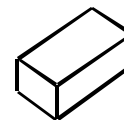




PALLET TAG PROGRAM LABORATORY REPORT



PROSOCO, Inc.

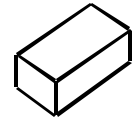
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FOR: Butch Reed
cc: James Holt
Paul Tessier
Steve Dean

SUBJECT: Columbus Brick Co.
Columbus, MS

DATE: July 17, 2003

PROJECT: 0305-17 PTP

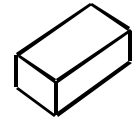
SAMPLES SUBMITTED: (21) types of clay bricks

| Sample | Color/Coating | Size |
|-----------------------|---|--------------------------|
| (6) "Red Burlington" | Red-tan/ "Light sand- Slurry" | 7 3/4" x 3 1/2" x 2 1/4" |
| (6) "Camellia" | Light Red/ "Light sand- Slurry" | |
| (6)"Callaway" | Light Red/ "Light sand- Slurry" | |
| (6) "Canterbury" | Pink-gray/ "Light sand- Slurry" | |
| (6) "F/R Bark" | Red textured/ "Bark" | |
| (6) "F/R Sand" | Red-tan/ "Sand" | |
| (6) "Jefferson Manor" | White/ "Light sand-Slurry", "Kaolin coating" | |
| (6) "Market St." | Pink-white/ "Light sand-Slurry", "Kaolin coating" | |
| (6) "Old Colony" | Red-tan/ "Light sand-Slurry" | |
| (6) "Old Waverly" | White/ "Light sand-Slurry", "Kaolin coating" | |
| (6) "Red Bark" | Red textured/ "Bark" | |
| (6) "Red Sand" | Red/ "Sand" | |
| (6) "Red Scratch" | Red textured/ "Scratch" | |
| (6) "Red Smooth" | Red/ "Smooth" | |
| (6) "Riverview" | White-gray/ "Light sand-Slurry", "Kaolin coating" | |
| (6) "Savannah Gray" | Dark-brown/ "Light sand-Slurry" | |
| (6) "Saxton" | Red / "Light sand-Slurry" | |
| (6) "St. Louis" | Black-tan-white Specks/ "Smooth- Slurry" | |
| (6) "Used" | Tan-black/ "Light Sand" | |
| (6) "Wakefield" | Red-black/ "Light sand-Slurry" | |
| (6) "Yorktown" | Red/ "Light sand-Slurry" | |

Submitted by: Butch Reed



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PURPOSE OF TESTING:

Twenty-one different types 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.

A. New Construction Cleaning – Sure Klean[®] Vana Trol[®] and/or Sure Klean[®] 600 Detergent were 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 N 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 N mortar after 7, 14, and 21 days of curing.

B. Limiting Surface Alterations – Sure Klean[®] Vana Trol[®] and/or Sure Klean[®] 600 Detergent 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.

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

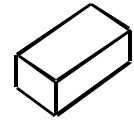
PRODUCTS EVALUATED FOR CLEANING AND LIMITING SURFACE ALTERATIONS

| SAMPLE | TREATMENT | DILUTION |
|--|--|----------|
| "Red Burlington", "Callaway", "F/R Bark", "F/R Sand", "Old Colony", and "Saxton" | Sure Klean [®] Vana Trol [®] | 1:6, 1:8 |
| | Sure Klean [®] 600 Detergent | 1:6, 1:8 |
| "Camellia", "Canterbury", "Jefferson Manor", "Market St.", "Old Waverly", "Riverview", Savannah Gray", "St. Louis", "Used", "Wakefield", and "Yorktown" | Sure Klean [®] Vana Trol [®] | 1:6, 1:8 |
| "Red Bark", "Red Sand", "Red Scratch", and "Red Smooth" | Sure Klean [®] 600 Detergent | 1:6, 1:8 |

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



PALLET TAG 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 Ash Grove® Type N mortar from the submitted fired clay bricks.

Ash Grove® 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. Mortar removal was accomplished using chemical assistance and a high-pressure water rinse with pressure rinsing equipment. The removal of Ash Grove® Type N cementitious masonry cement mortar was visually evaluated after 7, 14 and 21 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 4-10 parts water. Apply by brush or low-pressure spray.

