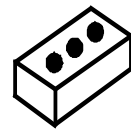




# PALLET CARD PROGRAM LABORATORY REPORT

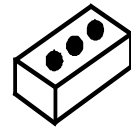


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## **ATTACHMENTS**

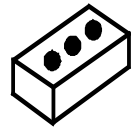
Technical Services TECH Note RILEM Test Method No. II.4

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 Company  
2223 Del Rio Highway  
Eagle Pass, TX 78852-3317

**cc:** Paul Tessier  
Jack James

**SUBJECT:** Claymex Brick & Tile Company  
Eagle Pass, TX

**DATE:** March 9, 2001

**PROJECT:** 0102-02 PC

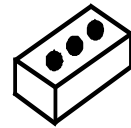
**SAMPLES SUBMITTED:** 3 types of clay tiles

<b>Sample</b>	<b>Color/Finish</b>	<b>Size</b>
3 tiles "Super Colorado"	Red clay	12" x 12"
3 tiles "Super Terracotta"	Orange clay	12" x 12"
3 tiles "Super Saltillo"	Tan clay	12" x 12"

Submitted by: Paul Tessier



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## PURPOSE OF TESTING:

Samples of clay tiles were submitted to PROSOCO, Inc.'s Testing Laboratory with a request to determine if application of the products evaluated will produce any surface alterations during new construction cleaning operations. Additionally, the effectiveness of water repellents, suitable for clay tile masonry, will be evaluated along with stain resistance.

- A. New Construction Cleaning** – Enviro Klean<sup>®</sup> 2010 All Surface Cleaner and Sure Klean<sup>®</sup> Light Duty Concrete Cleaner were evaluated for removal of laboratory applied grout.

One of each tile is pretreated with one coat of Stand Off<sup>®</sup> Gloss 'N Guard a second of each tile is pretreated with one coat of Stand Off<sup>®</sup> Top Coat and allowed to cure for at least 72 hours.

To simulate new construction soiling, the pretreated tiles are placed on a bench with finished surface facing upward. Hollow cylinders measuring 50 mm in diameter and 75 mm tall are positioned on top of each tile and filled with a wet mixture of sanded grout. The wet, grout-filled cylinder is allowed to remain in contact with the tile for 10 minutes before removal.

Soiled tiles are allowed to dry before test cleaning.

Heavy deposits of grout are removed with dry scraping after 24 hours. Prepared cleaning solutions are then evaluated for their effectiveness in removing residual sanded grout staining after 3 days of curing.

- B. Surface Alteration Testing** - Enviro Klean<sup>®</sup> 2010 All Surface Cleaner and Sure Klean<sup>®</sup> Light Duty Concrete Cleaner were tested at various dilutions to determine if a cleaning program implemented to remove excess mortar and related new construction soiling would otherwise alter the appearance of cleaned surfaces. Surface Alteration was evaluated visually based upon perceived discoloration or erosion/etching of the tile.

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.

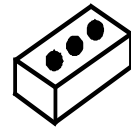
Color Change is the visual examination comparing the color of the untreated control surface to color of surfaces cleaned with selected products at given dilutions.

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

- C. Water Repellent Evaluation** – Stand Off<sup>®</sup> Gloss 'N Guard and Stand Off<sup>®</sup> Top Coat were evaluated on the submitted samples for their ability to provide water repellency using RILEM method II.4.
- D. Color Enhancement** -- Stand Off<sup>®</sup> Gloss 'N Guard and Stand Off<sup>®</sup> Top Coat were evaluated on the submitted samples for their ability to enhance the natural color of the tiles in relative comparison to the untreated tile's water-saturated appearance.
- E. Stain Resistance** -- Stand Off<sup>®</sup> Gloss 'N Guard and Stand Off<sup>®</sup> Top Coat were evaluated for their ability to provide stain protection to the submitted samples at increments of 10 minutes, 1 hour, 4 hours, 7 hours, and 24 hours. Beading characteristics of the soiling agents were also evaluated on the treated and untreated tiles.



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## CLEANING PRODUCTS

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

TILE TYPE	Enviro Klean® 2010 All Surface Cleaner	Sure Klean® Light Duty Concrete Cleaner
All submitted tile samples	<b>1:10</b>	<b>1:3</b>
All submitted tile samples		<b>1:6</b>

## SURFACE ALTERATION PRODUCTS EVALUATED

TILE TYPE	Enviro Klean® 2010 All Surface Cleaner	Sure Klean® Light Duty Concrete Cleaner
All submitted tile samples	<b>1:10</b>	<b>1:3</b>
All submitted tile samples		<b>1:6</b>

## WATER REPELLENT PRODUCTS EVALUATED

Sample	Treatment
All Submitted Tile Types	Gloss 'N Guard
	Top Coat

## COLOR ENHANCING PRODUCTS EVALUATED

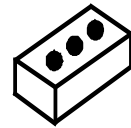
Sample	Treatment
All Submitted Tile Types	Gloss 'N Guard
	Top Coat

## STAIN RESISTANT PRODUCTS EVALUATED

Sample	Treatment
All Submitted Tile Types	Gloss 'N Guard
	Top Coat



# PALLET CARD PROGRAM LABORATORY REPORT



## 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 sanded grout from the submitted tiles.

Sanded grout was prepared in compliance with the manufacturers instructions, applied to the pretreated tile surface and allowed to cure for 3 days prior to removal with high pressure water rinse using pressure rinsing equipment and chemical assist. The removal of gray sanded grout after 3 days of curing was visually evaluated.

