



PROSOCO, Inc. Page 1

<b>TABLE</b>	OF	CON	TENTS	

SAMPLES SUBMITTED	3
PURPOSE OF TEST	4
PRODUCTS EVALUATED	4-5
SECTION A – NEW CONSTRUCTION/MAINTENANCE CLEAN	ING
DESCRIPTION OF PRODUCTS EVALUATED	5
TEST METHOD	6
TEST RESULTS	6-7
CONCLUSIONS	8
RECOMMENDATIONS	8
SECTION B - ADVERSE EFFECTS	
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	13-14
TEST RESULTS	15-19
Graph 1-Siloxane PD C67	16
Table-Rilem Tube Results	
Graph 2-Siloxane PD Rilem	18
CONCLUSIONS	19
RECOMMENDATIONS	20





PROSOCO, Inc. Page 2

### **ATTACHMENTS**

ASTM C 67 Immersion Testing

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

Product Data literature for all products evaluated

Material Safety Data Sheets for all products evaluated



## LABORATORY REPORT



PROSOCO, Inc.

Page 3

FOR: Cherokee Brick & Tile Company

> 716 Forsyth Street Macon, GA 31201

Paul Tessier CC:

> Mike Burdette Vintage Marketing

SUBJECT: Cherokee Brick & Tile Company

Macon, GA

DATE: October 16, 2000

PROJECT: 0006-24 PC

SAMPLES SUBMITTED: 8 styles of new clay brick:

1 sleeve of "Melrose Tumbled" (MR), red tumbled clay w/ white finish

Size: 2" x 4" x 8"

1 sleeve of "Natchez" (NA), red clay w/ darkened sandy finish

Size: 2" x 4" x 8"

1 sleeve of "English Rose" (ER), red clay w/ white sandy finish

Size: 2" x 4" x 8"

1 sleeve of "Velour Buff" (VB), yellow clay

Size: 2" x 4" x 8"

1 sleeve of "Velour Light Gray" (LG), Light Gray Clay Size: 2" x 4" x 8"

1 sleeve of "Georgia Maroon" (MA), red clay w/ darkened sandy finish

Size: 2" x 4" x 8"

1 sleeve of "St. James" (SJ), red clay w/ darkened sandy finish

Size: 2" x 4" x 8"

1 sleeve of "Naples" (NP), red clay w/ white finish

Size: 2" x 4" x 8"

Submitted by: Cherokee Brick & Tile Company

716 Forsyth Street Macon, GA 31201





PROSOCO, Inc.

Page 4

### **PURPOSE OF TESTING:**

Samples of clay brick units were submitted to PROSOCO, Inc.'s Testing Laboratory with a request to determine if application of the products evaluated will produce any adverse effects during new construction cleaning operations. Additionally, the effectiveness of water repellents, suitable for clay brick masonry, will be evaluated.

**A.** New Construction Cleaning – Sure Klean<sup>®</sup> New Construction Cleaners were evaluated for removal of laboratory applied mortar.

To simulate new construction soiling, the ability of each cleaner to remove hardened deposits of type "N" cementitious mortar was evaluated and is reported below. Mortar was applied by placing the fired clay units face down in a smooth-finished tray of prepared mortar for 10 minutes. The mortar-stained brick were cured at  $75\% \pm 5\%$  RH and  $70^{\circ}$ F  $\pm 5^{\circ}$ F before any cleaning tests were attempted.

Heavy deposits of mortar are removed with dry scraping after 24 hours. Sure Klean<sup>®</sup> 600 Detergent and Sure Klean<sup>®</sup> Vana Trol<sup>®</sup> were tested for removal of gray N masonry cement mortar after 7, 14 and 21 days of curing.

- **B. Adverse Effects** Sure Klean<sup>®</sup> 600 Detergent and Sure Klean<sup>®</sup> Vana Trol<sup>®</sup> were tested at various dilutions to determine if they would produce any adverse effects during the cleaning process. Adverse effects were evaluated visually and were based upon damage to the decorative brick surface coating, discoloration or erosion/etching of the masonry unit.
- **C. Protective Water Repellents** Sure Klean<sup>®</sup> Weather Seal Siloxane PD, Sure Klean<sup>®</sup> Weather Seal Siloxane WB were evaluated for ability to provide water repellency to the submitted samples.