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

TEST METHOD – New Construction Cleaning

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

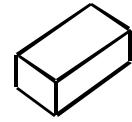
1. Prewet the surface with water.
2. Apply the cleaner.
3. Allow the appropriate dwell time, as specified.

| | |
|--------------------|-------------|
| Vana Trol® | 3-5 minutes |
| 600 Detergent..... | 3-5 minutes |
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

“Red Burlington”

| Product | Dilution | 7 day | 14 day | 21 day |
|---------------------------|----------|-------|--------|--------|
| Sure Klean® Vana Trol® | 1:6 | 100% | 100% | 100% |
| | 1:8 | 100% | 95% | 100% |
| Sure Klean® 600 Detergent | 1:6 | 100% | 100% | 100% |
| | 1:8 | 100% | 95% | 100% |

“Camellia”

| Product | Dilution | 7 day | 14 day | 21 day |
|------------------------|----------|-------|--------|--------|
| Sure Klean® Vana Trol® | 1:6 | 100% | 100% | 100% |
| | 1:8 | 95% | 100% | 100% |

“Callaway”

| Product | Dilution | 7 day | 14 day | 21 day |
|---------------------------|----------|-------|--------|--------|
| Sure Klean® Vana Trol® | 1:6 | 100% | 100% | 100% |
| | 1:8 | 100% | 100% | 100% |
| Sure Klean® 600 Detergent | 1:6 | 100% | 100% | 100% |
| | 1:8 | 100% | 100% | 100% |

“Canterbury”

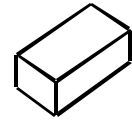
| Product | Dilution | 7 day | 14 day | 21 day |
|------------------------|----------|-------|--------|--------|
| Sure Klean® Vana Trol® | 1:6 | 100% | 100% | 100% |
| | 1:8 | 100% | 100% | 100% |

“F/R Bark”

| Product | Dilution | 7 day | 14 day | 21 day |
|---------------------------|----------|-------|--------|--------|
| Sure Klean® Vana Trol® | 1:6 | 100% | 100% | 100% |
| | 1:8 | 100% | 95% | 100% |
| Sure Klean® 600 Detergent | 1:6 | 100% | 100% | 100% |
| | 1:8 | 100% | 95% | 100% |



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Test Results – New Construction Cleaning (continued)

% Removal

“F/R Sand”

| Product | Dilution | 7 day | 14 day | 21 day |
|---------------------------|----------|-------|--------|--------|
| Sure Klean® Vana Trol® | 1:6 | 100% | 100% | 100% |
| | 1:8 | 100% | 100% | 100% |
| Sure Klean® 600 Detergent | 1:6 | 100% | 100% | 100% |
| | 1:8 | 100% | 100% | 100% |

“Jefferson Manor”

| Product | Dilution | 7 day | 14 day | 21 day |
|------------------------|----------|-------|--------|--------|
| Sure Klean® Vana Trol® | 1:6 | 100% | 100% | 100% |
| | 1:8 | 100% | 100% | 100% |

“Market St.”

| Product | Dilution | 7 day | 14 day | 21 day |
|------------------------|----------|-------|--------|--------|
| Sure Klean® Vana Trol® | 1:6 | 100% | 100% | 100% |
| | 1:8 | 100% | 100% | 100% |

“Old Colony”

| Product | Dilution | 7 day | 14 day | 21 day |
|---------------------------|----------|-------|--------|--------|
| Sure Klean® Vana Trol® | 1:6 | 100% | 100% | 100% |
| | 1:8 | 100% | 90% | 100% |
| Sure Klean® 600 Detergent | 1:6 | 100% | 95% | 100% |
| | 1:8 | 95% | 95% | 95% |

“Old Waverly”

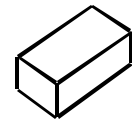
| Product | Dilution | 7 day | 14 day | 21 day |
|------------------------|----------|-------|--------|--------|
| Sure Klean® Vana Trol® | 1:6 | 100% | 100% | 100% |
| | 1:8 | 100% | 100% | 100% |

“Red Bark”

| Product | Dilution | 7 day | 14 day | 21 day |
|---------------------------|----------|-------|--------|--------|
| Sure Klean® 600 Detergent | 1:6 | 100% | 95% | 95% |
| | 1:8 | 95% | 95% | 95% |



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Test Results – New Construction Cleaning (continued)

% Removal

“Red Sand”

| Product | Dilution | 7 day | 14 day | 21 day |
|---------------------------|----------|-------|--------|--------|
| Sure Klean® 600 Detergent | 1:6 | 100% | 100% | 100% |
| | 1:8 | 100% | 95% | 100% |