**Enviro Klean® 2010 All Surface Cleaner** – A “next-generation” product for cleaning and degreasing light-to-heavily soiled stone, tile, masonry and much more. Powerful enough for industrial use, flexible enough for jobs around the home. EK 2010 All Surface Cleaner is water rinsable and contains no harsh acids, caustics or solvents.

**Sure Klean® Light Duty Concrete Cleaner** - A general-purpose, nonetching acidic cleaner removes rust, mud, oil, atmospheric dirt, mortar smears and other stains without altering the surface texture. Light Duty Concrete Cleaner removes common construction and atmospheric staining from smooth architectural and engineered concrete and adds depth to colors, brightens white matrices and exposed aggregate.

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

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

1. Pretreat surfaces with one coat of either Gloss ‘N Guard or Top Coat.
2. Prewet the surface with water.
3. Apply the cleaner.
4. Allow the appropriate dwell time, as specified.
 

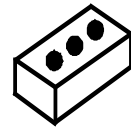
2010 All Surface Cleaner.....	5 minutes
Light Duty Concrete Cleaner .....	5 minutes
5. Pressure rinse thoroughly.\*

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

**NOTE:** When pretreating Gloss ‘N Guard was rapidly absorbed by “Super Terracotta” and “Super Saltillo”. Two more treatments were needed to equal the same even sheen that was achieved on “Super Colorado” in one application. Multiple applications were not needed with Top Coat, which went on with a single application.



# PALLET CARD PROGRAM LABORATORY REPORT



**Test Results - New Construction Cleaning**

**% Removal**

**“Super Colorado”**

	<u>3 day Gloss ‘N Guard</u>	<u>3 day Top Coat</u>
2010 All Surface Cleaner	99%	100%
LD Concrete Cleaner (1:3)	99%	100%
LD Concrete Cleaner (1:6)	99%	100%

**“Super Terracotta”**

	<u>3 day Gloss ‘N Guard</u>	<u>3 day Top Coat</u>
2010 All Surface Cleaner	99%	100%
LD Concrete Cleaner (1:3)	99%	100%
LD Concrete Cleaner (1:6)	99%	100%

**“Super Saltillo”**

	<u>3 day Gloss ‘N Guard</u>	<u>3 day Top Coat</u>
2010 All Surface Cleaner	99%	100%
LD Concrete Cleaner (1:3)	99%	100%
LD Concrete Cleaner (1:6)	99%	100%

**CONCLUSIONS - Cleaning:**

Based on the test results, both cleaners and all dilutions performed extremely well in removing excess grout smears on the submitted tile samples pretreated with either Stand Off<sup>®</sup> Gloss ‘N Guard or Stand Off<sup>®</sup> Top Coat.

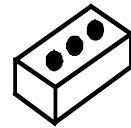
It is also recommended that the selected cleaners always be used in the lowest possible concentration, typically a 1:10 dilution for 2010 All Surface Cleaner and 1:6 for Light Duty Concrete Cleaner. To facilitate easier removal of excess grout and construction dirt while minimizing any potential adverse effects on the finish, clean within 3 days of construction.

**RECOMMENDED PRODUCTS AND DILUTIONS - CLEANING:**

Sample	Enviro Klean <sup>®</sup> 2010 All Surface Cleaner	Sure Klean <sup>®</sup> Light Duty Concrete Cleaner
“Super Colorado”	1:10	1:6
“Super Terracotta”	1:10	1:6
“Super Saltillo”	1:10	1:6



# PALLET CARD PROGRAM LABORATORY REPORT



## SECTION B – Surface Alterations:

### DESCRIPTION OF PRODUCTS EVALUATED – Surface Alterations:

**Enviro Klean® 2010 All Surface Cleaner** – A “next-generation” product for cleaning and degreasing light-to-heavy soiled stone, tile, masonry and much more. Powerful enough for industrial use, flexible enough for jobs around the home. EK 2010 All Surface Cleaner is water rinsable and contains no harsh acids, caustics or solvents.

**Sure Klean® Light Duty Concrete Cleaner** - A general-purpose, nonetching acidic cleaner removes rust, mud, oil, atmospheric dirt, mortar smears and other stains without altering the surface texture. Light Duty Concrete Cleaner removes common construction and atmospheric staining from smooth architectural and engineered concrete and adds depth to colors, brightens white matrices and exposed aggregate.

### TEST METHOD – Surface Alteration Testing:

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

Enviro Klean® 2010 All Surface Cleaner and Sure Klean® Light Duty Concrete Cleaner were both evaluated at various dilutions.

The following procedure was used:

1. Pretreat surfaces with one coat of either Gloss ‘N Guard or Top Coat.
2. Prewet the surface with water.
3. Apply each cleaner at the appropriate dilutions.
4. Allow appropriate exposure time:
 

2010 All Surface Cleaner .....	5 minutes
Light Duty Concrete Cleaner .....	5 minutes
5. Reapply the products and moderately agitate with a brush.
6. Pressure rinse thoroughly.\*
7. Allow the surface to dry for at least 18 hours and visually examine.

