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ATTACHMENTS

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

Product Data literature for all products evaluated





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FOR: German Martinez

cc: Mike Davis

Richard Mirowski Paul Tessier

SUBJECT: Castaic Brick

DATE: May 2, 2002

PROJECT: 0202-11 PC

SAMPLES SUBMITTED: Eight types of clay bricks.

Sample	Color/Finish	Size		
(4) Primero	Orange-Red/ Smooth	1 1/8" x 3 3/4" x 8"		
(5) Flash Classic	Red to Gray/ Painted	1 1/8" x 3 3/4" x 8"		
(5) Chocolate Split	Medium Brown/ Smooth	1 1/8" x 3 3/4" x 8"		
(5) Red Split	Red/ Smooth	1 1/8" x 3 3/4" x 8"		
(5) Flash	Red to Gray/ Smooth	1 1/8" x 3 3/4" x 8"		
(6) Typic	Red-White-Black/ Chipped	1 1/8" x 3 3/4" x 8"		
(5) Used Split	Red-White-Gray-Black/ Chipped	1 1/8" x 3 3/4" x 8"		
(5) All White	Red-White/ Chipped	1 1/8" x 3 3/4" x 8"		

Submitted by: Paul Tessier





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PURPOSE OF TESTING:

Eight samples of clay bricks were submitted to PROSOCO, Inc.'s Testing Laboratory with a request to determine if application of the products evaluated will produce any surface alteration during new construction cleaning operations. Additionally, the effectiveness of water repellents and graffiti removal agents, suitable for clay brick masonry, will be evaluated.

A. New Construction Cleaning – Sure Klean[®] Vana Trol[®] was evaluated for removal of laboratory applied mortar.

To simulate new construction soiling, all bricks were placed on a bench with finished surface facing upward. Hollow cylinders measuring 50 mm in diameter and 75 mm tall were positioned on top of each brick and filled with a wet mixture of Ash Grove® Type S cementitious mortar. The wet mortar-filled cylinder was allowed to remain in contact with the brick for 10 minutes before removal.

Soiled bricks were allowed to dry before test cleaning.

Heavy deposits of mortar were removed with dry scraping after 24 hours. Prepared cleaning solutions were then evaluated for their effectiveness in removing residual Ash Grove[®] Type S mortar after 3, 7 and 13 days of curing.

*Note: A 13-day cure was performed due to holiday scheduling; normally a 14-day cure is implemented.

B. Surface Alteration Testing – Sure Klean[®] Vana Trol[®] was 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.

<u>Surface Finish Removal</u> 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.

<u>Substrate Deterioration</u> 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.

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

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

- **C. Water Repellent Evaluation** Sure Klean[®] Weather Seal Siloxane WB Concentrate, Sure Klean[®] Weather Seal Siloxane PD, and Sure Klean[®] Weather Seal Blok-Guard[®] & Graffiti Control were evaluated on the submitted samples for their ability to provide water repellency.
- **D. Graffiti Control** Sure Klean[®] Weather Seal Blok-Guard[®] & Graffiti Control was evaluated for its ability to control graffiti on the submitted samples. Defacer Eraser[®] Graffiti Wipe and Sure Klean[®] Fast Acting Stripper were evaluated for their ability to remove graffiti from the submitted samples.





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PRODUCTS EVALUATED FOR CLEANING AND SURFACE ALTERATIONS

SAMPLE	TREATMENT	DILUTION	
All submitted clay bricks	Sure Klean [®] Vana Trol [®]	1:6, 1:8	

WATER REPELLENT PRODUCTS EVALUATED

SAMPLE	TREATMENT	DILUTION
	Sure Klean® Weather Seal Siloxane WB Concentrate	
All submitted clay bricks	Sure Klean [®] Weather Seal Blok-Guard & Graffiti Control	Concentrate
	Sure Klean [®] Weather Seal Siloxane PD	Concentrate

GRAFFITI CONTROL PRODUCTS EVALUATED

SAMPLE	PRODUCT
All submitted clay bricks	Sure Klean [®] Weather Seal Blok-Guard [®] & Graffiti Control

GRAFFITI REMOVAL PRODUCTS EVALUATED

SAMPLE	PRODUCT		
All submitted clay bricks	Defacer Eraser® Graffiti Wipe		
All submitted day bricks	Sure Klean [®] Fast Acting Stripper		

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 Ash Grove Type S mortar from the submitted fired clay bricks.