#### **CLEANING PRODUCTS**

BRICK TYPE	600 Detergent	Vana Trol <sup>®</sup>
All submitted brick samples	1:6	1:6
All submitted brick samples	1:8	1:8

### ADVERSE EFFECTS PRODUCTS EVALUATED

Sample	Sure Klean <sup>®</sup> 600 Detergent	Sure Klean <sup>®</sup> Vana Trol <sup>®</sup>
All submitted brick samples	1:6	1:6
All submitted brick samples	1:8	1:8



PROSOCO, Inc.

Page 5

#### WATER REPELLENT PRODUCTS EVALUATED

Sample	Treatment	Dilution
All Submitted Brick Types	Siloxane PD	Concentrate
"Georgia Maroon", "St. James", "Naples"	Siloxane WB 1:9	1:9*

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

## SECTION A – NEW CONSTRUCTION CLEANING

### **DESCRIPTION OF PRODUCTS EVALUATED – New Construction Cleaning**

These cleaning trials were conducted to determine the optimal cleaning/cure time combination to most efficiently remove type N mortar from the submitted fired clay units.

Type N cementitious mortar was prepared in compliance with the manufacturers instructions, applied to the brick surface and allowed to cure for 7, 14 and 21 days prior to removal with high pressure water rinse using pressure rinsing equipment and chemical assist. The removal of gray Type N cementitious masonry cement mortar after 7, 14, and 21 days of curing was visually evaluated.

**Sure Klean® 600 Detergent** – A general purpose, concentrated acidic cleaner for brick, tile and concrete surfaces. Dissolves mortar smears and construction dirt quickly, leaving the masonry clean and uniform with no acid burning or streaking. Liquid concentrate for dilution with 4-25 parts water. Apply by brush or low-pressure spray.

**Sure Klean**<sup>®</sup> **Vana Trol**<sup>®</sup> - A concentrated acidic cleaner for new masonry surfaces that are subject to vanadium, manganese and other metallic stains. Use on: gray, brown, white and most light-colored brick; natural stone; cast stone. Dissolves mortar smears and construction dirt quickly, leaving the masonry clean and uniform with no acid burning or streaking. Liquid concentrate for dilution with 4-25 parts water. Apply by brush or low-pressure spray.



## LABORATORY REPORT



PROSOCO, Inc.

Page 6

## **TEST METHOD – New Construction Cleaning**

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

- 1. Prewet the surface with water.
- 2. Apply the cleaner.
- 3. Allow the appropriate dwell time, as specified.

600 Detergent	5 minutes
Vana Trol <sup>®</sup>	5 minutes

4. Pressure rinse thoroughly.

### **Test Results - New Construction Cleaning**

#### **Melrose Tumbled**

% remova	l
----------	---

	<u>/ day</u>	<u>14 day</u>	<u>21 day</u>
SK 600 Detergent (1:6)	100%	100%	100%
SK 600 Detergent (1:8)	100%	99%	99%
SK Vana Trol® (1:6)	95%	95%	90%
SK Vana Trol® (1:8)	95%	95%	90%

## **English Rose**

	<u>7 day</u>	<u>14 day</u>	<u>21 day</u>
SK 600 Detergent (1:6)	100%	100%	100%
SK 600 Detergent (1:8)	100%	99%	99%
SK Vana Trol® (1:6)	95%	80%	80%
SK Vana Trol® (1:8)	95%	80%	80%

### **Velour Light Gray**

	<u>7 day</u>	<u>14 day</u>	<u>21 day</u>
SK 600 Detergent (1:6)	100%	100%	100%
SK 600 Detergent (1:8)	100%	99%	99%
SK Vana Trol® (1:6)	95%	95%	90%
SK Vana Trol ® (1:8)	95%	95%	90%

### Georgia Maroon

	<u>7 day</u>	<u>14 day</u>	<u>21 day</u>
SK 600 Detergent (1:6)	100%	100%	100%
SK 600 Detergent (1:8)	100%	99%	99%
SK Vana Trol® (1:6)	95%	95%	90%
SK Vana Trol® (1:8)	95%	95%	90%



## LABORATORY REPORT



PROSOCO, Inc.