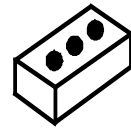
\* Pressure rinsing was conducted at approximately 800 psi with a warm water flow rate of 1.9 gallons per minute.

**NOTE:** When pretreating Gloss ‘N Guard was rapidly absorbed by “Super Terracotta” and “Super Saltillo”. Two more treatments were needed to equal the same even sheen that was achieved on “Super Colorado” in one application. Multiple applications were not needed with Top Coat, which went on with a single application.





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**Surface Alteration Results:**

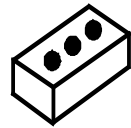
<b>Substrate:</b> "Super Colorado"		<b>Pigment Color:</b> Red clay w/ Gloss 'N Guard			
Product	Dilution	Surface Finish Removal	Substrate Deterioration	Color Change	Staining
2010 All Surface Cleaner	1:10	0	0	0	0
Light Duty Concrete Cleaner	1:3	0	0	0	0
Light Duty Concrete Cleaner	1:6	0	0	0	0
<b>Substrate:</b> "Super Colorado"		<b>Pigment Color:</b> Red clay w/ Top Coat			
Product	Dilution	Surface Finish Removal	Substrate Deterioration	Color Change	Staining
2010 All Surface Cleaner	1:10	0	0	0	1*
Light Duty Concrete Cleaner	1:3	0	0	0	0
Light Duty Concrete Cleaner	1:6	0	0	0	0
<b>Substrate:</b> "Super Terracotta"		<b>Pigment Color:</b> Orange clay w/ Gloss 'N Guard			
Product	Dilution	Surface Finish Removal	Substrate Deterioration	Color Change	Staining
2010 All Surface Cleaner	1:10	0	0	0	0
Light Duty Concrete Cleaner	1:3	0	0	0	0
Light Duty Concrete Cleaner	1:6	0	0	0	0
<b>Substrate:</b> "Super Terracotta"		<b>Pigment Color:</b> Orange clay w/ Top Coat			
Product	Dilution	Surface Finish Removal	Substrate Deterioration	Color Change	Staining
2010 All Surface Cleaner	1:10	0	0	0	1*
Light Duty Concrete Cleaner	1:3	0	0	0	0
Light Duty Concrete Cleaner	1:6	0	0	0	0
<b>Substrate:</b> "Super Saltillo"		<b>Pigment Color:</b> Tan clay w/ Gloss 'N Guard			
Product	Dilution	Surface Finish Removal	Substrate Deterioration	Color Change	Staining
2010 All Surface Cleaner	1:10	0	0	0	0
Light Duty Concrete Cleaner	1:3	0	0	0	0
Light Duty Concrete Cleaner	1:6	0	0	0	0
<b>Substrate:</b> "Super Saltillo"		<b>Pigment Color:</b> Tan clay w/ Top Coat			
Product	Dilution	Surface Finish Removal	Substrate Deterioration	Color Change	Staining
2010 All Surface Cleaner	1:10	0	0	0	1*
Light Duty Concrete Cleaner	1:3	0	0	0	0
Light Duty Concrete Cleaner	1:6	0	0	0	0

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

\*Enviro Klean<sup>®</sup> 2010 All Surface Cleaner (1:10) left a light film on Stand Off<sup>®</sup> Top Coat, but was easily removed with a cloth.



# PALLET CARD PROGRAM LABORATORY REPORT



**"Super Colorado"  
w/ Gloss 'N Guard  
Before**



**"Super Colorado"  
w/ Gloss 'N Guard  
After**

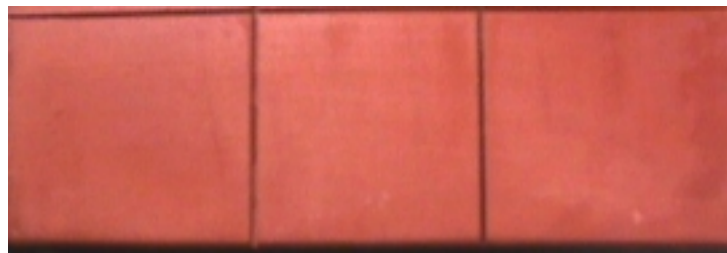


**Light Duty  
Concrete  
Cleaner (1:3)**

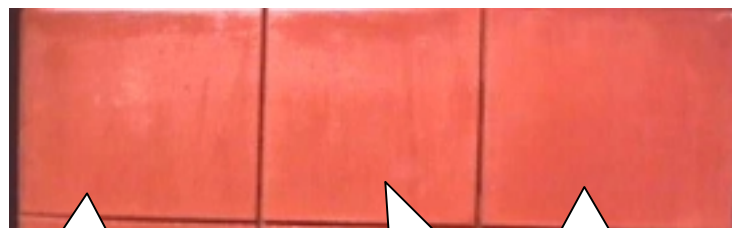
**Light Duty  
Concrete  
Cleaner (1:6)**

**2010 All  
Surface  
Cleaner (1:10)**

**"Super Colorado"  
w/ Top Coat  
Before**



**"Super Colorado"  
w/ Top Coat  
After**



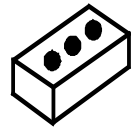
**Light Duty  
Concrete  
Cleaner (1:3)**

**Light Duty  
Concrete  
Cleaner (1:6)**

**2010 All Surface  
Cleaner (1:10)**



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## **CONCLUSIONS – Surface Alterations:**

All dilutions of Enviro Klean<sup>®</sup> 2010 All Surface Cleaner and Sure Klean<sup>®</sup> Light Duty Concrete Cleaner tested effectively removed the grout stains from the tile samples. 2010 All Surface Cleaner left a light film on the Top Coat-treated tiles only but was easily removed with a cloth.