Ash Grove[®] Type S cementitious mortar was prepared in compliance with the manufacturers instructions, applied to the brick surface and allowed to cure for 3, 7 and 13 days. Mortar removal was accomplished using chemical assistance and a high-pressure water rinse, with pressure rinsing equipment. The removal of Ash Grove[®] Type S cementitious masonry cement mortar was visually evaluated after 3, 7 and 13 days of curing.

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.

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.
- 4. Pressure rinse thoroughly.
- Pressure rinsing was conducted at approximately 1300 psi with a warm water flow rate of 1.9 gallons per minute.





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• Test Results - New Construction Cleaning

% Removal			
	"Primero"		
	<u>3 day</u>	<u>7 day</u>	<u>14 day</u>
Sure Klean [®] Vana Trol [®] (1:6)	100%	98%	100%
Sure Klean [®] Vana Trol [®] (1:8)	100%	100%	100%
	"Flash Classic	,,,	
	<u>3 day</u>	<u>7 day</u>	<u>14 day</u>
Sure Klean [®] Vana Trol [®] (1:6)	100%	100%	100%
Sure Klean [®] Vana Trol [®] (1:8)	100%	100%	100%
	"Chocolate Spl	it"	
	<u>3 day</u>	<u>7 day</u>	<u>14 day</u>
Sure Klean [®] Vana Trol [®] (1:6)	100%	100%	100%
Sure Klean [®] Vana Trol [®] (1:8)	100%	100%	100%
	"Red Split"		
	<u>3 day</u>	<u>7 day</u>	<u>14 day</u>
Sure Klean [®] Vana Trol [®] (1:6)	100%	100%	100%
Sure Klean [®] Vana Trol [®] (1:8)	100%	100%	100%
	"Flash"		
	<u>3 day</u>	<u>7 day</u>	<u>14 day</u>
Sure Klean [®] Vana Trol [®] (1:6)	100%	100%	100%
Sure Klean [®] Vana Trol [®] (1:8)	100%	100%	100%
	"Typic"		
	<u>3 day</u>	<u>7day</u>	<u>14 day</u>
Sure Klean [®] Vana Trol [®] (1:6)	100%	100%	100%
Sure Klean [®] Vana Trol [®] (1:8)	100%	100%	100%
	"Used Split"		
	<u>3 day</u>	<u>7 day</u>	<u>14 day</u>
Sure Klean [®] Vana Trol [®] (1:6)	100%	100%	100%
Sure Klean [®] Vana Trol [®] (1:8)	100%	100%	100%
	"All White"		
	<u>3 day</u>	<u>7 day</u>	<u>14 day</u>
Sure Klean [®] Vana Trol [®] (1:6)	100%	100%	100%
Sure Klean [®] Vana Trol [®] (1:8)	100%	100%	100%





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CONCLUSIONS - New Construction Cleaning

Based on the test results, Sure Klean[®] Vana Trol[®] in both dilutions tested performed extremely well in removing excess mortar smears on the submitted clay bricks. Vana Trol[®] performed well in removing the mortar soils even after allowing the mortar to remain on the surface of the brick for 13 days under ideal curing conditions.

It is also recommended that the selected cleaners always be used in the lowest possible concentration, typically a 1:8 dilution of cleaner to fresh water. They should be rinsed with the lowest pressure of water as practical, at least 400 psi, to minimize removal of the decorative finish. Excessive pressure and water volume may combine to damage or remove decorative finishes. To facilitate easier removal of excess mortar and construction dirt while minimizing any potential surface alterations to the decorative finish, clean within 7 days of construction.

RECOMMENDED PRODUCTS AND DILUTIONS - NEW CONSTRUCTION CLEANING

Recommendations for cleaning for each type of clay bricks submitted by Castaic Brick, Castaic, CA are provided in the chart below. Recommendations are based on the optimum dilution for complete removal of mortar while limiting surface alterations.