Page 7

### St. James

	<u>7 day</u>	<u>14 day</u>	<u>21 day</u>
SK 600 Detergent (1:6)	100%	100%	100%
SK 600 Detergent (1:8)	100%	99%	99%
SK Vana Trol® (1:6)	95%	95%	90%
SK Vana Trol® (1:8)	95%	95%	90%

### **Natchez**

	<u>7 day</u>	<u>14 day</u>	<u>21 day</u>
SK 600 Detergent (1:6)	100%	95%	90%
SK 600 Detergent (1:8)	100%	95%	90%
SK Vana Trol® (1:6)	95%	95%	80%
SK Vana Trol® (1:8)	95%	95%	80%

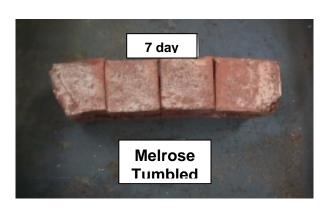
### **Velour Buff**

	<u>7 day</u>	<u>14 day</u>	<u>21 day</u>
SK 600 Detergent (1:6)	100%	100%	100%
SK 600 Detergent (1:8)	100%	99%	99%
SK Vana Trol® (1:6)	95%	95%	90%
SK Vana Trol® (1:8)	95%	95%	90%

## **Naples**

	<u>7 day</u>	<u>14 day</u>	<u>21 day</u>
SK 600 Detergent (1:6)	100%	100%	100%
SK 600 Detergent (1:8)	100%	99%	99%
SK Vana Trol® (1:6)	95%	95%	90%
SK Vana Trol® (1:8)	95%	95%	90%

## BEFORE 7 day MORTAR CLEANING



## AFTER 7 day MORTAR CLEANING





## LABORATORY REPORT



PROSOCO, Inc.

Page 8

\_\_\_\_\_

### **CONCLUSIONS - Cleaning:**

Based on the test results, both cleaners and all dilutions performed extremely well in removing excess mortar smears on the submitted brick samples. The cleaners performed well in removing the mortar soils even after allowing the mortar to remain on the surface of the brick for 21 days under ideal curing conditions. 600 Detergent performed slightly better than Vana Trol<sup>®</sup> in terms of total mortar removal off.

It is also recommended that the selected cleaners always be used in the lowest possible concentration, typically a 1:8 dilution for 600 Detergent and 1:6 for Vana Trol<sup>®</sup>. They should be rinsed with the lowest pressure of water as practical, garden hose strength preferred, to minimize removal of the decorative sand finish. To facilitate easier removal of excess mortar and construction dirt while minimizing any potential adverse affect on the decorative sand finish, clean within 7 days of construction.

#### RECOMMENDED PRODUCTS AND DILUTIONS - CLEANING:

Sample	Sure Klean <sup>®</sup> 600 Detergent	Sure Klean <sup>®</sup> Vana Trol <sup>®</sup>
Melrose Tumbled	1:8	1:6
English Rose	1:8	1:6
Velour Light Gray	1:8	1:6
Georgia Maroon	1:8	1:6
St. James	1:8	1:6
Natchez	1:8	1:6
Velour Buff	1:8	1:6
Naples	1:8	1:6



PROSOCO, Inc.

Page 9

## **SECTION B - ADVERSE EFFECTS:**

#### **DESCRIPTION OF PRODUCTS EVALUATED - Adverse Effects:**

**Sure Klean**<sup>®</sup> **600 Detergent -** A general purpose, concentrated acidic cleaner for brick, tile and concrete surfaces. Dissolves mortar smears and construction dirt quickly, leaving the masonry clean and uniform with no acid burning or streaking. Liquid concentrate for dilution with 4-12 parts water. Apply by brush or low-pressure spray.

**Sure Klean**<sup>®</sup> **Vana Trol**<sup>®</sup> - A concentrated acidic cleaner for new masonry surfaces that are subject to vanadium, manganese and other metallic stains. Designed for use on gray, brown, white and most light-colored brick, natural stone and cast stone. Dissolves mortar smears and construction dirt quickly, leaving the masonry clean and uniform with no acid burning or streaking. Liquid concentrate for dilution with 4-10 parts water. Apply by brush or low-pressure spray.

\_\_\_\_\_\_

#### **TEST METHODS - Adverse Effects:**

Dilution ratios refer to mixtures of concentrated cleaner: fresh water.