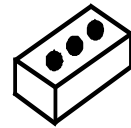
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## **RECOMMENDATIONS – Surface Alterations:**

Based on these evaluations, all of the dilutions of Enviro Klean<sup>®</sup> 2010 All Surface Cleaner and Sure Klean<sup>®</sup> Light Duty Concrete Cleaner tested can be recommended for job site testing. They all are effective in removing excess grout and job dirt from the submitted tiles. The most appropriate cleaner and dilution should be determined on the specific job-site, and will be dependent primarily on the nature and severity of soiling present at that location.



# PALLET CARD PROGRAM LABORATORY REPORT



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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:**

**Stand Off<sup>®</sup> Gloss 'N Guard** -- A highly durable, VOC-compliant, protective coating for tile, pavers, terrazzo and other polished and unpolished masonry. Gloss 'N Guard dries to a high-gloss finish that enhances the natural beauty of treated surfaces.

**Stand Off<sup>®</sup> Top Coat** – A highly durable, water based, acrylic emulsion formulated to protect and enhance the appearance of interior quarry tile, pavers, terrazzo, and other unpolished masonry. Top Coat is a milky, white liquid that dries to a clear, satin finish and does not significantly change the natural appearance of the treated surface. Top Coat may also be used to restore polished surfaces in high-traffic areas.

---

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

The submitted tiles were allowed to dry, and reabsorb atmospheric humidity for 24 hours prior to treatment. The tiles first received a one coat saturating application prior to soiling with grout. After removing grout during cleaning and surface alterations evaluations, samples were allowed to dry for 24 hours. Tiles were then treated with three additional saturating applications. All treatments were allowed to cure at least 72 hours prior to testing.

---

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

### **Water Absorption Tube Test: RILEM II.4, 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:

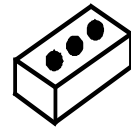
A rating of **AA** *Above Average* water repellent performance would require loss of no more than 5 ml X 20% = 1 ml.

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+



# 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**

**AA = Average**

**BA = Below Average**

"Super Colorado"	Results	Ranking
Untreated Control	>5.0 mL loss	---
Gloss 'N Guard	0.0 mL loss	<b>AA</b>
Top Coat	0.0 mL loss	<b>AA</b>
"Super Terracotta"	Results	Ranking
Untreated Control	>5.0 mL loss	---
Gloss 'N Guard	0.0 mL loss	<b>AA</b>
Top Coat	0.0 mL loss	<b>AA</b>
"Super Saltillo"	Results	Ranking
Untreated Control	>5.0 mL loss	--
Gloss 'N Guard	0.0 mL loss	<b>AA</b>
Top Coat	0.0 mL loss	<b>AA</b>

**CONCLUSIONS - Protective Water Repellents:**

Based upon laboratory evaluations, all of the submitted tiles exhibited above average water repellency when treated with at least one of the water-repellent treatments. Stand Off<sup>®</sup> Gloss 'N Guard enhanced the substrate's natural appearance as well as leaving a high-gloss finish. Stand Off<sup>®</sup> Top Coat enhanced the appearance only slightly and left a satin finish.

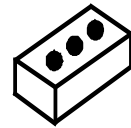
**RECOMMENDATIONS - Protective Water Repellents:**

Based on evaluations, Stand Off<sup>®</sup> Gloss 'N Guard and Stand Off<sup>®</sup> Top Coat can be recommended for jobsite testing to provide water repellency.

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 – COLOR ENHANCEMENT:**

The testing described below evaluates the degree of color enhancement that the treatments provide to the tiles.

The surface treatments evaluated were selected for their suitability for application based on the following selection criteria:

1. Ease of application
2. Color change
3. Removal of staining substances

---

## **DESCRIPTIONS OF PRODUCT EVALUATED—Color Enhancement:**

**Stand Off<sup>®</sup> Gloss 'N Guard**—A highly durable, VOC-compliant, protective coating for tile, pavers, terrazzo and other polished and unpolished masonry. Gloss 'N Guard dries to a high-gloss finish that enhances the natural beauty of treated surfaces.

**Stand Off<sup>®</sup> Top Coat** – A highly durable, water based, acrylic emulsion formulated to protect and enhance the appearance of interior quarry tile, pavers, terrazzo, and other unpolished masonry. Top Coat is a milky, white liquid that dries to a clear, satin finish and does not significantly change the natural appearance of the treated surface. Top Coat may also be used to restore polished surfaces in high-traffic areas.

