



PALLET CARD PROGRAM LABORATORY REPORT

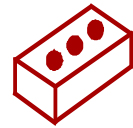


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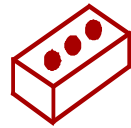
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ATTACHMENTS

ASTM C 67 Immersion Testing

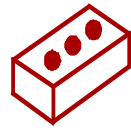
Technical Services TECH Note RILEM Test Method No. II.4

Product Data literature for all products evaluated

Material Safety Data Sheets for all products evaluated



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FOR: Gerardo Ramos
Claymex Brick & Tile Co.
2224 Del Rio Highway
Eagle Pass, TX 78852-3317

cc: Paul Tessier

SUBJECT: Claymex Brick & Tile Co.
Pharr, TX

DATE: January 9, 2001

PROJECT: 0011-03 PC

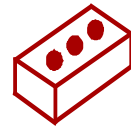
SAMPLES SUBMITTED: 11 styles of new clay brick, 1 sleeve each

Sample:	Size:
"Colorado River" (CR)	2" x 4" x 8"
"San Marino" (SM)	2" x 4" x 8"
"Heritage" (HE)	2" x 4" x 8"
"Mission Antique" (MA)	2" x 4" x 8"
"Plantation" (PL)	2" x 4" x 8"
"Old Denver" (OD)	2" x 4" x 8"
"Alamo" (AL)	2" x 4" x 8"
"Adobe" (AD)	2" x 4" x 8"
"Valley Blend" (VB)	2" x 4" x 8"
"Domenica" (DO)	2" x 4" x 8"
"Meadow Farm" (MF)	2" x 4" x 8"

Submitted by: Paul Tessier



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PURPOSE OF TESTING:

Eleven different styles 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® 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% ± 5% RH and 70°F ± 5°F before any cleaning tests were attempted.

Heavy deposits of mortar are removed with dry scraping after 24 hours. Sure Klean® 101 Lime Solvent, Sure Klean® 600 Detergent, Sure Klean® Vana Trol® and 1910 Vana Trol® were tested for removal of gray type "N" masonry cement mortar after 7, 14 and 21 days of curing.

- B. Surface Alteration Testing** - Sure Klean® 101 Lime Solvent, Sure Klean® 600 Detergent, Sure Klean® Vana Trol® and 1910 Vana Trol® 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.

Surface Finish Removal is the visual examination of the brick comparing the surface finish of the untreated control surface to the surface finish cleaned with selected product(s) at given dilutions.

Substrate Deterioration is the visual examination of the brick comparing the surface of the untreated control to surfaces cleaned with selected product(s) at given dilutions looking for any potential erosion/digestion of the brick.

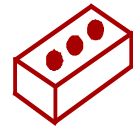
Color Change is the visual examination comparing the color of the untreated control surface to color of surfaces cleaned with selected products at given dilutions.

Efflorescence is the visual examination for salts that are mobilized by the cleaning process and deposited on the surface after evaporation.

- C. Protective Water Repellents** – Sure Klean® Weather Seal Siloxane PD, Sure Klean® Weather Seal Siloxane WB, and Sure Klean® Weather Seal Blok-Guard® & Graffiti Control were evaluated for ability to provide water repellency to the submitted samples.



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CLEANING PRODUCTS

BRICK TYPE	101 Lime Solvent	600 Detergent	Vana Trol®	1910 Vana Trol®
All submitted brick samples	1:6	1:6	1:6	1:6
	1:8	1:8	1:8	1:8

SURFACE ALTERATION TESTING PRODUCTS EVALUATED

Sample	101 Lime Solvent	Sure Klean® 600 Detergent	Sure Klean® Vana Trol®	Vana Trol® 1910
All submitted brick samples	1:6	1:6	1:6	1:6
	1:8	1:8	1:8	1:8

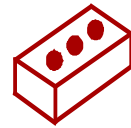
WATER REPELLENT PRODUCTS EVALUATED

Sample	Treatment	Dilution
All Submitted Brick Types	Siloxane PD	Concentrate
	Siloxane WB	1:9
	Siloxane WB	1:14

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



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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® 101 Lime Solvent – A concentrated acidic cleaner for dark-colored brick and tile surfaces which are not subject to metallic oxidation. Safely removes excess mortar and construction dirt. Removes construction dirt and excess mortar with simple cold water rinse. Liquid concentrate for dilution with 4-8 parts water.

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® Vana Trol® -- 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.

Sure Klean® 1910 Vana Trol® -- A concentrated acidic cleaner for new masonry surfaces that are subject to vanadium, manganese and other metallic stains. 1910 Vana Trol® is designed to simplify rinsing, and reduces potential for efflorescence.

TEST METHOD – New Construction Cleaning

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

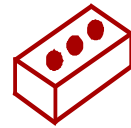
1. Prewet the surface with water.
2. Apply the cleaner.
3. Allow the appropriate dwell time, as specified.

101 Lime Solvent.....	3 minutes
600 Detergent.....	5 minutes
Vana Trol®	5 minutes
1910 Vana Trol®	5 minutes
4. Pressure rinse thoroughly.*

*Pressure rinsing was conducted at approximately 800 psi with a warm water flow rate of 1.9 gallons per minute.