“Red Scratch”

| Product | Dilution | 7 day | 14 day | 21 day |
|---------------------------|----------|-------|--------|--------|
| Sure Klean® 600 Detergent | 1:6 | 97% | 97% | 97% |
| | 1:8 | 95% | 95% | 95% |

“Red Smooth”

| Product | Dilution | 7 day | 14 day | 21 day |
|---------------------------|----------|-------|--------|--------|
| Sure Klean® 600 Detergent | 1:6 | 100% | 100% | 100% |
| | 1:8 | 100% | 100% | 100% |

“Riverview”

| Product | Dilution | 7 day | 14 day | 21 day |
|------------------------|----------|-------|--------|--------|
| Sure Klean® Vana Trol® | 1:6 | 100% | 100% | 100% |
| | 1:8 | 100% | 90% | 100% |

“Savannah Gray”

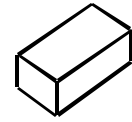
| Product | Dilution | 7 day | 14 day | 21 day |
|------------------------|----------|-------|--------|--------|
| Sure Klean® Vana Trol® | 1:6 | 100% | 100% | 100% |
| | 1:8 | 95% | 95% | 95% |

“Saxton”

| Product | Dilution | 7 day | 14 day | 21 day |
|---------------------------|----------|-------|--------|--------|
| Sure Klean® Vana Trol® | 1:6 | 100% | 100% | 100% |
| | 1:8 | 100% | 100% | 100% |
| Sure Klean® 600 Detergent | 1:6 | 100% | 100% | 100% |
| | 1:8 | 100% | 100% | 100% |



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Test Results – New Construction Cleaning (continued)

% Removal

“St. Louis”

| Product | Dilution | 7 day | 14 day | 21 day |
|------------------------|----------|-------|--------|--------|
| Sure Klean® Vana Trol® | 1:6 | 100% | 100% | 100% |
| | 1:8 | 100% | 100% | 100% |

“Used”

| Product | Dilution | 7 day | 14 day | 21 day |
|------------------------|----------|-------|--------|--------|
| Sure Klean® Vana Trol® | 1:6 | 100% | 100% | 100% |
| | 1:8 | 100% | 100% | 100% |

“Wakefield”

| Product | Dilution | 7 day | 14 day | 21 day |
|------------------------|----------|-------|--------|--------|
| Sure Klean® Vana Trol® | 1:6 | 100% | 100% | 100% |
| | 1:8 | 90% | 100% | 95% |

“Yorktown”

| Product | Dilution | 7 day | 14 day | 21 day |
|------------------------|----------|-------|--------|--------|
| Sure Klean® Vana Trol® | 1:6 | 100% | 100% | 100% |
| | 1:8 | 95% | 100% | 100% |

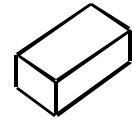
CONCLUSIONS – New Construction Cleaning

Based on the test results, Sure Klean® Vana Trol and/or Sure Klean® 600 Detergent in most dilutions tested performed extremely well in removing excess mortar smears on the submitted clay bricks. Both products 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.

It is recommended that the selected cleaners always be used in the lowest possible concentration. 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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RECOMMENDATIONS– New Construction Cleaning

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

| Brick Type | New Construction Cleaning (Type N, 21 Days) |
|--|--|
| “Camellia” “Old Colony” “Riverview” “Savannah Gray” “Wakefield” | Sure Klean® Vana Trol® 1:6 |
| “Canterbury” “Jefferson Manor” “Market Street” “Old Waverly” “St. Louis” “Used” “Yorktown” | Sure Klean® Vana Trol® 1:8 |
| “Red Burlington” “Callaway” “F/R Bark” F/R Sand “Saxton” | Sure Klean® Vana Trol® 1:8 OR Sure Klean® 600 Detergent 1:8 |
| “Red Bark” “Red Scratch” | Sure Klean® 600 Detergent 1:6 |
| “Red Sand” “Red Smooth” | Sure Klean® 600 Detergent 1:8 |

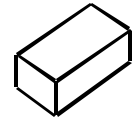
Excessive pressure and water volume may combine to damage or remove decorative finishes. To facilitate easier removal of excess mortar and construction dirt while minimizing any potential surface alterations to the decorative finish, clean within 7 days of construction. Rinsing with high-pressure spray (400-800 psi) is recommended.

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.