---

## **SAMPLE PREPARATION – Color Enhancement:**

The submitted tiles were allowed to dry, and reabsorb atmospheric humidity for 24 hours prior to treatment. The tiles first received a one coat saturating application prior to soiling with grout. After removing grout during cleaning and surface alteration evaluations, samples were allowed to dry for 24 hours. Tiles were then treated with three additional saturating applications. All treatments were allowed to cure at least 72 hours prior to testing.

---

## **TEST METHODS—Color Enhancement:**

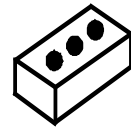
Color enhancement is evaluated visually based on the appearance of the treatment applied. This includes color changes and/or darkening.

For purpose of this evaluation, treatments that produce “no enhancement” do not alter the natural appearance of the substrate and are rated with a value of 1. Untreated substrates are rated a value of 0. Treatments that provide the same degree of darkening as water-saturated examples of the substrate are rated with a value of 5.

A value of 2 is estimated to be 25% of the water-saturated degree of darkening.  
A value of 3 is estimated to be 50% of the water-saturated degree of darkening.  
A value of 4 is estimated to be 75% of the water-saturated degree of darkening.



# PALLET CARD PROGRAM LABORATORY REPORT



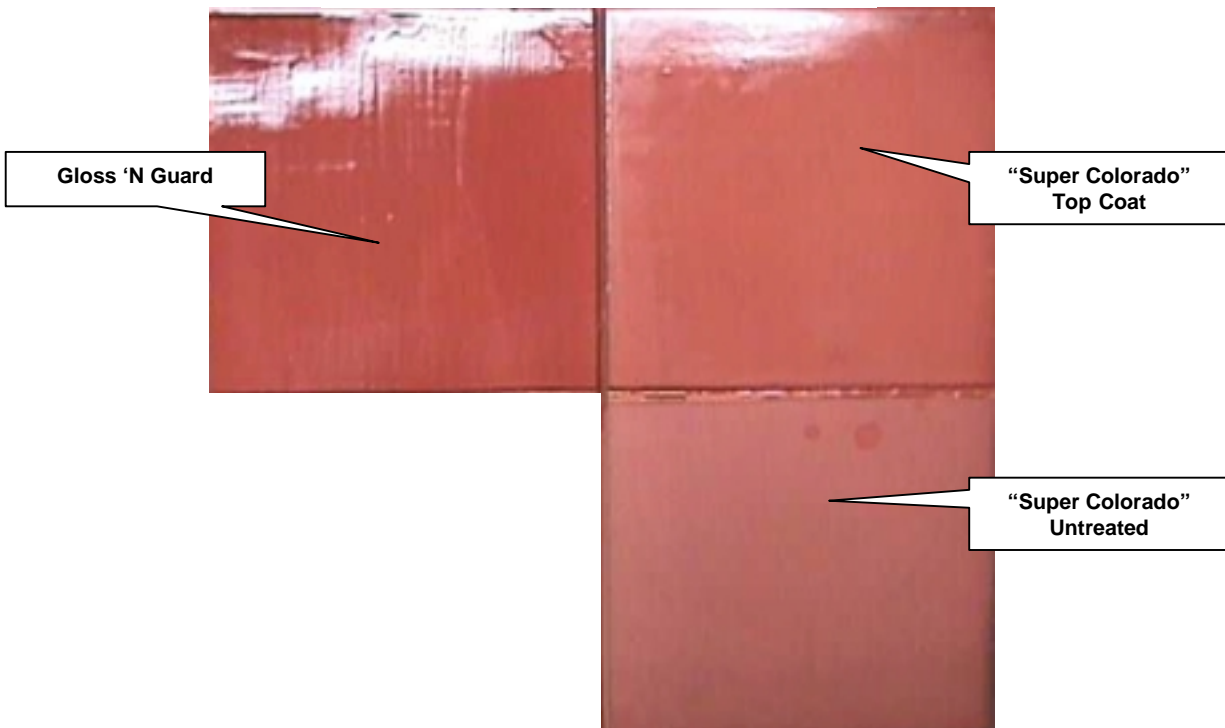
### TEST RESULTS: Color Enhancement

"Super Colorado"	
Treatment	Enhancement
Untreated Control	0
Gloss 'N Guard (4 coats)	4
Top Coat (4 coats)	2
"Super Terracotta"	
Treatment	Enhancement
Untreated Control	0
Gloss 'N Guard (4 coats)	4
Top Coat (4 coats)	2
"Super Saltillo"	
Treatment	Enhancement
Untreated Control	0
Gloss 'N Guard (4 coats)	4
Top Coat (4 coats)	2

Scale used for reporting results:

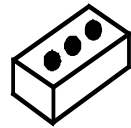
- |                       |                    |
|-----------------------|--------------------|
| 0 – Untreated Control | 3 – 50% Darkening  |
| 1 – No Enhancement    | 4 – 75% Darkening  |
| 2 – 25% Darkening     | 5 – 100% Darkening |

Color Enhancement on "Super Colorado"





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## CONCLUSIONS – Color Enhancement:

Based upon laboratory evaluations, Stand Off<sup>®</sup> Gloss 'N Guard was most effective at providing color enhancement. Stand Off<sup>®</sup> Top Coat also enhanced the color of the tiles, but to a much lesser degree. Gloss 'N Guard also left a high gloss finish, where as the Top Coat left a satin finish.

