
	1:6	1:3

SURFACE ALTERATION PRODUCTS EVALUATED

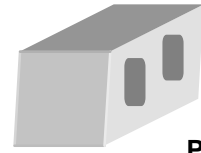
SAMPLE	Sure Klean [®] Custom Masonry Cleaner	Sure Klean [®] Burnished Custom Masonry Cleaner
All colors of split-face CMUs	1:2	N/A
	1:4	N/A
	1:6	N/A
All colors of smooth CMUs	1:4	1:2
	1:6	1:3

WATER REPELLENT PRODUCTS EVALUATED

SAMPLE	PRODUCT
All colors of split-face and smooth CMUs	Sure Klean [®] Custom Masonry Sealer



BLOCK PROGRAM LABORATORY REPORT



SECTION A – CLEANING INTEGRALLY COLORED CMUs

DESCRIPTION OF PRODUCTS EVALUATED – Cleaning

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, nonetching acidic cleaner for custom masonry and colored concrete. Removes rust, mud, oil, atmospheric dirt, and other stains without altering the surface texture. 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:

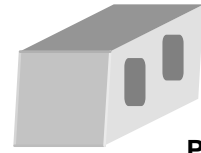
1. Prewet the surface with water.
2. Apply the cleaner at the appropriate dilutions.
3. Allow appropriate exposure time:

Custom Masonry Cleaner	3 minutes
Burnished Custom Masonry Cleaner	5 minutes
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.



BLOCK PROGRAM LABORATORY REPORT



PROSOCO, Inc.

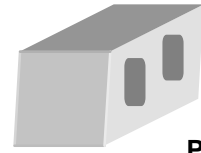
Page 7

TEST RESULTS – Cleaning

Sample	Cleaner	Dilution	Cure	% Mortar Removal
All colors of split-face CMUs	Custom Masonry Cleaner	1:2	3 day	100%
		1:4		100%
		1:6		100%
		1:2	7 day	100%
		1:4		100%
		1:6		100%
		1:2	14 day	100%
		1:4		100%
		1:6		100%
All colors of smooth CMUs	Custom Masonry Cleaner	1:4	3 day	99%
		1:6		99%
		1:4	7 day	97%
		1:6		97%
		1:4	14 day	97%
		1:6		97%
	Burnished Custom Masonry Cleaner	1:2	3 day	94%
		1:3		94%
		1:2	7 day	93%
		1:3		93%
		1:2	14 day	93%
		1:3		93%



BLOCK PROGRAM LABORATORY REPORT



PROSOCO, Inc.

Page 8

CONCLUSIONS – Cleaning

Based on the test data, all of the submitted split-face CMUs were efficiently cleaned with each 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.

Both Sure Klean[®] Custom Masonry Cleaner and Sure Klean[®] Burnished Custom Masonry Cleaner efficiently cleaned the submitted smooth CMUs. The smooth face CMUs were cleaned to better than 90% removal but complete removal of the mortar was not achieved. Also, Sure Klean[®] Custom Masonry Cleaner performed better than Sure Klean[®] Burnished Custom Masonry Cleaner at removing mortar and surface pigment.

All dilutions of Sure Klean[®] Custom Masonry Cleaner tested affected the split-face and smooth CMUs in a similar manner, removing heavy concentrations of pigmented matrix from the CMUs, exposing small and large aggregate, and enhancing the natural appearance of the integrally colored concrete masonry unit. Both dilutions of Sure Klean[®] Burnished Custom Masonry Cleaner affected the smooth CMUs in a similar manner, removing slight amounts of the pigmented matrix from the CMUs.

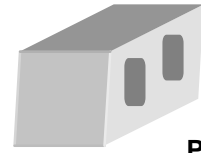
RECOMMENDATIONS – Cleaning

Based on these evaluations, all dilutions of Sure Klean[®] Custom Masonry Cleaner tested can be recommended for job-site testing on the split-face CMUs and both Sure Klean[®] Custom Masonry Cleaner and Sure Klean[®] Burnished Custom Masonry Cleaner can be recommended for the smooth CMUs submitted by Southern Concrete Products, Oakland, TN. They all are effective in removing excess mortar, and they all assist in improving the color and uniformity of these CMUs. 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.