Sample	Color/Finish	Sure Klean [®] Vana Trol [®]
"Primero"	Orange-Red/ Smooth	1:8
"Flash Classic"	Red to Gray/ Painted	1:8
"Chocolate Split"	Medium Brown/ Smooth	1:8
"Red Split"	Red/ Smooth	1:8
"Flash"	Red to Gray/ Smooth	1:8
"Typic"	Red-White-Black/ Chipped	1:8
"Used Split"	Red-White-Gray-Black/ Chipped	1:8
"All White"	Red-White/ Chipped	1:8

Excessive pressure and water volume may combine to damage or remove decorative finishes. To facilitate easier removal of excess mortar and construction dirt while minimizing any potential surface alterations to the decorative finish, clean within 7 days of construction.

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 B – SURFACE ALTERATIONS

DESCRIPTION OF PRODUCTS EVALUATED - Surface Alterations

Sure Klean® Vana Trol® - 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 METHOD – Surface Alterations 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 the cleaner.
- 4. Pressure rinse thoroughly.
- * Pressure rinsing was conducted at approximately 1300 psi with a warm water flow rate of 1.9 gallons per minute.





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TEST RESULTS - Surface Alterations

Substrate: Clay brick	Pigment Col	or: "Primero"					
Product	Dilution	Surface Finish Removal	Substrate Deterioration	Color Change	Staining		
Sure Klean [®] Vana Trol [®]	1:6	0	0	0	-		
Sure Klean [®] Vana Trol [®]	1:8	0	0	0	-		
Substrate: Clay brick	Pigment Co	lor: "Flash Classic"					
Product	Dilution	Surface Finish Removal	Substrate Deterioration	Color Change	Staining		
Sure Klean [®] Vana Trol [®]	1:6	0	0	0	-		
Sure Klean [®] Vana Trol [®]	1:8	0	0	0	-		
Substrate: Clay brick	Pigment Col	or: "Chocolate Split"					
Product	Dilution	Surface Finish Removal	Substrate Deterioration	Color Change	Staining		
Sure Klean [®] Vana Trol [®]	1:6	0	0	0	-		
Sure Klean [®] Vana Trol [®]	1:8	0	0	0	-		
Substrate: Clay brick	Pigment Col	or: "Split Red"	<u> </u>	.	_		
Product	Dilution	Surface Finish Removal	Substrate Deterioration	Color Change	Staining		
Sure Klean [®] Vana Trol [®]	1:6	0	0	0	-		
Sure Klean [®] Vana Trol [®]	1:8	0	0	0	-		
Substrate: Clay brick							
Product	Dilution	Surface Finish Removal	Substrate Deterioration	Color Change	Staining		
Sure Klean [®] Vana Trol [®]	1:6	0	0	0	-		
Sure Klean [®] Vana Trol ®	1:8	0	0	0	-		
Substrate: Clay brick	Pigment Col	Pigment Color: "All White"					
Product	Dilution	Surface Finish Removal	Substrate Deterioration	Color Change	Staining		
Sure Klean [®] Vana Trol [®]	1:6	2	0	2	-		
Sure Klean [®] Vana Trol ®	1:8	2	0	2	-		
Substrate: Clay brick	Pigment Col	or: "Typic"					
Product	Dilution	Surface Finish Removal	Substrate Deterioration	Color Change	Staining		
Sure Klean [®] Vana Trol [®]	1:6	2	0	2	-		
Sure Klean [®] Vana Trol [®] Sure Klean [®] Vana Trol ®	1:6 1:8	2	0	2	-		
	1:8		_		-		
Sure Klean [®] Vana Trol ®	1:8	2	_		- - Staining		
Sure Klean® Vana Trol® Substrate: Clay brick	1:8 Pigment Col	2 or: "Used Split" Surface Finish	0 Substrate	2 Color			
Sure Klean® Vana Trol® Substrate: Clay brick Product	1:8 Pigment Col Dilution	2 or: "Used Split" Surface Finish Removal	0 Substrate Deterioration	2 Color Change	Staining		

Scale used for reporting results of all categories

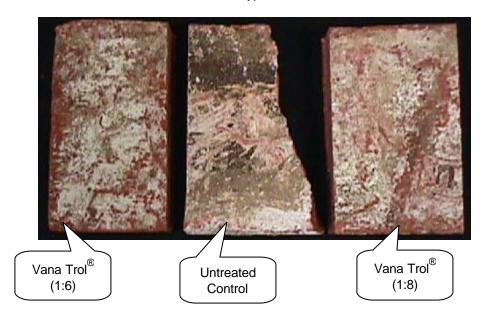
0 - no change 3 - heavy 1 – slight 4 - excessive