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## RECOMMENDATIONS – Color Enhancement:

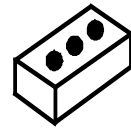
Based on evaluations, both Stand Off<sup>®</sup> Gloss 'N Guard and Stand Off<sup>®</sup> Top Coat can be recommended for jobsite testing to provide color enhancement.

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 color enhancing product and procedures for a particular project. See product literature for additional application and product information.





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## SECTION E - PROTECTIVE STAIN REPELLENTS:

The testing described below evaluates the suitability of stain protection treatments.

The surface treatments evaluated were selected for their suitability for application based on the following selection criteria:

1. Ease of application
2. Color change
3. Removal of staining substances

## DESCRIPTIONS OF PRODUCTS EVALUATED:

### Protective Stain Repellents:

**Stand Off® Gloss 'N Guard** - A highly durable, VOC-compliant, protective coating for tile, pavers, terrazzo and other polished and unpolished masonry. Gloss 'N Guard dries to a high-gloss finish that enhances the natural beauty of treated surfaces.

**Stand Off® Top Coat** – A highly durable, water based, acrylic emulsion formulated to protect and enhance the appearance of interior quarry tile, pavers, terrazzo, and other unpolished masonry. Top Coat is a milky, white liquid that dries to a clear, satin finish and does not significantly change the natural appearance of the treated surface. Top Coat may also be used to restore polished surfaces in high-traffic areas.

### Products Evaluated for Stain Removal:

**Stand Off® Rinseless Cleaner**—Dilution: 1 part concentrate : 10 parts fresh water

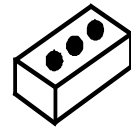
### Food and Oil Products Evaluated:

### Temperature:

Coca-Cola®	ambient (~70°F)
Ketchup	ambient (~70°F)
Mustard	ambient (~70°F)
Red Wine	ambient (~70°F)
Balsamic Vinegar	ambient (~70°F)
Soy Sauce	ambient (~70°F)
Hot Vegetable Oil	200°F
Hot Olive Oil	200°F
Hot Coffee	120°F



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## SAMPLE PREPARATION—Protective Stain Repellents:

The submitted tiles were allowed to dry, and reabsorb atmospheric humidity for 24 hours prior to treatment. The tiles first received a one coat saturating application prior to soiling with grout. After removing grout during cleaning and surface alteration evaluations, samples were allowed to dry for 24 hours. Tiles were then treated with three additional saturating applications. All treatments were allowed to cure for at least 72 hours prior to testing.

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## TEST METHODS—Protective Stain Repellents:

### Oil and Water Surface Beading

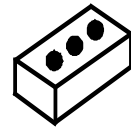
The food and oil products were applied to the test areas. The beading properties of the oils and liquids were visually evaluated within two minutes after application. The results are reported as a rating based on the angle of contact between the base of the droplet and the substrate. A rating of "1 or 2" indicated the smallest angle of contact ( $<90^\circ$ ) which correlates to "above average" repellency. A rating of "3 or 4" indicates "average" repellency. A rating of "5 or greater" indicated that the oil quickly absorbed into the substrate and correlates to "below average" repellency.

### Stain Resistance

The soiling agents were allowed to dwell on the treated and untreated substrate for times of 24 hours, 7 hours, 4 hours, 1 hour, and 10 minutes. The test areas were then cleaned with Rinseless Cleaner diluted 1 part concentrate to 10 parts fresh water and scrubbed under a stream of running water from a faucet. Samples were allowed to dry for 24 hours. Evaluation consisted of a visual examination of the tested areas to determine the percentage of staining removal.



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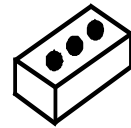
**TEST RESULTS: Surface Beading**

<b>“Super Colorado”</b>								
Coca-Cola®	Ketchup	Mustard	Red Wine	Balsamic Vinegar	Soy Sauce	Hot Vegetable Oil	Hot Olive Oil	Hot Coffee
<b>Stand Off® Gloss ‘N Guard</b>								
2	N/A	N/A	2	2	2	4	4	3-4
<b>Stand Off® Top Coat</b>								
4	N/A	N/A	4	4	3-4	2	2	4
<b>Untreated Control</b>								
5	N/A	N/A	5	5	4	5	5	5
<b>“Super Terracotta”</b>								
Coca-Cola®	Ketchup	Mustard	Red Wine	Balsamic Vinegar	Soy Sauce	Hot Vegetable Oil	Hot Olive Oil	Hot Coffee
<b>Stand Off® Gloss ‘N Guard</b>								
2	N/A	N/A	2	2	2	4	4	3-4
<b>Stand Off® Top Coat</b>								
4	N/A	N/A	4	4	3-4	2	2	4
<b>Untreated Control</b>								
5	N/A	N/A	5	5	4	5	5	5
<b>“Super Saltillo”</b>								
Coca-Cola®	Ketchup	Mustard	Red Wine	Balsamic Vinegar	Soy Sauce	Hot Vegetable Oil	Hot Olive Oil	Hot Coffee
<b>Stand Off® Gloss ‘N Guard</b>								
2	N/A	N/A	2	2	2	4	4	3-4
<b>Stand Off® Top Coat</b>								
4	N/A	N/A	4	4	3-4	2	2	4
<b>Untreated Control</b>								
5	N/A	N/A	5	5	4	5	5	5