Sure Klean<sup>®</sup> 600 Detergent and Sure Klean® Vana Trol<sup>®</sup> were both evaluated at dilutions of 1:6 and 1:8. The following procedure was used:

- 1. Prewet the surface with water.
- 2. Apply each cleaner at the appropriate dilutions.
- 3. Allow a 5-minute exposure time.
- 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 800 psi with a warm water flow rate of 1.9 gallons per minute.



## LABORATORY REPORT



Page 10

PROSOCO, Inc.

### **TEST RESULTS - Adverse Effects Evaluation:**

### "Melrose Tumbled"

600 Detergent	Effects
1:6 dilution	Removed 75% of powdery white finish
1:8 dilution	Removed 75% of powdery white finish
Vana Trol <sup>®</sup>	Effects

Removed 75% of powdery white finish 1:6 dilution Removed 75% of powdery white finish 1:8 dilution

## "English Rose"

600 Detergent	Effects
1:6 dilution	Removed 75% of sandy white finish
1:8 dilution	Removed 75% of sandy white finish
Vana Trol <sup>®</sup>	Effects
1:6 dilution	Removed 75% of sandy white finish

1:8 dilution Removed 75% of sandy white finish

## "Velour Light Gray"

600 Detergent	Effects
1:6 dilution	No apparent adverse effects
1:8 dilution	No apparent adverse effects
Vana Trol <sup>®</sup>	Effects
<b>Vana Trol<sup>®</sup></b> 1:6 dilution	Effects No apparent adverse effects

## "Georgia Maroon"

600 Detergent 1:6 dilution 1:8 dilution	Effects  No apparent adverse effects  No apparent adverse effects
<b>Vana Trol</b> <sup>®</sup> 1:6 dilution	<b>Effects</b> No apparent adverse effects
1:8 dilution	No apparent adverse effects



## LABORATORY REPORT



PROSOCO, Inc. Page 11

## TEST RESULTS - Adverse Effects Evaluation (cont'd):

### "St. James"

600 Detergent	Effects
000 = 010.90	

1:6 dilution1:8 dilutionNo apparent adverse effectsNo apparent adverse effects

Vana Trol<sup>®</sup> Effects

1:6 dilution1:8 dilutionNo apparent adverse effectsNo apparent adverse effects

"Natchez"

600 Detergent Effects

1:6 dilution Removed 25-35% of decorative finish & fine sand 1:8 dilution Removed 25-35% of decorative finish & fine sand

Vana Trol<sup>®</sup> Effects

1:6 dilution Removed 25-35% of decorative finish & fine sand Removed 25-35% of decorative finish & fine sand

#### "Velour Buff"

600 Detergent Effects

1:6 dilution1:8 dilutionNo apparent adverse effectsNo apparent adverse effects

Vana Trol<sup>®</sup> Effects

1:6 dilution1:8 dilutionNo apparent adverse effectsNo apparent adverse effects

### "Naples"

600 Detergent Effects

1:6 dilution Removed 25-35% of decorative finish & fine sand 1:8 dilution Removed 25-35% of decorative finish & fine sand

Vana Trol<sup>®</sup> Effects

1:6 dilution Removed 25-35% of decorative finish & fine sand 1:8 dilution Removed 25-35% of decorative finish & fine sand





PROSOCO, Inc. Page 12

\_\_\_\_\_

#### **CONCLUSIONS - Adverse Effects:**

Four of the eight types of brick suffered an alteration of appearance due to the use of these selected cleaners in conjunction with pressure water rinsing. Pressure rinsing alone caused the majority of the surface alterations. The bricks that suffered adverse effects all had a loosely bound sand finish surface coating that was easily removed by the slightest application of force.

\_\_\_\_\_\_

#### **RECOMMENDATIONS - Adverse Effects:**

Due to the fragile nature of the surface coating on four of the eight submitted brick. The selected cleaners should always be used in the lowest possible concentration, typically a 1:8 dilution. Rinse thoroughly with low water pressure to minimize removal of the decorative sand finish. Conduct all cleaning within 7 days of soiling to facilitate easier removal of excess mortar and construction dirt.