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Test Results - New Construction Cleaning

% Removal

“Colorado River”

	<u>7 day</u>	<u>14 day*</u>	<u>21 day</u>
101 Lime Solvent (1:6)	98%	--	99%
101 Lime Solvent (1:8)	98%	98%	99%
600 Detergent (1:6)	100%	--	99%
600 Detergent (1:8)	98%	98%	99%
Vana Trol [®] (1:6)	95%	--	99%
Vana Trol [®] (1:8)	95%	98%	99%
1910 Vana Trol [®] (1:6)	100%	--	99%
1910 Vana Trol [®] (1:8)	100%	98%	99%

“San Marino”

	<u>7 day</u>	<u>14 day*</u>	<u>21 day</u>
101 Lime Solvent (1:6)	97%	--	100%
101 Lime Solvent (1:8)	95%	100%	100%
600 Detergent (1:6)	98%	--	100%
600 Detergent (1:8)	95%	100%	100%
Vana Trol [®] (1:6)	100%	--	100%
Vana Trol [®] (1:8)	100%	100%	100%
1910 Vana Trol [®] (1:6)	100%	--	100%
1910 Vana Trol [®] (1:8)	95%	100%	100%

“Heritage”

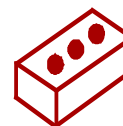
	<u>7 day</u>	<u>14 day*</u>	<u>21 day</u>
101 Lime Solvent (1:6)	100%	--	100%
101 Lime Solvent (1:8)	95%	100%	100%
600 Detergent (1:6)	100%	--	100%
600 Detergent (1:8)	100%	100%	100%
Vana Trol [®] (1:6)	100%	--	100%
Vana Trol [®] (1:8)	98%	100%	100%
1910 Vana Trol [®] (1:6)	100%	--	100%
1910 Vana Trol [®] (1:8)	100%	100%	100%

“Mission Antique”

	<u>7 day</u>	<u>14 day*</u>	<u>21 day</u>
101 Lime Solvent (1:6)	100%	--	98%
101 Lime Solvent (1:8)	100%	100%	98%
600 Detergent (1:6)	100%	--	98%
600 Detergent (1:8)	100%	100%	98%
Vana Trol [®] (1:6)	100%	--	98%
Vana Trol [®] (1:8)	100%	100%	98%
1910 Vana Trol [®] (1:6)	100%	--	98%
1910 Vana Trol [®] (1:8)	100%	100%	98%



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“Plantation”

	<u>7 day</u>	<u>14 day*</u>	<u>21 day</u>
101 Lime Solvent (1:6)	100%	--	100%
101 Lime Solvent (1:8)	100%	100%	100%
600 Detergent (1:6)	100%	--	99%
600 Detergent (1:8)	100%	100%	99%
Vana Trol [®] (1:6)	100%	--	99%
Vana Trol [®] (1:8)	98%	100%	99%
1910 Vana Trol [®] (1:6)	100%	--	100%
1910 Vana Trol [®] (1:8)	100%	100%	100%

“Old Denver”

	<u>7 day</u>	<u>14 day*</u>	<u>21 day</u>
101 Lime Solvent (1:6)	100%	--	100%
101 Lime Solvent (1:8)	100%	100%	100%
600 Detergent (1:6)	100%	--	100%
600 Detergent (1:8)	100%	100%	100%
Vana Trol [®] (1:6)	100%	--	100%
Vana Trol [®] (1:8)	98%	100%	100%
1910 Vana Trol [®] (1:6)	100%	--	100%
1910 Vana Trol [®] (1:8)	98%	100%	100%

“Alamo”

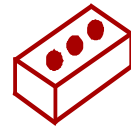
	<u>7 day</u>	<u>14 day*</u>	<u>21 day</u>
101 Lime Solvent (1:6)	100%	--	98%
101 Lime Solvent (1:8)	100%	98%	100%
600 Detergent (1:6)	100%	--	100%
600 Detergent (1:8)	100%	100%	100%
Vana Trol [®] (1:6)	100%	--	98%
Vana Trol [®] (1:8)	98%	98%	98%
1910 Vana Trol [®] (1:6)	100%	--	100%
1910 Vana Trol [®] (1:8)	100%	98%	100%

“Adobe”

	<u>7 day</u>	<u>14 day*</u>	<u>21 day</u>
101 Lime Solvent (1:6)	100%	--	100%
101 Lime Solvent (1:8)	100%	100%	100%
600 Detergent (1:6)	100%	--	100%
600 Detergent (1:8)	100%	100%	100%
Vana Trol [®] (1:6)	100%	--	100%
Vana Trol [®] (1:8)	100%	100%	100%
1910 Vana Trol [®] (1:6)	100%	--	100%
1910 Vana Trol [®] (1:8)	100%	100%	100%



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“Valley Blend”

	<u>7 day</u>	<u>14 day*</u>	<u>21 day</u>
101 Lime Solvent (1:6)	100%	--	100%
101 Lime Solvent (1:8)	100%	100%	100%
600 Detergent (1:6)	100%	--	100%
600 Detergent (1:8)	100%	100%	100%
Vana Trol® (1:6)	100%	--	100%
Vana Trol® (1:8)	100%	99%	100%
1910 Vana Trol® (1:6)	100%	--	100%
1910 Vana Trol® (1:8)	100%	100%	100%

“Domenica”