Rating System:    1 & 2    Above Average  
                           3 & 4    Average  
                           5        Below Average  
                           N/A     Not a free flowing liquid



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**TEST RESULTS: Protective Stain Repellents**

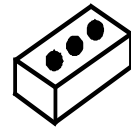
<b>“Super Colorado”</b>									
	Coca-Cola®	Ketchup	Mustard	Red Wine	Balsamic Vinegar	Soy Sauce	Hot Vegetable Oil	Hot Olive Oil	Hot Coffee
<b>Stand Off® Gloss 'N Guard</b>									
24hr	100%	100%	100%	100%	100%	100%	100%	100%	100%
7hr	100%	100%	100%	100%	100%	100%	100%	100%	100%
4hr	100%	100%	100%	100%	100%	100%	100%	100%	100%
1hr	100%	100%	100%	100%	100%	100%	100%	100%	100%
10min	100%	100%	100%	100%	100%	100%	100%	100%	100%
<b>Top Coat</b>									
24hr	100%*	100%*	100%*	100%*	100%*	100%*	100%	100%	100%*
7hr	100%*	100%*	100%*	100%*	100%*	100%*	100%	100%	100%*
4hr	100%*	100%*	100%*	100%*	100%*	100%*	100%	100%	100%*
1hr	100%*	100%*	100%*	100%*	100%*	100%*	100%	100%	100%*
10min	100%	100%	100%*	100%*	100%*	100%	100%	100%	100%*
<b>Untreated Control</b>									
24hr	90%	90%*	85%*	80%*	98%	95%*	0%	0%	80%
7hr	90%	90%*	85%*	80%*	98%	95%*	0%	0%	80%
4hr	90%	90%*	85%*	80%*	98%	95%*	0%	0%	80%
1hr	90%	90%*	85%*	80%*	98%	98%*	0%	0%	80%
10min	90%	90%*	85%*	90%*	98%	98%*	0%	0%	80%

% Removal of stain following maintenance cleaning.

\* Indicates etching of surface due to the acidic nature of the staining agent.



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**TEST RESULTS Continued: Protective Stain Repellents**

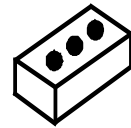
<b>“Super Terracotta”</b>									
	Coca-Cola®	Ketchup	Mustard	Red Wine	Balsamic Vinegar	Soy Sauce	Hot Vegetable Oil	Hot Olive Oil	Hot Coffee
<b>Stand Off® Gloss 'N Guard</b>									
24hr	100%	100%	100%	100%	100%	100%	100%	100%	100%
7hr	100%	100%	100%	100%	100%	100%	100%	100%	100%
4hr	100%	100%	100%	100%	100%	100%	100%	100%	100%
1hr	100%	100%	100%	100%	100%	100%	100%	100%	100%
10min	100%	100%	100%	100%	100%	100%	100%	100%	100%
<b>Top Coat</b>									
24hr	100%*	100%*	98%*	100%*	100%*	100%	100%	100%	100%*
7hr	100%*	100%*	98%*	100%*	100%*	100%	100%	100%	100%*
4hr	100%*	100%*	100%*	100%*	100%*	100%	100%	100%	100%*
1hr	100%*	100%	100%*	100%*	100%*	100%	100%	100%	100%*
10min	100%	100%	100%*	100%*	100%*	100%	100%	100%	100%*
<b>Untreated Control</b>									
24hr	90%	90%*	85%*	95%*	90%	90%*	0%	0%	80%
7hr	90%	90%*	85%*	95%*	90%	90%*	0%	0%	80%
4hr	90%	90%*	85%*	95%*	90%	95%*	0%	0%	85%
1hr	90%	90%*	85%*	95%*	90%	98%*	0%	0%	90%
10min	90%	90%*	85%*	95%*	90%	98%*	0%	0%	98%

% Removal of stain following maintenance cleaning.

\* Indicates etching of surface due to the acidic nature of the staining agent.