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





Page 13

\_\_\_\_\_

## <u>SECTION C - PROTECTIVE WATER REPELLENTS:</u>

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 PD -** A low odor, alkaline stable, water-based blend of silanes and oligomeric alkoxysiloxanes. Weather Seal Siloxane PD is supplied prediluted and is designed for use on concrete and clay masonry surfaces. Weather Seal Siloxane PD penetrates more deeply than conventional water or solvent-based water repellents.

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

\_\_\_\_\_

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

The submitted brick were cut, oven dried and allowed to reabsorb atmospheric humidity for 24 hours prior to treatment. The treatment method consisted of two 10-second immersions with a 20-second absorption period between immersions to simulate a wet-on-wet application. All treatments were allowed to cure for 14 days prior to testing.

\_\_\_\_\_\_\_

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

Water Absorption: ASTM C 67, Immersion

Water absorption was determined by comparing the dry weight of the sample with its weight after immersion in water at 10-minute, 30-minute, 60-minute and 24-hour intervals. See ASTM C 67 for additional information.

Reduced water absorption values – reported as effectiveness – measure the effectiveness of selected treatments in protecting samples from water penetration and water related decay mechanisms. Generally a reduction of approximately 80% is required to provide resistance to water intrusion under normal exposure conditions.



Page 14

## Water Absorption Tube Test: RILEM II.4, 5.0 milliliters, 20 minutes

The water absorption tube test simulating wind driven and wind blown rain conditions was also performed. Tests were run with 5.0 milliliter head pressures. Filled to 5 milliliters, a water absorption tube produces a 98 mph dynamic wind pressure. See RILEM II.4 Tech Note for additional information. See ASTM C 67 and Rilem II.4 Tech Note for additional information.

The ranking system used to evaluate the effectiveness of the products applied to each submitted sample is as follows:

<u>AA</u> = "Above Average" correlates to less than or equal to 20% of the maximum untreated absorption.

**A** = "Average" correlates to less than or equal to 50% of the maximum untreated absorption

BA = "Below Average" correlates to greater than 50% of the maximum untreated absorption.

EXAMPLE: If RILEM tubes applied to an untreated sample result in loss of 5 ml of water or more, then:

A rating of  $\underline{AA}$  Above Average water repellent performance would require loss of no more than 5 ml X 20% = 1 ml.

A rating of **A** Average water repellent performance would require loss of no more than 5 ml  $\times$  50% = 2.5ml.

A rating of BA *Below Average* water repellent performance would be reported for treatments which result in a loss of more than 50% X 5ml = 2.5ml+



## LABORATORY REPORT



PROSOCO, Inc.

Page 15

**TEST RESULTS - Protective Water Repellents:** 

Water Absorption: ASTM C 67, Immersion

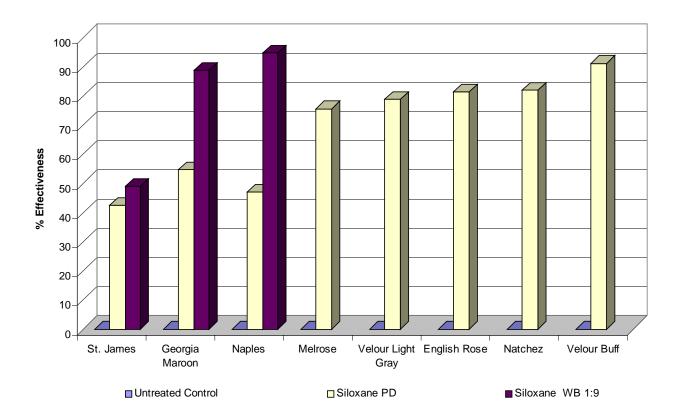
"Melrose Tumbled"	% Absorption	% Effectiveness
Untreated Control	4.00	0.0
Siloxane PD	0.98	75.6
"English Rose"	% Absorption	% Effectiveness
Untreated Control	6.08	0.0
Siloxane PD	1.13	81.4
"Velour Light Gray"	% Absorption	% Effectiveness
Untreated Control	6.68	0.0
Siloxane PD	1.42	78.8
"Georgia Maroon"	% Absorption	% Effectiveness
Untreated Control	2.75	0.0
Siloxane PD	1.25	54.6
Siloxane WB 1:9	0.31	88.7
"St. James"	% Absorption	% Effectiveness
Untreated Control	6.05	0.0
Siloxane PD	3.49	42.4
Siloxane WB 1:9	3.08	49.1
Siloxane WB 1:9 "Natchez"	3.08 % Absorption	49.1 % Effectiveness
"Natchez"	% Absorption	% Effectiveness
"Natchez" Untreated Control	% Absorption 6.27	% Effectiveness 0.0
"Natchez" Untreated Control Siloxane PD	% Absorption 6.27 1.13	% Effectiveness 0.0 81.9
"Natchez" Untreated Control Siloxane PD "Velour Buff"	% Absorption 6.27 1.13 % Absorption	% Effectiveness  0.0 81.9 % Effectiveness
"Natchez"  Untreated Control Siloxane PD  "Velour Buff" Untreated Control	% Absorption 6.27 1.13 % Absorption 5.87	% Effectiveness  0.0 81.9 % Effectiveness  0.0
"Natchez"  Untreated Control Siloxane PD  "Velour Buff"  Untreated Control Siloxane PD	% Absorption 6.27 1.13 % Absorption 5.87 0.51	% Effectiveness  0.0 81.9 % Effectiveness  0.0 91.2
"Natchez"  Untreated Control Siloxane PD  "Velour Buff"  Untreated Control Siloxane PD  "Naples"	% Absorption 6.27 1.13 % Absorption 5.87 0.51 % Absorption	% Effectiveness  0.0 81.9 % Effectiveness  0.0 91.2 % Effectiveness