2 - moderate

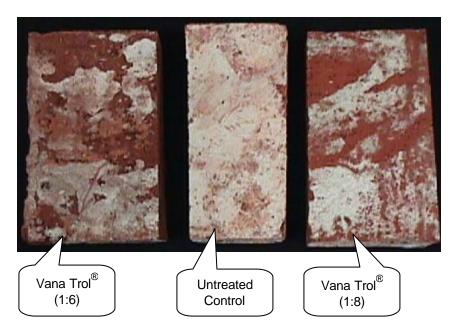
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PHOTOGRAPHS - Surface Alterations

"Typic"



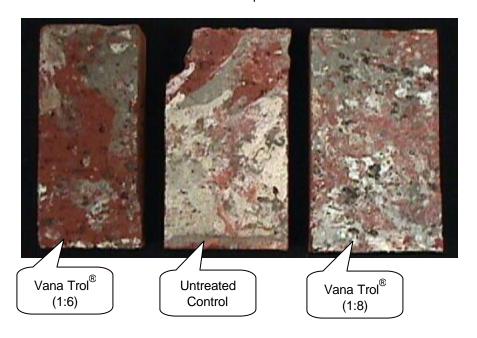
"All White"



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PHOTOGRAPHS - Surface Alterations Continued





CONCLUSIONS - Surface Alterations

Test results show that Sure Klean[®] Vana Trol[®] caused moderate surface alterations on the submitted clay bricks styles "Used Split", "Typic" and "All White". The cleaning procedures used were able to remove moderate amounts of the surface finish on these styles of clay bricks allowing the natural red clay to show through producing a change in the original appearance.

It is recommended that the selected cleaners always be used in the lowest possible concentration, typically a 1:8 dilution of cleaner to fresh water. They should be rinsed with the lowest pressure of water as practical, at least 400 psi, to minimize removal of the decorative finish. Excessive pressure and water volume may combine to damage or remove decorative finishes. To facilitate easier removal of excess mortar and construction dirt while minimizing any potential surface alterations to the decorative finish, clean within 7 days of construction.

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RECOMMENDED PRODUCTS AND DILUTIONS – Surface Alterations

Recommendations for surface alterations for each type of clay bricks submitted by Castaic Brick, Castaic, CA are provided in the chart below. Recommendations are based on the optimum dilution for complete removal of mortar while limiting surface alterations.

Sample	Color/Finish	Sure Klean [®] Vana Trol [®]
"Primero"	Orange-Red/ Smooth	1:8
"Flash Classic"	Red to Gray/ Painted	1:8
"Chocolate Split"	Medium Brown/ Smooth	1:8
"Red Split"	Red/ Smooth	1:8
"Flash"	Red to Gray/ Smooth	1:8
"Typic"	Red-White-Black/ Chipped	1:8
"Used Split"	Red-White-Gray-Black/ Chipped	1:8
"All White"	Red-White/ Chipped	1:8

Excessive pressure and water volume may combine to damage or remove decorative finishes. To facilitate easier removal of excess mortar and construction dirt while minimizing any potential surface alterations to the decorative finish, clean within 7 days of construction.

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 alkoxysiloxanes 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 ready-to-use, water-based silane/siloxane water repellent for concrete, GFRC, and most masonry and stucco surfaces. Siloxane PD penetrates more deeply than conventional water repellents. It helps masonry resist cracking, spalling, staining and other damage related to water intrusion. Low odor and alkaline stable, Siloxane PD is ideal for field and in-plant application.

Sure Klean® Blok-Guard® & Graffiti Control – A clear, solvent-based silicone elastomer formulated to weatherproof custom masonry units, cast stone, and concrete block without altering the natural appearance. Blok-Guard® & Graffiti Control 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 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.





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TEST METHODS - Protective Water Repellents:

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.