Note: To remove excess mortar while minimizing aggregate exposure and color enhancement, clean within 7 days of completion using Sure Klean[®] Custom Masonry Cleaner diluted with 6 parts fresh water.



BLOCK PROGRAM LABORATORY REPORT



SECTION B – SURFACE ALTERATIONS

DESCRIPTION OF PRODUCTS EVALUATED – Surface Alterations

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, nonetching acidic cleaner for custom masonry and colored concrete. Removes rust, mud, oil, atmospheric dirt, and other stains without altering the surface texture. Liquid concentrate for dilution with 2-3 parts water. Apply by brush or low-pressure spray.

TEST METHOD – Surface Alterations

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

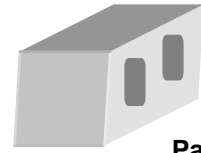
1. Prewet the surface with water.
2. Apply the cleaner at the appropriate dilutions.
3. Allow appropriate exposure time:

Custom Masonry Cleaner	3 minutes
Burnished Custom Masonry Cleaner	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.



BLOCK PROGRAM LABORATORY REPORT



PROSOCO, Inc.

Page 10

TEST RESULTS – Surface Alterations

Substrate: Split-face CMU		Pigment Color: “Charcoal”			
Product	Dilution	Aggregate Exposure	Surface Pigment Alteration/Removal	Matrix Erosion	Staining
Custom Masonry Cleaner	1:2	2	2	2	0
Custom Masonry Cleaner	1:4	1	1	1	0
Custom Masonry Cleaner	1:6	1	1	1	0
Substrate: Split-face CMU		Pigment Color: “Buff”			
Product	Dilution	Aggregate Exposure	Surface Pigment Alteration/Removal	Matrix Erosion	Staining
Custom Masonry Cleaner	1:2	2	2	2	0
Custom Masonry Cleaner	1:4	2	1	2	0
Custom Masonry Cleaner	1:6	1	1	1	0
Substrate: Split-face CMU		Pigment Color: “Red”			
Product	Dilution	Aggregate Exposure	Surface Pigment Alteration/Removal	Matrix Erosion	Staining
Custom Masonry Cleaner	1:2	1	1	1	0
Custom Masonry Cleaner	1:4	1	1	1	0
Custom Masonry Cleaner	1:6	1	1	1	0
Substrate: Split-face CMU		Pigment Color: “Chocolate”			
Product	Dilution	Aggregate Exposure	Surface Pigment Alteration/Removal	Matrix Erosion	Staining
Custom Masonry Cleaner	1:2	2	2	2	0
Custom Masonry Cleaner	1:4	2	2	2	0
Custom Masonry Cleaner	1:6	2	2	2	0
Substrate: Split-face CMU		Pigment Color: “Natural Gray”			
Product	Dilution	Aggregate Exposure	Surface Pigment Alteration/Removal	Matrix Erosion	Staining
Custom Masonry Cleaner	1:2	2	2	2	0
Custom Masonry Cleaner	1:4	2	2	2	0
Custom Masonry Cleaner	1:6	1	1	1	0

Scale used for reporting results of all categories

0 – no change

1 – slight

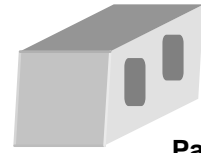
2 – moderate

3 – heavy

4 – excessive



BLOCK PROGRAM LABORATORY REPORT



PROSOCO, Inc.