<sup>\*</sup> Siloxane WB 1:9 was tested only on "Georgia Maroon", "St. James", and "Naples" in addition to Siloxane PD because Siloxane PD failed to provide acceptable water repellency numbers on the brick types.



Page 16

## Water Absorption: ASTM C 67, Immersion







PROSOCO, Inc. Page 17

\_\_\_\_\_

**TEST RESULTS - Protective Water Repellents:** 

Water Absorption Tube Test: RILEM II.4, 5.0 milliliters, 20 Minutes

AA = Above Average

AA = Average

BA = Below Average

"Melrose Tumbled"	Results	Ranking
Untreated Control	0.02 mL loss 0.01 mL loss	
Siloxane PD		AA
"English Rose"	Results	Ranking
Untreated Control	0.03 mL loss	
Siloxane PD	0.0 mL loss	<u>AA</u>
"Velour Light Gray"	Results	Ranking
Untreated Control	2.07 mL loss	
Siloxane PD	0.0 mL loss	<u>AA</u>
"Georgia Maroon"	Results	Ranking
Untreated Control	0.04 mL loss	
Siloxane PD	0.0 mL loss	AA
Siloxane WB 1:9	0.0 mL loss	AA
"St. James"	Results	Ranking
Untreated Control	1.07 mL loss	
Siloxane PD	0.01 mL loss	AA
01		
Siloxane WB 1:9	0.00 mL loss	<u>AA</u>
"Natchez"	0.00 mL loss  Results	<u>AA</u> Ranking
"Natchez"	Results	
"Natchez" Untreated Control	Results 0.06 mL loss	Ranking 
"Natchez" Untreated Control Siloxane PD	Results 0.06 mL loss 0.0 mL loss	Ranking  <u>AA</u>
"Natchez"  Untreated Control Siloxane PD  "Velour Buff"	Results  0.06 mL loss  0.0 mL loss  Results	Ranking  <u>AA</u>
"Natchez"  Untreated Control Siloxane PD  "Velour Buff" Untreated Control	Results  0.06 mL loss  0.0 mL loss  Results  2.04 mL loss	Ranking <u>AA</u> Ranking
"Natchez"  Untreated Control Siloxane PD  "Velour Buff"  Untreated Control Siloxane PD	Results  0.06 mL loss 0.0 mL loss Results  2.04 mL loss 0.01 mL loss	Ranking AA Ranking AA
"Natchez"  Untreated Control Siloxane PD  "Velour Buff"  Untreated Control Siloxane PD  "Naples"	Results  0.06 mL loss 0.0 mL loss Results  2.04 mL loss 0.01 mL loss Results	Ranking AA Ranking AA Ranking