# PALLET CARD PROGRAM LABORATORY REPORT



**TEST RESULTS Continued: Protective Stain Repellents**

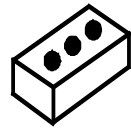
<b>“Super Saltillo”</b>									
	Coca-Cola®	Ketchup	Mustard	Red Wine	Balsamic Vinegar	Soy Sauce	Hot Vegetable Oil	Hot Olive Oil	Hot Coffee
<b>Stand Off® Gloss ‘N Guard</b>									
24hr	100%	100%	100%	100%	100%	100%	100%	100%	100%
7hr	100%	100%	100%	100%	100%	100%	100%	100%	100%
4hr	100%	100%	100%	100%	100%	100%	100%	100%	100%
1hr	100%	100%	100%	100%	100%	100%	100%	100%	100%
10min	100%	100%	100%	100%	100%	100%	100%	100%	100%
<b>Top Coat</b>									
24hr	100%*	100%*	98%*	100%*	100%*	100%*	100%	100%	100%*
7hr	100%*	100%*	98%*	100%*	100%*	100%*	100%	100%	100%*
4hr	100%*	100%*	99%*	100%*	100%*	100%*	100%	100%	100%*
1hr	100%*	100%	100%*	100%*	100%*	100%*	100%	100%	100%*
10min	100%	100%	100%*	100%*	100%*	100%	100%	100%	100%*
<b>Untreated Control</b>									
24hr	100%	85%	85%*	98%	100%	90%	0%	0%	95%
7hr	100%	85%	85%*	98%	100%	90%	0%	0%	95%
4hr	100%	85%	85%*	98%	100%	100%	0%	0%	95%
1hr	100%	85%	85%*	98%	100%	100%	0%	0%	95%
10min	100%	85%	85%*	98%	100%	100%	0%	0%	95%

% Removal of stain following maintenance cleaning.

\* Indicates etching of surface due to the acidic nature of the staining agent.



# PALLET CARD PROGRAM LABORATORY REPORT

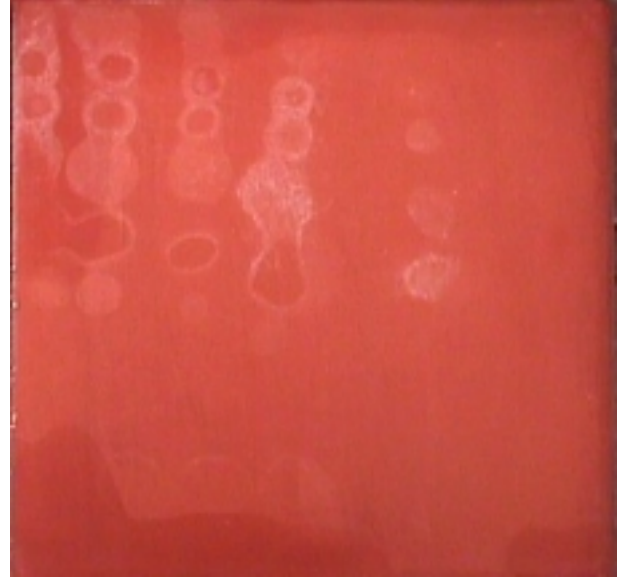


**“Super Colorado”  
w/ Gloss ‘N Guard**



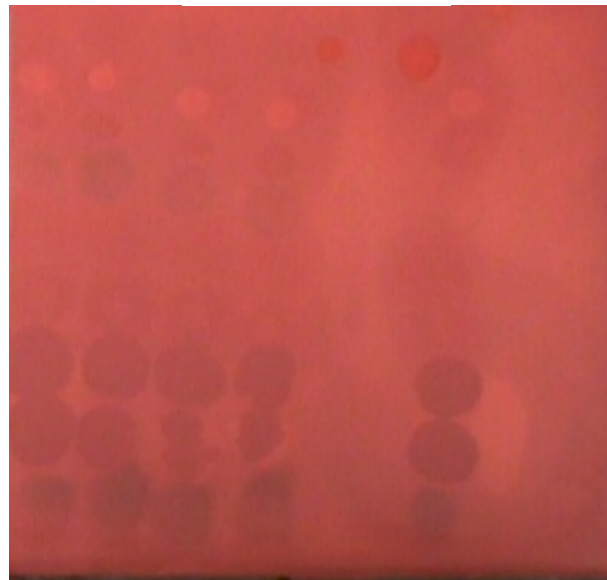
24hr 7hr 4hr 1hr 10min

**“Super Colorado”  
w/ Top Coat**



24hr 7hr 4hr 1hr 10min

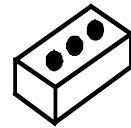
**“Super Colorado”  
Untreated**



24hr 7hr 4hr 1hr 10min



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## CONCLUSION—Protective Stain Repellents:

Test results show that on all 3 types of tiles, Stand Off<sup>®</sup> Gloss 'N Guard performed the best in repelling various staining agents with no etching and exhibited the best beading performance. Stand Off<sup>®</sup> Top Coat did well in repelling stains also, but was etched by acidic products and did not exhibit desirable beading characteristics.

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## RECOMMENDATION—Protective Stain Repellents:

Based on test results, Stand Off<sup>®</sup> Gloss 'N Guard can be recommended for job site testing for stain resistance, ease of soil removal, and beading characteristics.

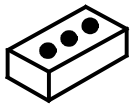
Apply all products in accordance with the manufacturer's recommendation provided on container labels and product data sheets. On-site testing should always be conducted to determine the most appropriate stain repellent and procedures for a particular project.

See product literature for additional application and product information.

Technical Analyst  
Jason L. Anderson

JLA/csm





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***Laboratory Report***

**Pallet Card Evaluation**

**Claymex Brick & Tile Company**

***Project No. 0102-02 PC***

***Prepared For:***

**Gerardo Ramos**

Claymex Brick & Tile Company  
2224 Del Rio Highway  
Eagle Pass, TX

***Prepared By:***



***PROSOCO, Inc.  
March 2001***