Page 11

TEST RESULTS – Surface Alterations Continued

Substrate: Smooth CMU		Pigment Color: “Charcoal”			
Product	Dilution	Aggregate Exposure	Surface Pigment Alteration/Removal	Matrix Erosion	Staining
Custom Masonry Cleaner	1:4	2	2	2	0
Custom Masonry Cleaner	1:6	1	2	1	0
Burnished Custom Masonry Clnr	1:2	1	2	1	0
Burnished Custom Masonry Clnr	1:3	1	2	1	0
Substrate: Smooth CMU		Pigment Color: “Buff”			
Product	Dilution	Aggregate Exposure	Surface Pigment Alteration/Removal	Matrix Erosion	Staining
Custom Masonry Cleaner	1:4	2	2	2	0
Custom Masonry Cleaner	1:6	2	1	2	0
Burnished Custom Masonry Clnr	1:2	1	1	1	0
Burnished Custom Masonry Clnr	1:3	1	1	1	0
Substrate: Smooth CMU		Pigment Color: “Red”			
Product	Dilution	Aggregate Exposure	Surface Pigment Alteration/Removal	Matrix Erosion	Staining
Custom Masonry Cleaner	1:4	1	1	1	0
Custom Masonry Cleaner	1:6	1	1	1	0
Burnished Custom Masonry Clnr	1:2	1	1	1	0
Burnished Custom Masonry Clnr	1:3	1	1	1	0
Substrate: Smooth CMU		Pigment Color: “Chocolate”			
Product	Dilution	Aggregate Exposure	Surface Pigment Alteration/Removal	Matrix Erosion	Staining
Custom Masonry Cleaner	1:4	2	2	2	0
Custom Masonry Cleaner	1:6	2	2	2	0
Burnished Custom Masonry Clnr	1:2	1	1	1	0
Burnished Custom Masonry Clnr	1:3	1	1	1	0
Substrate: Smooth CMU		Pigment Color: “Natural Gray”			
Product	Dilution	Aggregate Exposure	Surface Pigment Alteration/Removal	Matrix Erosion	Staining
Custom Masonry Cleaner	1:4	2	2	2	0
Custom Masonry Cleaner	1:6	2	2	2	0
Burnished Custom Masonry Clnr	1:2	1	1	1	0
Burnished Custom Masonry Clnr	1:3	1	1	1	0

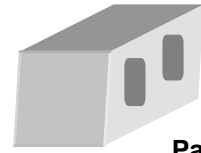
Scale used for reporting results of all categories

0 – no change
1 – slight
2 – moderate

3 – heavy
4 – excessive



BLOCK PROGRAM LABORATORY REPORT



PROSOCO, Inc.

Page 12

CONCLUSIONS – Surface Alterations

Based on test data, all dilutions of Sure Klean[®] Custom Masonry Cleaner tested affected the split-face and smooth CMUs in a similar manner, removing heavy concentrations of pigmented matrix from the CMUs, exposing small and large aggregate, and enhancing the natural appearance of the integrally colored concrete masonry unit. Both dilutions of Sure Klean[®] Burnished Custom Masonry Cleaner affected the smooth CMUs in a similar manner, removing slight amounts of the pigmented matrix from the CMUs.

NOTE: See Attachment #1 “PHOTO A & B” for visual surface alterations.

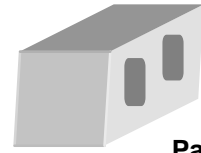
RECOMMENDATIONS – Surface Alterations

Based on these evaluations, all dilutions of Sure Klean[®] Custom Masonry Cleaner tested can be recommended for job-site testing on the split-face CMUs and Sure Klean[®] Custom Masonry Cleaner and Sure Klean[®] Burnished Custom Masonry Cleaner can be recommended for the smooth CMUs submitted by Southern Concrete Products, Oakland, TN. They all are effective in removing excess mortar and assist in improving the color and uniformity of these CMUs. 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.

NOTE: To remove excess mortar while minimizing aggregate exposure and color enhancement, clean within 7 days of completion using Sure Klean[®] Custom Masonry Cleaner diluted with 6 parts fresh water.



BLOCK PROGRAM LABORATORY REPORT



PROSOCO, Inc.

Page 13

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, and concrete block without altering the natural appearance. Custom Masonry Sealer penetrates and fills pores to prevent water penetration through exterior walls exposed to normal weathering as well as long-lasting protection against many types of graffiti.

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 72 hours prior to testing.

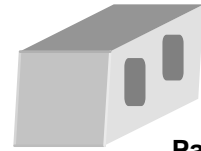
TEST METHODS – Protective Water Repellents

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.



BLOCK PROGRAM LABORATORY REPORT



PROSOCO, Inc.