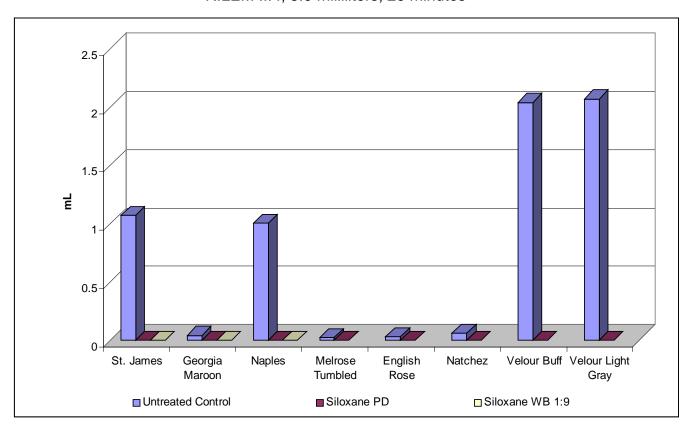
<sup>\*</sup> Siloxane WB 1:9 was tested only on "Georgia Maroon", "St. James", and "Naples" in addition to Siloxane PD because Siloxane PD failed to provide acceptable water repellency numbers on the brick types.

## LABORATORY REPORT



Page 18

## Water Absorption Tube Test: RILEM II.4, 5.0 milliliters, 20 minutes



## Graph 2





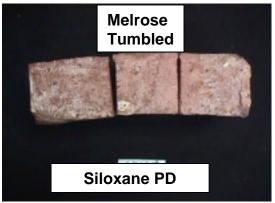
PROSOCO, Inc. Page 19

#### Weather Seal Treatments

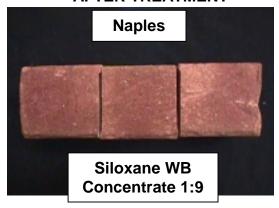
#### **BEFORE TREATMENT**



### **AFTER TREATMENT**



#### AFTER TREATMENT



#### **CONCLUSIONS - Protective Water Repellents:**

Based upon laboratory evaluations, five of the eight submitted brick types ("English Rose", "Natchez", "Velour Light Gray", "Melrose Tumbled", and "Velour Buff") exhibited above average water repellency when treated with Weather Seal Siloxane PD while three types ("Naples", "St. James", and "Georgia Maroon") did not meet desired performance criteria for water repellency. Further testing shows that two of the three brick types ("Naples" and "Georgia Maroon") exhibited above average water repellency when treated with Weather Seal Siloxane WB Concentrate at a 1:9 dilution. No treatments tested provided adequate water repellency for the brick type "St. James". Generally a reduction of approximately 80% is required to provide resistance to water intrusion under normal exposure conditions, which was achieved on all submitted sample types, except "St. James", using Siloxane PD or Siloxane WB (1:9).





PROSOCO, Inc.

Page 20

### **RECOMMENDATIONS - Protective Water Repellents:**

Sure Klean® Weather Seal Siloxane PD provided excellent water repellent protection on five of the submitted brick type ("English Rose", "Natchez", "Velour Buff", "Velour Light Gray", and "Melrose Tumbled"). This product is recommended for job site evaluation where these brick types are incorporated into the building's façade. Sure Klean® Weather Seal Siloxane WB Concentrate 1:9 provided excellent water repellent protection on two of the submitted brick type ("Naples" and "Georgia Maroon"). This product is recommended for job site evaluations where these brick types are incorporated into the building's façade. Test results show that neither Siloxane PD or Siloxane WB Concentrate 1:9 were able to provide adequate water repellency protection for the brick type "St. James", therefore no recommendations can be made for this specific brick type at the current time. It is recommended that additional samples of "St. James" be submitted to PROSOCO's laboratory for additional testing to find a suitable water repellent product.

It must be pointed out that in any installation, the brick are a single component of the masonry facade. The ability of a water repellent treatment to prevent the ingress of water is affected by a variety of other factors, therefore on-site testing should be carried out for all installations with the recommended systems to ensure job site workmanship yields equivalent results.

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

Carmen M. Hupp Technical Analyst

burnen M. Herr

CMH/csm



## Laboratory Report

## **Pallet Card Evaluation**

# Cherokee Brick & Tile Company Macon, GA

Project No. 0006-24 PC

**Prepared For:** 

**Paul Tessier** 

Prepared By:



PROSOCO, Inc. October 2000