	<u>7 day</u>	<u>14 day*</u>	<u>21 day</u>
101 Lime Solvent (1:6)	100%	--	100%
101 Lime Solvent (1:8)	100%	100%	100%
600 Detergent (1:6)	100%	--	100%
600 Detergent (1:8)	100%	100%	100%
Vana Trol® (1:6)	100%	--	100%
Vana Trol® (1:8)	100%	100%	100%
1910 Vana Trol® (1:6)	100%	--	100%
1910 Vana Trol® (1:8)	100%	100%	100%

“Meadow Farm”

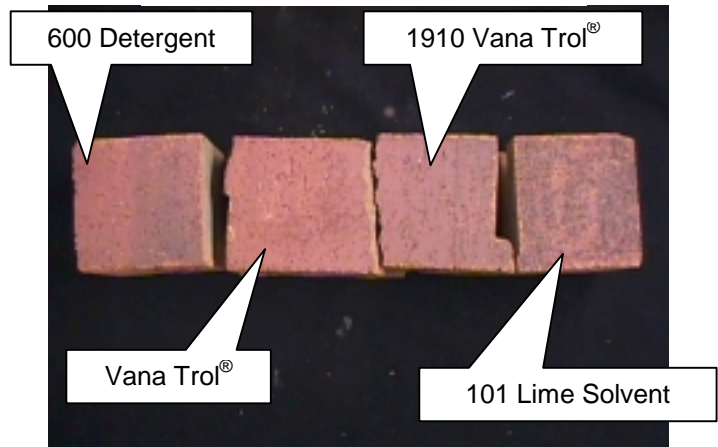
	<u>7 day</u>	<u>14 day*</u>	<u>21 day</u>
101 Lime Solvent (1:6)	98%	--	100%
101 Lime Solvent (1:8)	98%	96%	100%
600 Detergent (1:6)	98%	--	100%
600 Detergent (1:8)	98%	100%	100%
Vana Trol® (1:6)	100%	--	100%
Vana Trol® (1:8)	95%	97%	100%
1910 Vana Trol® (1:6)	98%	--	100%
1910 Vana Trol® (1:8)	98%	99%	100%

*NOTE: Due to limited substrate only one dilution for each cleaner was evaluated at 14 days.

“Colorado River”
Before 7 day mortar cleaning

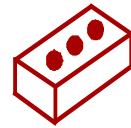


“Colorado River”
After 7 day mortar cleaning





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CONCLUSIONS - Cleaning:

Based on the test results, all 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. 101 Lime Solvent and 600 Detergent performed slightly better than Vana Trol[®] in terms of total mortar removal.

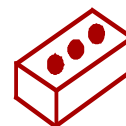
It is also recommended that the selected cleaners always be used in the lowest possible concentration, typically a 1:8 dilution for 101 Lime Solvent and 600 Detergent and 1:8 for Vana Trol[®]. They should be rinsed with the lowest pressure of water as practical, garden hose strength preferred, to minimize 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 finish, clean within 7 days of construction.

RECOMMENDED PRODUCTS AND DILUTIONS - CLEANING:

Sample	Sure Klean [®] 101 Lime Solvent	Sure Klean [®] 600 Detergent	Sure Klean [®] Vana Trol [®]	Sure Klean [®] 1910 Vana Trol [®]
"Colorado River"	1:8	1:8	1:8	1:8
"San Marino"	1:8	1:8	1:8	1:8
"Heritage"	1:8	1:8	1:8	1:8
"Mission Antique"	1:8	1:8	1:8	1:8
"Plantation"	1:8	1:8	1:8	1:8
"Old Denver"	1:8	1:8	1:8	1:8
"Alamo"	1:8	1:8	1:8	1:8
"Adobe"	1:8	1:8	1:8	1:8
"Valley Blend"	1:8	1:8	1:8	1:8
"Domenica"	1:8	1:8	1:8	1:8
"Meadow Farm"	1:8	1:8	1:8	1:8



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SECTION B – Surface Alterations:

DESCRIPTION OF PRODUCTS EVALUATED – Surface Alterations:

Sure Klean® 101 Lime Solvent – A concentrated acidic cleaner for dark-colored brick and tile surfaces which are not subject to metallic oxidation. Safely removes excess mortar and construction dirt. Removes construction dirt and excess mortar with simple cold water rinse. Liquid concentrate for dilution with 4-8 parts water.

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® Vana Trol® -- 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 bricks; 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.

Sure Klean® 1910 Vana Trol® -- A concentrated acidic cleaner for new masonry surfaces that are subject to vanadium, manganese and other metallic stains. 1910 Vana Trol® is designed to simplify rinsing, and reduces potential for efflorescence.

TEST METHOD – Surface Alteration Testing:

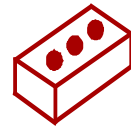
Dilution ratios refer to mixtures of concentrated cleaner : fresh water. Chemical cleaners were evaluated using the following procedure:

1. Prewet the surface with water.
2. Apply 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.



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Surface Alteration Results:

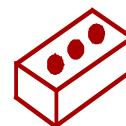
Substrate: "Colorado River"		Pigment Color: Red			
Product	Dilution	Surface Finish	Substrate Deterioration	Color Change	Efflorescence
SK 101 Lime Solvent	1:6	3	0	3	0
SK 101 Lime Solvent	1:8	3	0	3	0
SK 600 Detergent	1:6	3	0	3	0
SK 600 Detergent	1:8	3	0	3	0
SK Vana Trol®	1:6	3	0	3	0
SK Vana Trol®	1:8	3	0	3	0
SK 1910 Vana Trol®	1:6	3	0	3	0
SK 1910 Vana Trol®	1:8	3	0	3	0
Substrate: "San Marino"		Pigment Color: Red			
Product	Dilution	Surface Finish Removal	Substrate Deterioration	Color Change	Efflorescence
SK 101 Lime Solvent	1:6	1	0	1	1
SK 101 Lime Solvent	1:8	1	0	1	1
SK 600 Detergent	1:6	1	0	1	1
SK 600 Detergent	1:8	1	0	1	1
SK Vana Trol®	1:6	1	0	1	1
SK Vana Trol®	1:8	1	0	1	1
SK 1910 Vana Trol®	1:6	1	0	1	2
SK 1910 Vana Trol®	1:8	1	0	1	1
Substrate: "Heritage"		Pigment Color: Red			
Product	Dilution	Surface Finish Removal	Substrate Deterioration	Color Change	Efflorescence
SK 101 Lime Solvent	1:6	3	0	3	0
SK 101 Lime Solvent	1:8	3	0	3	0
SK 600 Detergent	1:6	3	0	3	0
SK 600 Detergent	1:8	3	0	3	0
SK Vana Trol®	1:6	3	0	3	0
SK Vana Trol®	1:8	3	0	3	0
SK 1910 Vana Trol®	1:6	3	0	3	0
SK 1910 Vana Trol®	1:8	3	0	3	0

Scale used for reporting results of all categories

- | | |
|------------------------------|--------------------------------|
| 0 – no change | 3 – 50-74% change – heavy |
| 1 – 1-24% change – slight | 4 – 75-100% change – excessive |
| 2 – 25-49% change – moderate | |



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Surface Alteration Results Cont.

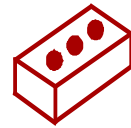
Substrate: "MissionAntique"		Pigment Color: Red			
Product	Dilution	Surface Finish Removal	Substrate Deterioration	Color Change	Efflorescence
SK 101 Lime Solvent	1:6	3	0	3	1
SK 101 Lime Solvent	1:8	3	0	3	1
SK 600 Detergent	1:6	3	0	3	1
SK 600 Detergent	1:8	3	0	3	0
SK Vana Trol®	1:6	3	0	3	1
SK Vana Trol®	1:8	3	0	3	1
SK 1910 Vana Trol®	1:6	3	0	3	1
SK 1910 Vana Trol®	1:8	3	0	3	0
Substrate: "Plantation"		Pigment Color: Red			
Product	Dilution	Surface Finish Removal	Substrate Deterioration	Color Change	Efflorescence
SK 101 Lime Solvent	1:6	3	0	3	0
SK 101 Lime Solvent	1:8	3	0	3	0
SK 600 Detergent	1:6	3	0	3	0
SK 600 Detergent	1:8	3	0	3	0
SK Vana Trol®	1:6	3	0	3	0
SK Vana Trol®	1:8	3	0	3	0
SK 1910 Vana Trol®	1:6	3	0	3	0
SK 1910 Vana Trol®	1:8	3	0	3	0
Substrate: "Old Denver"		Pigment Color: Red			
Product	Dilution	Surface Finish Removal	Substrate Deterioration	Color Change	Efflorescence
SK 101 Lime Solvent	1:6	0	0	0	0
SK 101 Lime Solvent	1:8	0	0	0	0
SK 600 Detergent	1:6	0	0	0	0
SK 600 Detergent	1:8	0	0	0	0
SK Vana Trol®	1:6	0	0	0	0
SK Vana Trol®	1:8	0	0	0	0
SK 1910 Vana Trol®	1:6	0	0	0	0
SK 1910 Vana Trol®	1:8	0	0	0	0

Scale used for reporting results of all categories

- | | |
|------------------------------|--------------------------------|
| 0 – no change | 3 – 50-74% change – heavy |
| 1 – 1-24% change – slight | 4 – 75-100% change – excessive |
| 2 – 25-49% change – moderate | |



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Surface Alteration Results Cont.

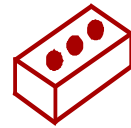
Substrate: "Alamo"		Pigment Color: Red			
Product	Dilution	Surface Finish Removal	Substrate Deterioration	Color Change	Efflorescence
SK 101 Lime Solvent	1:6	3	0	3	0
SK 101 Lime Solvent	1:8	3	0	3	0
SK 600 Detergent	1:6	3	0	3	0
SK 600 Detergent	1:8	3	0	3	0
SK Vana Trol [®]	1:6	3	0	3	0
SK Vana Trol [®]	1:8	3	0	3	0
SK 1910 Vana Trol [®]	1:6	3	0	3	0
SK 1910 Vana Trol [®]	1:8	3	0	3	0
Substrate: "Adobe"		Pigment Color: Red			
Product	Dilution	Surface Finish Removal	Substrate Deterioration	Color Change	Efflorescence
SK 101 Lime Solvent	1:6	1	0	1	0
SK 101 Lime Solvent	1:8	1	0	1	0
SK 600 Detergent	1:6	1	0	1	0
SK 600 Detergent	1:8	1	0	1	0
SK Vana Trol [®]	1:6	1	0	1	2
SK Vana Trol [®]	1:8	1	0	1	2
SK 1910 Vana Trol [®]	1:6	1	0	1	1
SK 1910 Vana Trol [®]	1:8	1	0	1	1
Substrate: "Valley Blend"		Pigment Color: Red			
Product	Dilution	Surface Finish Removal	Substrate Deterioration	Color Change	Efflorescence
SK 101 Lime Solvent	1:6	1	0	1	0
SK 101 Lime Solvent	1:8	1	0	1	0
SK 600 Detergent	1:6	1	0	1	0
SK 600 Detergent	1:8	1	0	1	0
SK Vana Trol [®]	1:6	1	0	1	0
SK Vana Trol [®]	1:8	1	0	1	0
SK 1910 Vana Trol [®]	1:6	1	0	1	0
SK 1910 Vana Trol [®]	1:8	1	0	1	0