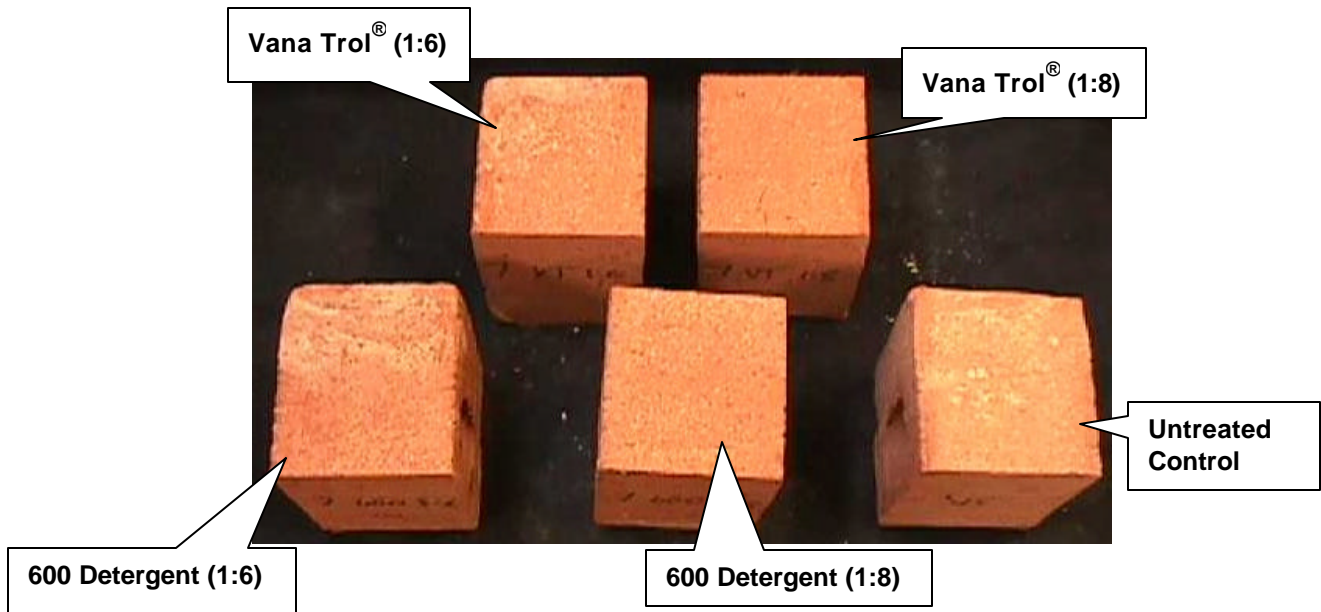


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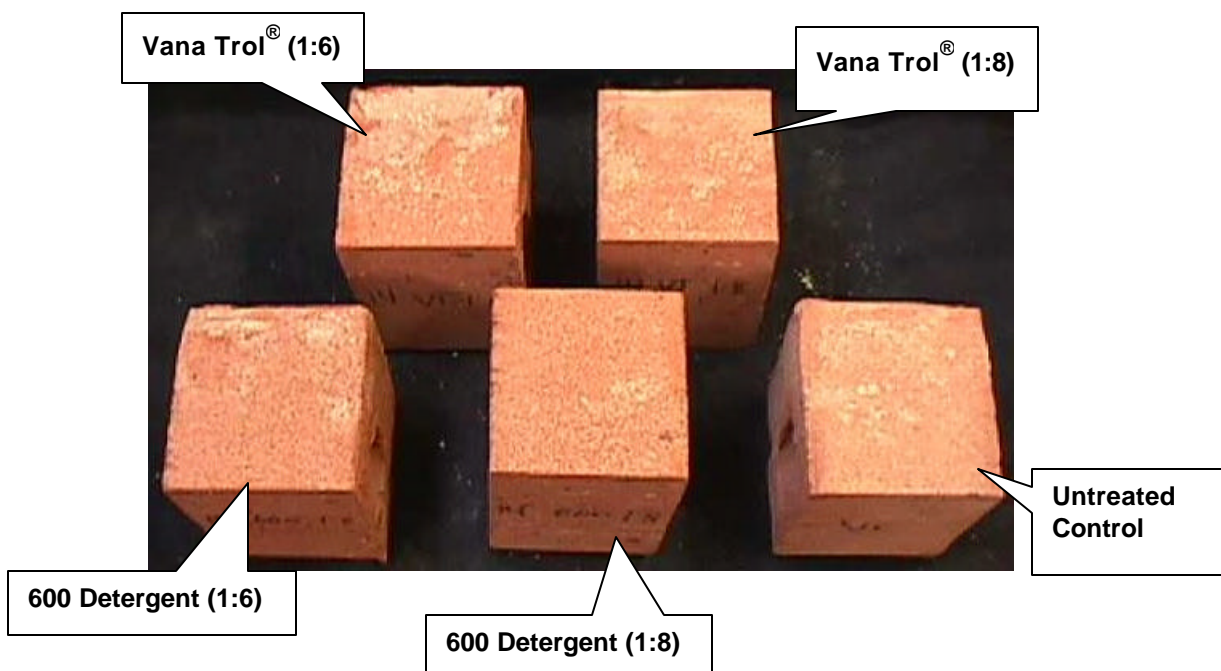