Page 14

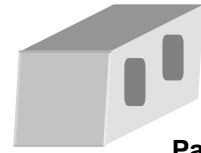
TEST RESULTS – Protective Water Repellents

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

		RESULTS
Split-face CMU "Charcoal"		
Untreated Control		<40 mph
Custom Masonry Sealer		60 mph
Split-face CMU "Buff"		
Untreated Control		<40 mph
Custom Masonry Sealer		60 mph
Split-face CMU "Red"		
Untreated Control		<40 mph
Custom Masonry Sealer		60 mph
Split-face CMU "Chocolate"		
Untreated Control		<40 mph
Custom Masonry Sealer		60 mph
Split-face CMU "Natural Gray"		
Untreated Control		<40 mph
Custom Masonry Sealer		60 mph
Smooth CMU "Charcoal"		
Untreated Control		59 mph
Custom Masonry Sealer		60 mph
Smooth CMU "Buff"		
Untreated Control		<40 mph
Custom Masonry Sealer		60 mph
Smooth CMU "Red"		
Untreated Control		<40 mph
Custom Masonry Sealer		60 mph
Smooth CMU "Chocolate"		
Untreated Control		<40 mph
Custom Masonry Sealer		60 mph
Smooth CMU "Natural Gray"		
Untreated Control		<40 mph
Custom Masonry Sealer		60 mph



BLOCK PROGRAM LABORATORY REPORT



PROSOCO, Inc.

Page 15

CONCLUSIONS – Protective Water Repellents

Based upon laboratory evaluations, Sure Klean[®] Custom Masonry Sealer provided above average water repellency on all of the submitted split-face and smooth CMUs. Sure Klean[®] Custom Masonry Sealer also slightly enhanced the natural color of the split-face CMUs. There were no visual alterations to the smooth CMUs when treated with Sure Klean[®] Custom Masonry Sealer.

NOTE: See Attachment #1 "PHOTO C" for visual color enhancement.

RECOMMENDATIONS – Protective Water Repellents

Based on evaluations, Sure Klean[®] Custom Masonry Sealer can be recommended for job-site testing on all of the split-face and smooth CMUs, submitted by Southern Concrete Products, Oakland, TN.

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.