Scale used for reporting results of all categories

- | | |
|------------------------------|--------------------------------|
| 0 – no change | 3 – 50-74% change – heavy |
| 1 – 1-24% change – slight | 4 – 75-100% change – excessive |
| 2 – 25-49% change – moderate | |



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Surface Alteration Results Cont.

Substrate: "Domenica"		Pigment Color: Red			
Product	Dilution	Surface Finish Removal	Substrate Deterioration	Color Change	Efflorescence
SK 101 Lime Solvent	1:6	0	0	0	0
SK 101 Lime Solvent	1:8	0	0	0	0
SK 600 Detergent	1:6	0	0	0	0
SK 600 Detergent	1:8	0	0	0	0
SK Vana Trol®	1:6	0	0	0	0
SK Vana Trol®	1:8	0	0	0	0
SK 1910 Vana Trol®	1:6	0	0	0	0
SK 1910 Vana Trol®	1:8	0	0	0	0
Substrate: "Meadow Farm"		Pigment Color: Red			
Product	Dilution	Surface Finish Removal	Substrate Deterioration	Color Change	Efflorescence
SK 101 Lime Solvent	1:6	2	0	2	0
SK 101 Lime Solvent	1:8	2	0	2	0
SK 600 Detergent	1:6	2	0	2	0
SK 600 Detergent	1:8	2	0	2	0
SK Vana Trol®	1:6	2	0	2	0
SK Vana Trol®	1:8	2	0	2	0
SK 1910 Vana Trol®	1:6	2	0	2	0
SK 1910 Vana Trol®	1:8	2	0	2	0

Scale used for reporting results of all categories

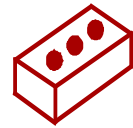
- | | | |
|------------------------------|--------------------------------|--|
| 0 – no change | 3 – 50-74% change – heavy | |
| 1 – 1-24% change – slight | 4 – 75-100% change – excessive | |
| 2 – 25-49% change – moderate | | |

CONCLUSIONS – Surface Alterations:

Six of the eleven submitted brick types ("Mission Antique", "Plantation", "Alamo", "Adobe", "Valley Blend", and "Meadow Farm") underwent a color change due to slight to heavy removal of the surface finish during the cleaning process. Cleaning by Sure Klean® Vana Trol® and Sure Klean® 1910 Vana Trol® in both dilutions produced efflorescence on the "Adobe". Sure Klean® 1910 Vana Trol® produced less efflorescence than Sure Klean® Vana Trol® did. No other cleaners tested produced this white powdery residue on the "Adobe" or any other styles.



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RECOMMENDATIONS – Surface Alterations:

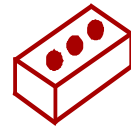
Based on the test results, Sure Klean® Vana Trol® and Sure Klean® 1910 Vana Trol® are not recommended to be used on the “Adobe” due to the facilitation of efflorescence. All other cleaners are recommended to be used in the lowest possible concentration, typically a 1:8 dilution. Rinse thoroughly with low water pressure to minimize removal of the decorative sand finish conduct all cleaning within seven 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.



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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 self-emulsifying water-repellent concentrate designed for dilution with fresh water at the job site. This solvent-free blend of silanes and oligomeric alkoxy siloxanes mixes easily with water to produce a penetrating water repellent, which is ideal for application to either dense or porous masonry surfaces.

Sure Klean® Weather Seal Siloxane PD - A low odor, alkaline stable, water-based blend of silanes and oligomeric alkoxy siloxanes. Weather Seal Siloxane PD is supplied pre-diluted 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.

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.

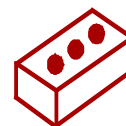
Reduced water absorption values – reported as effectiveness – measure the effectiveness of selected treatments in protecting samples from water penetration and water related decay mechanisms. Generally a reduction of approximately 80% is required to provide resistance to water intrusion under normal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

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.



PALLET CARD PROGRAM LABORATORY REPORT



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

AA = “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 **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 X 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+

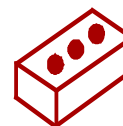
TEST RESULTS - Protective Water Repellents:

Water Absorption: ASTM C 67, Immersion

“Colorado River”	% Absorption	% Effectiveness
Untreated Control	14.85	--
Siloxane PD	1.90	87.2
Siloxane WB (1:9)	1.28	91.4
Siloxane WB (1:14)	1.33	91.0
“San Marino”	% Absorption	% Effectiveness
Untreated Control	14.71	--
Siloxane PD	1.72	88.3
Siloxane WB (1:9)	1.02	93.1
Siloxane WB (1:14)	1.14	92.3
“Heritage”	% Absorption	% Effectiveness
Untreated Control	15.15	--
Siloxane PD	9.87	34.8
Siloxane WB (1:9)	4.99	67.1
Siloxane WB (1:14)	3.98	89.5
“Mission Antique”	% Absorption	% Effectiveness
Untreated Control	14.47	--
Siloxane PD	3.17	78.1
Siloxane WB (1:9)	1.26	91.3
Siloxane WB (1:14)	1.28	91.2
“Plantation”	% Absorption	% Effectiveness
Untreated Control	15.03	--
Siloxane PD	1.70	88.7
Siloxane WB (1:9)	1.42	90.6
Siloxane WB (1:14)	5.64	62.4