PHOTOGRAPHS - Cleaning

“Callaway” after 7 day cleaning

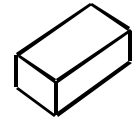


“Callaway” after 14 day cleaning





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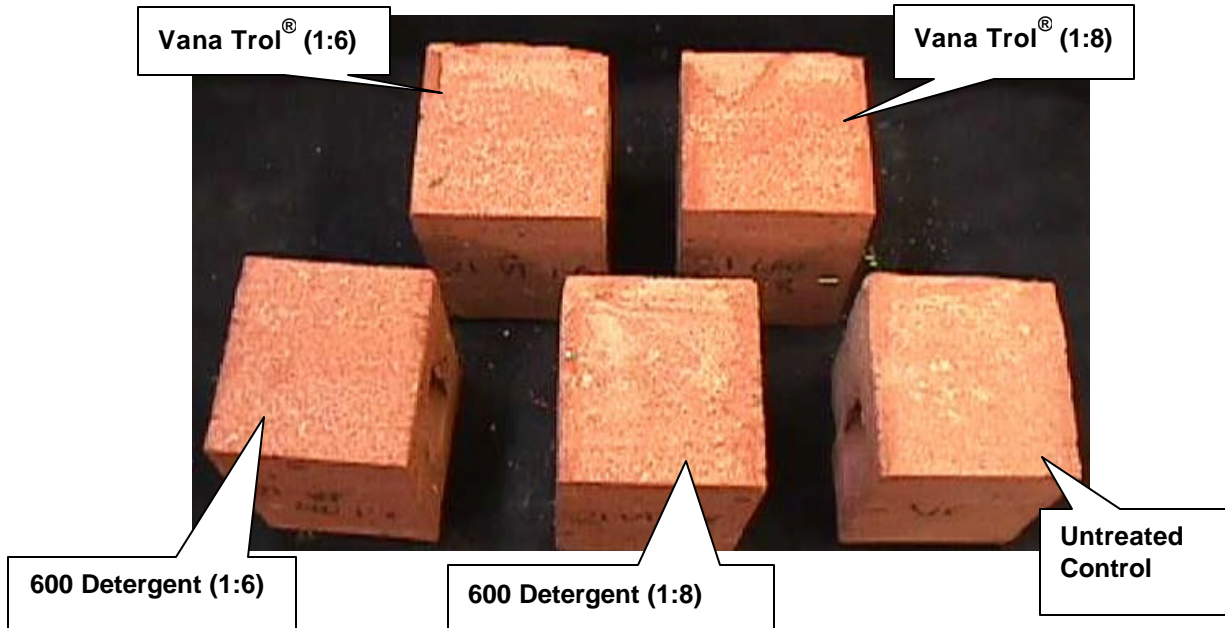


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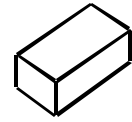
PHOTOGRAPHS – Cleaning (cont.)

“Callaway” after 21 day cleaning





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SECTION B – LIMITING SURFACE ALTERATIONS

DESCRIPTION OF PRODUCTS EVALUATED – Limiting 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 410 parts water. Apply by brush or low-pressure spray.