Jason L. Anderson
Materials Testing Technician

JLA/

Attachment #1

PHOTO A – “Chocolate” split-face CMU after cleaning

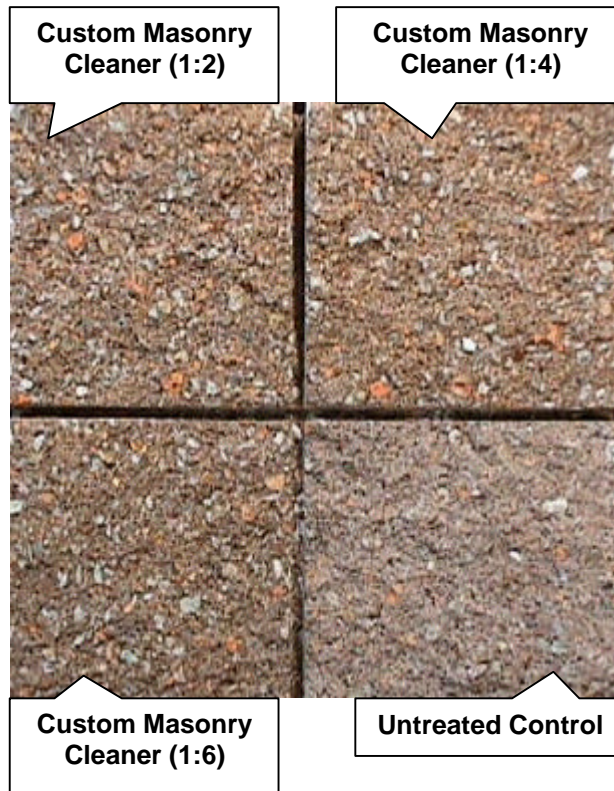
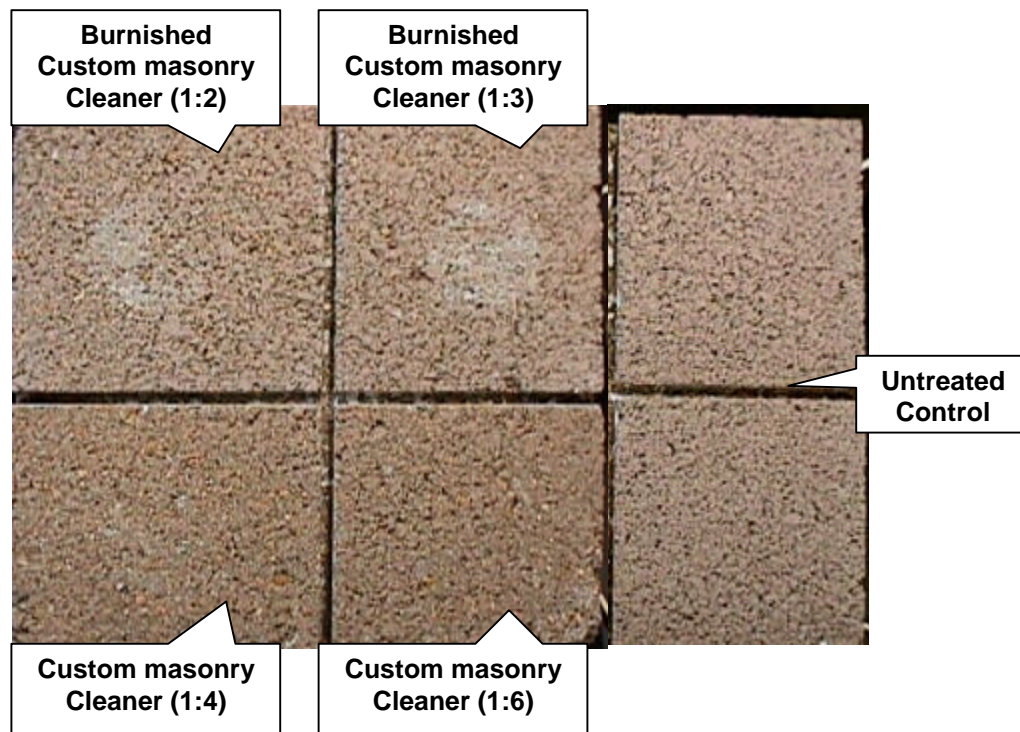
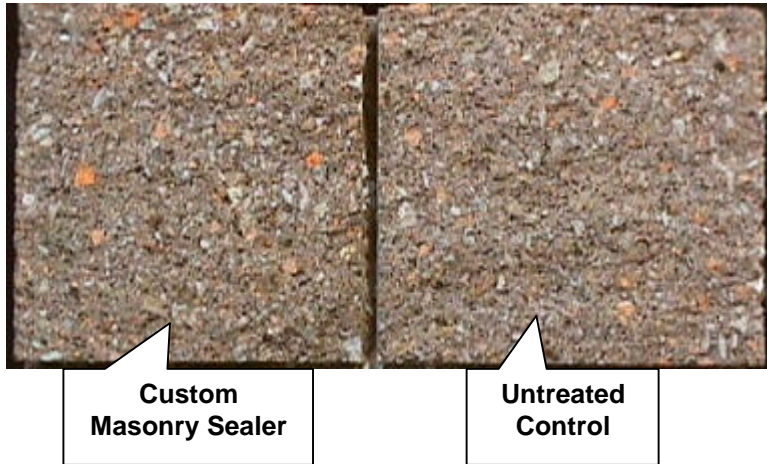


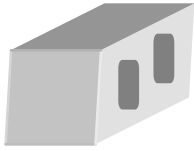
PHOTO B – “Chocolate” smooth CMU after cleaning



Attachment #2

PHOTO C – “Chocolate” split-face CMU after treatment with Custom Masonry Sealer





Laboratory Report

Block Program Evaluation

**Southern Concrete Products
Oakland, TN**

Project No. 0108-23 BP

Prepared For:

**Herron Odle
Southern Concrete Products
200 Pierce Rd.
Oakland, TN 38060**

Prepared By:



***PROSOCO, Inc.
September 2001***