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 +





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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

"Primero"	Results	Ranking
Untreated Control	> 5.0	
Blok-Guard®	0.0	AA
Siloxane WB (1:9)	0.6	AA
Siloxane PD	0.0	<u>AA</u>
"Flash Classic"	Results	Ranking
Untreated Control	> 5.0	
Blok-Guard [®]	0.0	AA
Siloxane WB (1:9)	0.2	AA
Siloxane PD	0.0	<u>AA</u>
"Chocolate Split"	Results	Ranking
Untreated Control	> 5.0	
Blok-Guard®	0.0	AA
Siloxane WB (1:9)	0.0	<u>AA</u>
Siloxane PD	0.1	<u>AA</u>
"Red Split"	Results	Ranking
Untreated Control	> 5.0	
Blok-Guard®	0.0	<u>AA</u>
Siloxane WB (1:9)	0.0	<u>AA</u>
Siloxane PD	0.0	<u>AA</u>
"Flash"	Results	Ranking
Untreated Control	> 5.0	
Blok-Guard [®]	0.0	<u>AA</u>
Siloxane WB (1:9)	0.0	AA
Siloxane PD	0.0	AA
"Typic"	Results	Ranking
Untreated Control	2.3	
Blok-Guard [®]	0.0	<u>AA</u>
Siloxane WB (1:9)	0.0	<u>AA</u>
Siloxane PD	0.2	<u>AA</u>
"Used Split"	Results	Ranking
Untreated Control	> 5.0	
Blok-Guard [®]	0.2	<u>AA</u>
Siloxane WB (1:9)	0.0	<u>AA</u>
Siloxane PD	0.0	<u>AA</u>
"All White"	Results	Ranking
Untreated Control	> 5.0	
Blok-Guard [®]	0.0	<u>AA</u>
Siloxane WB (1:9) Siloxane PD	0.0	<u>AA</u>
	0.0	AA





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CONCLUSIONS - Protective Water Repellents:

Based upon laboratory evaluations, Sure Klean® Weather Seal Siloxane WB Concentrate diluted with nine parts fresh water, Sure Klean® Weather Seal Siloxane PD and Sure Klean® Block Guard & Graffiti Control exhibited above average water repellency on all submitted clay bricks.

RECOMMENDATIONS - Protective Water Repellents:

Recommendations for water repellent treatments for each type of clay bricks submitted by Castaic Brick, Castaic, CA are provided in the chart below. Recommendations are based on the treatments that proved most effective by results and can provide water repellency on all types submitted if possible.

Sample	Water Repellent			
	Sure Klean [®] Weather Seal Siloxane WB Concentrate (1:9)			
"Primero"	Sure Klean® Weather Seal Blok-Guard® & Graffiti Control			
	Sure Klean® Weather Seal Siloxane PD			
	Sure Klean [®] Weather Seal Siloxane WB Concentrate (1:9)			
"Flash Classic"	Sure Klean [®] Weather Seal Blok-Guard [®] & Graffiti Control			
	Sure Klean [®] Weather Seal Siloxane PD			
	Sure Klean [®] Weather Seal Siloxane WB Concentrate (1:9)			
"Chocolate Split"	Sure Klean [®] Weather Seal Blok-Guard [®] & Graffiti Control			
	Sure Klean [®] Weather Seal Siloxane PD			
	Sure Klean [®] Weather Seal Siloxane WB Concentrate (1:9)			
"Red Split"	Sure Klean [®] Weather Seal Blok-Guard [®] & Graffiti Control			
	Sure Klean [®] Weather Seal Siloxane PD			
	Sure Klean [®] Weather Seal Siloxane WB Concentrate (1:9)			
"Flash"	Sure Klean [®] Weather Seal Blok-Guard [®] & Graffiti Control			
	Sure Klean [®] Weather Seal Siloxane PD			
	Sure Klean [®] Weather Seal Siloxane WB Concentrate (1:9)			
"Typic"	Sure Klean [®] Weather Seal Blok-Guard [®] & Graffiti Control			
	Sure Klean [®] Weather Seal Siloxane PD			
	Sure Klean [®] Weather Seal Siloxane WB Concentrate (1:9)			
"Used Split"	Sure Klean [®] Weather Seal Blok-Guard [®] & Graffiti Control			
	Sure Klean [®] Weather Seal Siloxane PD			
	Sure Klean [®] Weather Seal Siloxane WB Concentrate (1:9)			
"All White"	Sure Klean [®] Weather Seal Blok-Guard [®] & Graffiti Control			
	Sure Klean [®] Weather Seal Siloxane PD			





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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.





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SECTION D – GRAFFITI CONTROL

DESCRIPTION OF PRODUCTS EVALUATED

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

Graffiti Control Treatments:

Sure Klean® Blok-Guard® & Graffiti Control – A clear, solvent-based silicone elastomer formulated to weatherproof custom masonry units, cast stone, and concrete block without altering the natural appearance. Blok-Guard® & Graffiti Control 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.