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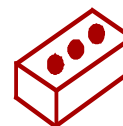
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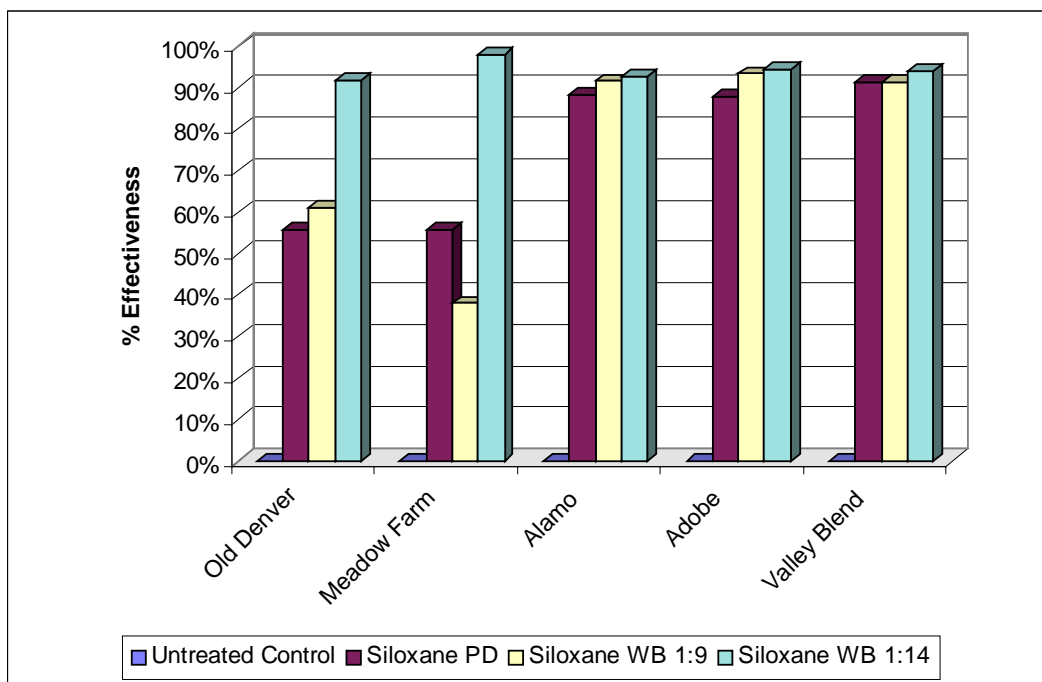
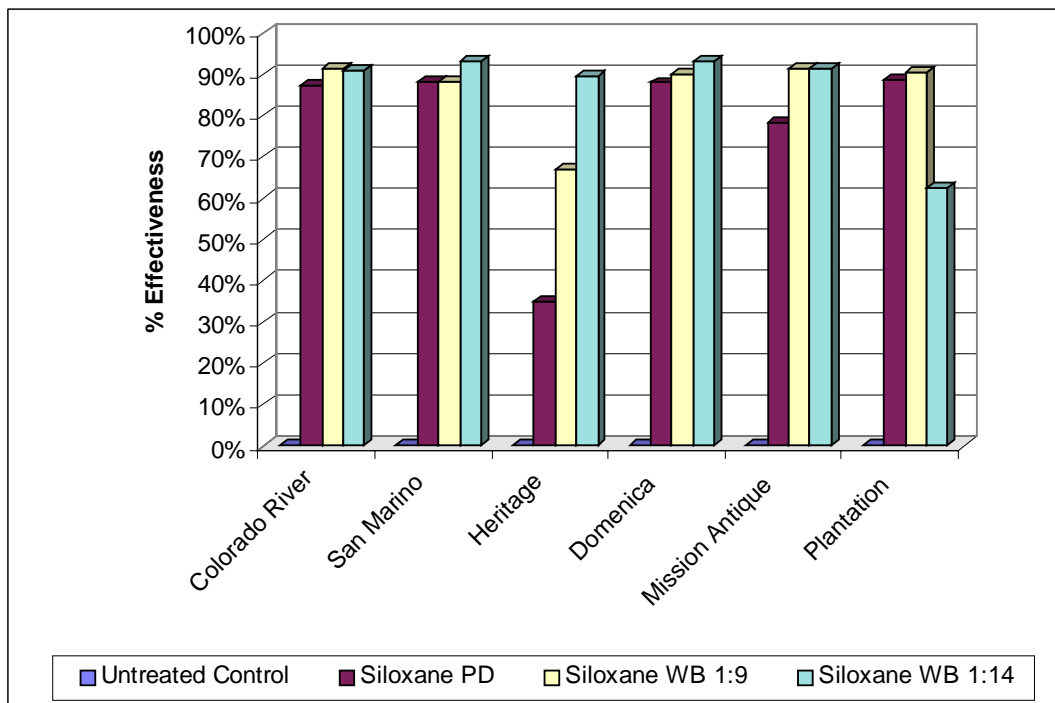
"Old Denver"	% Absorption	% Effectiveness
Untreated Control	14.37	--
Siloxane PD	6.35	55.8
Siloxane WB (1:9)	5.63	60.8
Siloxane WB (1:14)	1.20	91.6
"Alamo"	% Absorption	% Effectiveness
Untreated Control	14.88	--
Siloxane PD	1.76	88.2
Siloxane WB (1:9)	1.27	91.4
Siloxane WB (1:14)	1.10	92.6
"Adobe"	% Absorption	% Effectiveness
Untreated Control	16.45	--
Siloxane PD	1.99	87.9
Siloxane WB (1:9)	1.10	93.3
Siloxane WB (1:14)	0.91	94.4
"Valley Blend"	% Absorption	% Effectiveness
Untreated Control	13.42	--
Siloxane PD	1.18	91.2
Siloxane WB (1:9)	1.17	91.3
Siloxane WB (1:14)	0.82	93.9
"Domenica"	% Absorption	% Effectiveness
Untreated Control	10.67	--
Siloxane PD	1.29	87.9
Siloxane WB (1:9)	1.07	90.0
Siloxane WB (1:14)	0.74	93.1
"Meadow Farm"	% Absorption	% Effectiveness
Untreated Control	15.16	--
Siloxane PD	6.70	55.8
Siloxane WB (1:9)	9.40	38.0
Siloxane WB (1:14)	0.33	97.8