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

TEST METHOD – Limiting Surface Alterations:

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

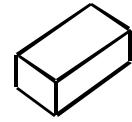
1. Prewet the surface with water.
2. Apply the cleaner.
3. Allow the appropriate dwell time, as specified.

| | |
|---------------------|-------------|
| Vana Trol® | 3-5 minutes |
| 600 Detergent | 3-5 minutes |
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 – Limiting Surface Alterations

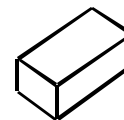
| Substrate: Clay brick | | Pigment Color: "Red Burlington" | | | |
|------------------------------|----------|--|-------------------------|--------------|----------|
| Product | Dilution | Surface Finish Removal | Substrate Deterioration | Color Change | Staining |
| Sure Klean® Vana Trol® | 1:6 | 0 | 0 | 0 | 0 |
| Sure Klean® Vana Trol® | 1:8 | 0 | 0 | 0 | 0 |
| 600 Detergent | 1:6 | 0 | 0 | 0 | 0 |
| 600 Detergent | 1:8 | 0 | 0 | 0 | 0 |
| Substrate: Clay brick | | Pigment Color: "Camellia" | | | |
| Product | Dilution | Surface Finish Removal | Substrate Deterioration | Color Change | Staining |
| Sure Klean® Vana Trol® | 1:6 | 0 | 0 | 0 | 0 |
| Sure Klean® Vana Trol® | 1:8 | 0 | 0 | 0 | 0 |
| Substrate: Clay brick | | Pigment Color: "Callaway" | | | |
| Product | Dilution | Surface Finish Removal | Substrate Deterioration | Color Change | Staining |
| Sure Klean® Vana Trol® | 1:6 | 0 | 0 | 0 | 0 |
| Sure Klean® Vana Trol® | 1:8 | 0 | 0 | 0 | 0 |
| 600 Detergent | 1:6 | 0 | 0 | 0 | 0 |
| 600 Detergent | 1:8 | 0 | 0 | 0 | 0 |
| Substrate: Clay brick | | Pigment Color: "Canterbury" | | | |
| Product | Dilution | Surface Finish Removal | Substrate Deterioration | Color Change | Staining |
| Sure Klean® Vana Trol® | 1:6 | 0 | 0 | 0 | 0 |
| Sure Klean® Vana Trol® | 1:8 | 0 | 0 | 0 | 0 |
| Substrate: Clay brick | | Pigment Color: "F/R Bark" | | | |
| Product | Dilution | Surface Finish Removal | Substrate Deterioration | Color Change | Staining |
| Sure Klean® Vana Trol® | 1:6 | 0 | 0 | 0 | 0 |
| Sure Klean® Vana Trol® | 1:8 | 0 | 0 | 0 | 0 |
| 600 Detergent | 1:6 | 0 | 0 | 0 | 0 |
| 600 Detergent | 1:8 | 0 | 0 | 0 | 0 |

Scale used for reporting results of both categories

- | | |
|-----------------------|------------------------|
| 0 – No change | 3 – change – heavy |
| 1 – change – slight | 4 – change - excessive |
| 2 – change – moderate | |



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TEST RESULTS – Limiting Surface Alterations (continued)

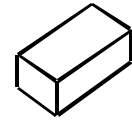
| | | | | | |
|------------------------------|----------|---|-------------------------|--------------|----------|
| Substrate: Clay brick | | Pigment Color: "F/R Sand" | | | |
| Product | Dilution | Surface Finish Removal | Substrate Deterioration | Color Change | Staining |
| Sure Klean® Vana Trol® | 1:6 | 0 | 0 | 0 | 0 |
| Sure Klean® Vana Trol® | 1:8 | 0 | 0 | 0 | 0 |
| 600 Detergent | 1:6 | 0 | 0 | 0 | 0 |
| 600 Detergent | 1:8 | 0 | 0 | 0 | 0 |
| Substrate: Clay brick | | Pigment Color: "Jefferson Manor" | | | |
| Product | Dilution | Surface Finish Removal | Substrate Deterioration | Color Change | Staining |
| Sure Klean® Vana Trol® | 1:6 | 0 | 0 | 0 | 0 |
| Sure Klean® Vana Trol® | 1:8 | 0 | 0 | 0 | 0 |
| Substrate: Clay brick | | Pigment Color: "Market St." | | | |
| Product | Dilution | Surface Finish Removal | Substrate Deterioration | Color Change | Staining |
| Sure Klean® Vana Trol® | 1:6 | 0 | 0 | 0 | 0 |
| Sure Klean® Vana Trol® | 1:8 | 0 | 0 | 0 | 0 |
| Substrate: Clay brick | | Pigment Color: "Old Colony" | | | |
| Product | Dilution | Surface Finish Removal | Substrate Deterioration | Color Change | Staining |
| Sure Klean® Vana Trol® | 1:6 | 0 | 0 | 0 | 0 |
| Sure Klean® Vana Trol® | 1:8 | 0 | 0 | 0 | 0 |
| 600 Detergent | 1:6 | 0 | 0 | 0 | 0 |
| 600 Detergent | 1:8 | 0 | 0 | 0 | 0 |
| Substrate: Clay brick | | Pigment Color: "Old Waverly" | | | |
| Product | Dilution | Surface Finish Removal | Substrate Deterioration | Color Change | Staining |
| Sure Klean® Vana Trol® | 1:6 | 0 | 0 | 0 | 0 |
| Sure Klean® Vana Trol® | 1:8 | 0 | 0 | 0 | 0 |
| Substrate: Clay brick | | Pigment Color: "Red Bark" | | | |
| Product | Dilution | Surface Finish Removal | Substrate Deterioration | Color Change | Staining |
| 600 Detergent | 1:6 | 0 | 0 | 0 | 0 |
| 600 Detergent | 1:8 | 0 | 0 | 0 | 0 |