Products Evaluated for Graffiti Removal:

Defacer Eraser® Graffiti Wipe – An easy-to-use graffiti remover that does not contain methanol, methylene chloride or other "halogenated" solvents prohibited on many projects. Graffiti Wipe removes a variety of graffiti stains from most smooth masonry, wood and metal surfaces.

Sure Klean® Fast Acting Stripper – A thixotropic stripping compound formulated specifically for removal of high strength paints and coatings such as epoxies, polyurethanes, and floor enamels. Additionally, Fast Acting Stripper dissolves most spray paints, marking pens, lacquers and other graffiti.

Graffiti Agents:

Interior/Exterior Paint (Glossy Black)
Permanent Marker (Red)
Permanent Marker (Green)
Permanent Marker (Black)





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SAMPLE PREPARATION – Graffiti Control

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

Sections of the clay brick samples were treated with one coat of Sure Klean[®] Blok-Guard & Graffiti Control in accordance with PROSOCO, Inc.'s Product Guide application recommendations and then allowed to cure for at least three days. At the end of the three-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 at least three days following application of Sure Klean[®] 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 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:

- 3. Pressure rinse thoroughly until water runs clear. *
- 4. Allow the surface to dry thoroughly and visually examine to determine effectiveness.
- * Pressure rinsing was conducted at approximately 1300 psi with a warm water flow rate of 1.9 gallons per minute.





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TEST RESULTS – Graffiti Control

"Split Red"						
Untreated Control	Black Paint	Black Marker	Green Marker	Red Marker	% Avg. Removal	
Graffiti Wipe	50%	60%	75%	90%	69%	
Fast Acting Stripper	95%	100%	70%	98%	91%	
Blok-Guard [®] & Graffiti Control	Black Paint	Black Marker	Green Marker	Red Marker	Avg. Removal	
Graffiti Wipe	80%	80%	98%	98%	89%	
Fast Acting Stripper	95%	100%	90%	100%	96%	
"Used Split"						
Untreated Control	Black Paint	Black Marker	Green Marker	Red Marker	Avg. Removal	
Graffiti Wipe	90%	90%	90%	90%	90%	
Fast Acting Stripper	100%	98%	50%	90%	85%	
Blok-Guard [®] & Graffiti Control	Black Paint	Black Marker	Green Marker	Red Marker	Avg. Removal	
Graffiti Wipe	95%	50%	50%	50%	61%	
Fast Acting Stripper	100%	100%	80%	80%	90%	
	"Тур	I		ı	1	
Untreated Control	Black Paint	Black Marker	Green Marker	Red Marker	Avg. Removal	
Graffiti Wipe	30%	50%	50%	50%	45%	
Fast Acting Stripper	95%	100%	80%	98%	93%	
Blok-Guard [®] & Graffiti Control	Black Paint	Black Marker	Green Marker	Red Marker	Avg. Removal	
Graffiti Wipe	30%	50%	50%	50%	45%	
Fast Acting Stripper	95%	100%	85%	95%	94%	
"All White"						
Untreated Control	Black Paint	Black Marker	Green Marker	Red Marker	Avg. Removal	
Graffiti Wipe	80%	60%	50%	50%	60%	
Fast Acting Stripper	98%	99%	50%	70%	79%	
Blok-Guard [®] & Graffiti Control	Black Paint	Black Marker	Green Marker	Red Marker	Avg. Removal	
Graffiti Wipe	90%	60%	60%	60%	68%	
Fast Acting Stripper	99%	95%	80%	90%	91%	





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TEST RESULTS – Graffiti Control Continued