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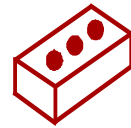
Water Absorption: ASTM C 67, Immersion



Graphs1a and 1b



PALLET CARD PROGRAM LABORATORY REPORT



TEST RESULTS - Protective Water Repellents:

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

AA = Above Average

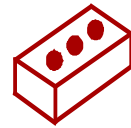
A = Average

BA = Below Average

"Colorado River"	Results	Ranking
Untreated Control	>5 mL loss	---
WB (1:9)	0 mL loss	AA
WB (1:14)	0 mL loss	AA
Siloxane PD	.2 mL loss	AA
"San Marino"	Results	Ranking
Untreated Control	>5 mL loss	---
WB (1:9)	0 mL loss	AA
WB (1:14)	.1 mL loss	AA
Siloxane PD	.3 mL loss	AA
"Heritage"	Results	Ranking
Untreated Control	>5 mL loss	--
WB (1:9)	0 mL loss	AA
WB (1:14)	.1 mL loss	AA
Siloxane PD	.5 mL loss	AA
"Mission Antique"	Results	Ranking
Untreated Control	3.6 mL loss	---
WB (1:9)	0 mL loss	AA
WB (1:14)	0 mL loss	AA
Siloxane PD	.5 mL loss	AA
"Plantation"	Results	Ranking
Untreated Control	>5 mL loss	---
WB (1:9)	0 mL loss	AA
WB (1:14)	.1 mL loss	AA
Siloxane PD	.3 mL loss	AA
"Old Denver"	Results	Ranking
Untreated Control	>5 mL loss	---
WB (1:9)	0 mL loss	AA
WB (1:14)	0 mL loss	AA
Siloxane PD	0 mL loss	AA
"Alamo"	Results	Ranking
Untreated Control	>5 mL loss	---
WB (1:9)	0 mL loss	AA
WB (1:14)	0 mL loss	AA
Siloxane PD	.3 mL loss	AA
"Adobe"	Results	Ranking
Untreated Control	>5 mL loss	---
WB (1:9)	0 mL loss	AA