"Flash"						
Untreated Control	Black Paint	Black Marker	Green Marker	Red Marker	% Avg. Removal	
Graffiti Wipe	95%	90%	100%	100%	96%	
Fast Acting Stripper	100%	100%	99%	100%	99%	
Blok-Guard [®] & Graffiti Control	Black Paint	Black Marker	Green Marker	Red Marker	Avg. Removal	
Graffiti Wipe	90%	98%	100%	100%	97%	
Fast Acting Stripper	100%	100%	98%	100%	99%	
	"Prin	nero"				
Untreated Control	Black Paint	Black Marker	Green Marker	Red Marker	Avg. Removal	
Graffiti Wipe	98%	60%	60%	90%	77%	
Fast Acting Stripper	100%	100%	70%	100%	93%	
Blok-Guard [®] & Graffiti Control	Black Paint	Black Marker	Green Marker	Red Marker	Avg. Removal	
Graffiti Wipe	90%	80%	98%	90%	90%	
Fast Acting Stripper	99%	99%	70%	98%	92%	
		Classic"				
Untreated Control	Black Paint	Black Marker	Green Marker	Red Marker	Avg. Removal	
Graffiti Wipe	60%	60%	90%	90%	75%	
Fast Acting Stripper	100%	100%	90%	95%	96%	
Blok-Guard [®] & Graffiti Control	Black Paint	Black Marker	Green Marker	Red Marker	Avg. Removal	
Graffiti Wipe	95%	60%	95%	95%	86%	
Fast Acting Stripper	99%	100%	95%	98%	98%	
"Chocolate"						
Untreated Control	Black Paint	Black Marker	Green Marker	Red Marker	Avg. Removal	
Graffiti Wipe	99%	95%	100%	95%	97%	
Fast Acting Stripper	100%	100%	95%	99%	99%	
Blok-Guard [®] & Graffiti Control	Black Paint	Black Marker	Green Marker	Red Marker	Avg. Removal	
Graffiti Wipe	95%	95%	100%	99%	97%	
Fast Acting Stripper	100%	100%	99%	99%	99%	

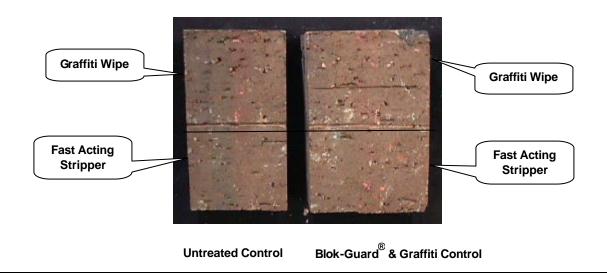
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PHOTOGRAPHS – Graffiti Removal

"Flash Classic"



"Chocolate Split"



CONCLUSIONS - Graffiti Control

Based upon laboratory evaluations, Sure Klean® Fast Acting Stripper was most effective at removing graffiti from the submitted clay bricks. Graffiti removal was improved when the surfaces were treated with Sure Klean® Blok-Guard & Graffiti Control. Graffiti removal from treated and untreated samples of "Flash Classic" and "All White" were more difficult to remove due to the graffiti staining the decorative finish on these clay brick types.





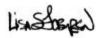
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RECOMMENDATIONS - Graffiti Control

Recommendations for graffiti control treatments and graffiti removal products for each type of clay bricks submitted by Castaic Brick, Castaic, CA are provided in the chart below. Recommendations are based on the treatment that proved most effective and the graffiti remover that can provide the best removal on all types submitted if possible.

Sample	Graffiti Repellent	Graffiti Remover		
"Primero"	Sure Klean [®] Blok-Guard [®] & Graffiti Control	Sure Klean [®] Fast Acting Stripper		
"Flash Classic"	Sure Klean [®] Blok-Guard [®] & Graffiti Control	Sure Klean [®] Fast Acting Stripper		
"Chocolate Split"	Sure Klean [®] Blok-Guard [®] & Graffiti Control	Sure Klean [®] Fast Acting Stripper		
"Red Split"	Sure Klean [®] Blok-Guard [®] & Graffiti Control	Sure Klean [®] Fast Acting Stripper		
"Flash"	Sure Klean [®] Blok-Guard [®] & Graffiti Control	Sure Klean [®] Fast Acting Stripper		
"Typic"	Sure Klean [®] Blok-Guard [®] & Graffiti Control	Sure Klean [®] Fast Acting Stripper		
"Used Split"	Sure Klean [®] Blok-Guard [®] & Graffiti Control	Sure Klean [®] Fast Acting Stripper		
"All White"	Sure Klean [®] Blok-Guard [®] & Graffiti Control	Sure Klean [®] Fast Acting Stripper		

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 graffiti control product and procedures for a particular project. See product literature for additional application and product information.



Lisa Toburen Assistant Laboratory Technician

LT/CMN



Laboratory Report

Pallet Tag Program Evaluation

Castaic Brick Castaic, CA

Project No. 0202-11 PTP

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PROSOCO, Inc. May 2002