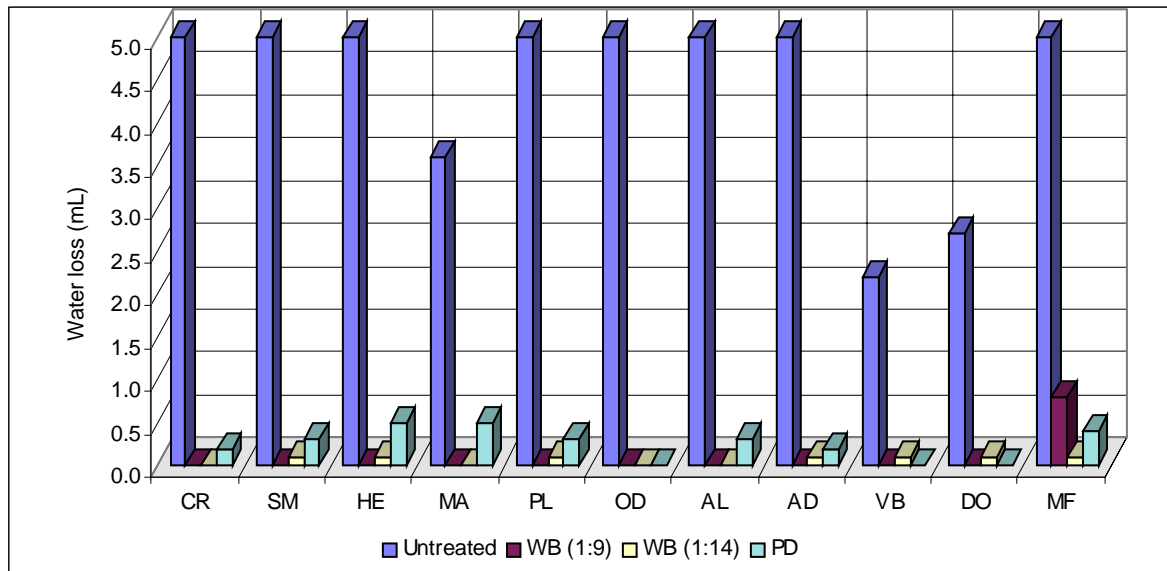


PALLET CARD PROGRAM LABORATORY REPORT



WB (1:14)	.1 mL loss	<u>AA</u>
Siloxane PD	.2 mL loss	<u>AA</u>
“Valley Blend”		
Results		Ranking
Untreated Control	2.2 mL loss	---
WB (1:9)	0 mL loss	<u>AA</u>
WB (1:14)	.1 mL loss	<u>AA</u>
Siloxane PD	0 mL loss	<u>AA</u>
“Domenica”		
Results		Ranking
Untreated Control	2.7 mL loss	---
WB (1:9)	0 mL loss	<u>AA</u>
WB (1:14)	.1 mL loss	<u>AA</u>
Siloxane PD	0 mL loss	<u>AA</u>
“Meadow Farm”		
Results		Ranking
Untreated Control	>5 mL loss	---
WB (1:9)	.8 mL loss	<u>AA</u>
WB (1:14)	.1 mL loss	<u>AA</u>
Siloxane PD	.4 mL loss	<u>AA</u>

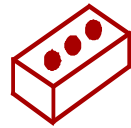
**Water Absorption Tube Test:
RILEM II.4, 5.0 milliliters, 20 minutes**



Graph 2

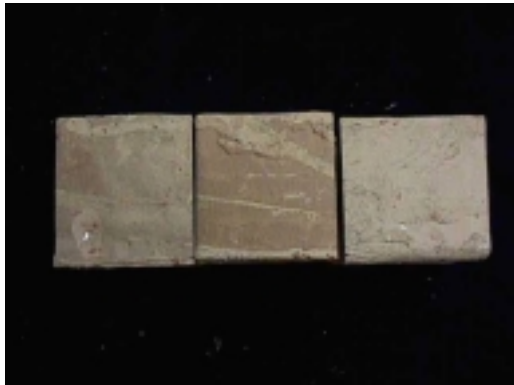


PALLET CARD PROGRAM LABORATORY REPORT

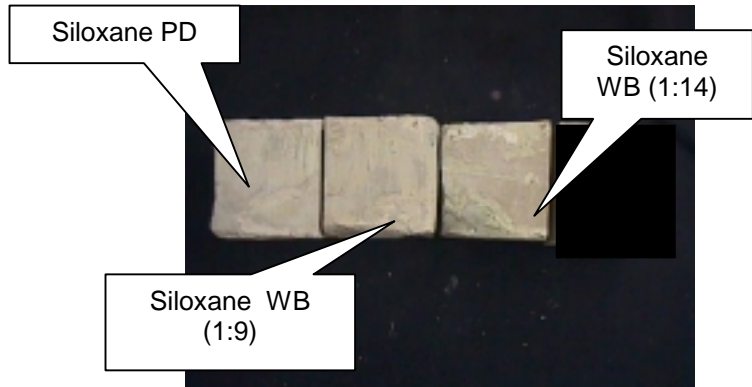


Water Repellent Treatments

“Adobe”
BEFORE TREATMENT



“Adobe”
AFTER TREATMENT

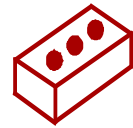


CONCLUSIONS - Protective Water Repellents:

Based upon laboratory evaluations, ten of the eleven submitted brick types (“Colorado River”, “San Marino”, “Heritage”, “Mission Antique”, “Old Denver”, “Alamo”, “Adobe”, “Valley Blend”, “Domenica”, and “Meadow Farm”) exhibited above average water repellency when treated with Weather Seal Siloxane WB Concentrate at 1:14 dilution. Weather Seal Siloxane WB also performed well on eight out of eleven bricks (“Colorado River”, “San Marino”, “Mission Antique”, “Plantation”, “Alamo”, “Adobe”, “Valley Blend”, “Domenica”) at a 1:9 dilution. Weather Seal Siloxane PD performed well on seven out of eleven bricks (“Colorado River”, “San Marino”, “Plantation”, “Alamo”, “Adobe”, “Valley Blend”, “Domenica”). 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 using Siloxane WB or Siloxane PD.



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RECOMMENDATIONS - Protective Water Repellents:

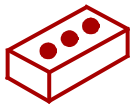
Sure Klean® Weather Seal Siloxane WB at a 1:14 dilution provided excellent water-repellent protection on ten of the eleven submitted brick types. For brick type "Plantation", Sure Klean® Weather Seal Siloxane WB Concentrate at a 1:9 dilution is recommended. These products are recommended for job site evaluation where these brick types are incorporated into the building's façade.

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.

Jason L. Anderson
Technical Analyst

JLA/csm



Laboratory Report

Pallet Card Evaluation

**Claymex Brick & Tile
Pharr, TX**

Project No. 0011-03 PC

Prepared For:

Gerardo Ramos
Claymex Brick & Tile Co.
2224 Del Rio Highway
Eagle Pass, TX 78852-3317

Prepared By:



PROSOCO, Inc.
January 2001