Scale used for reporting results of both categories

- | | |
|-----------------------|------------------------|
| 0 – No change | 3 – change – heavy |
| 1 – change – slight | 4 – change - excessive |
| 2 – change – moderate | |



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TEST RESULTS – Limiting Surface Alterations (continued)

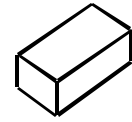
| | | | | | |
|------------------------------|----------|---------------------------------------|-------------------------|--------------|----------|
| Substrate: Clay brick | | Pigment Color: “Red Sand” | | | |
| Product | Dilution | Surface Finish Removal | Substrate Deterioration | Color Change | Staining |
| 600 Detergent | 1:6 | 0 | 0 | 0 | 0 |
| 600 Detergent | 1:8 | 0 | 0 | 0 | 0 |
| Substrate: Clay brick | | Pigment Color: “Red Scratch” | | | |
| Product | Dilution | Surface Finish Removal | Substrate Deterioration | Color Change | Staining |
| 600 Detergent | 1:6 | 0 | 0 | 0 | 0 |
| 600 Detergent | 1:8 | 0 | 0 | 0 | 0 |
| Substrate: Clay brick | | Pigment Color: “Red Smooth” | | | |
| Product | Dilution | Surface Finish Removal | Substrate Deterioration | Color Change | Staining |
| 600 Detergent | 1:6 | 0 | 0 | 0 | 0 |
| 600 Detergent | 1:8 | 0 | 0 | 0 | 0 |
| Substrate: Clay brick | | Pigment Color: “Riverview” | | | |
| Product | Dilution | Surface Finish Removal | Substrate Deterioration | Color Change | Staining |
| Sure Klean® Vana Trol® | 1:6 | 0 | 0 | 0 | 0 |
| Sure Klean® Vana Trol® | 1:8 | 0 | 0 | 0 | 0 |
| Substrate: Clay brick | | Pigment Color: “Savannah Gray” | | | |
| Product | Dilution | Surface Finish Removal | Substrate Deterioration | Color Change | Staining |
| Sure Klean® Vana Trol® | 1:6 | 0 | 0 | 0 | 0 |
| Sure Klean® Vana Trol® | 1:8 | 0 | 0 | 0 | 0 |
| Substrate: Clay brick | | Pigment Color: “Saxton” | | | |
| Product | Dilution | Surface Finish Removal | Substrate Deterioration | Color Change | Staining |
| Sure Klean® Vana Trol® | 1:6 | 0 | 0 | 0 | 0 |
| Sure Klean® Vana Trol® | 1:8 | 0 | 0 | 0 | 0 |
| 600 Detergent | 1:6 | 0 | 0 | 0 | 0 |
| 600 Detergent | 1:8 | 0 | 0 | 0 | 0 |

Scale used for reporting results of both categories

- | | |
|-----------------------|------------------------|
| 0 – No change | 3 – change – heavy |
| 1 – change – slight | 4 – change - excessive |
| 2 – change – moderate | |



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TEST RESULTS – Limiting Surface Alterations (continued)

| | | | | | |
|------------------------------|----------|-----------------------------------|-------------------------|--------------|----------|
| Substrate: Clay brick | | Pigment Color: “St. Louis” | | | |
| Product | Dilution | Surface Finish Removal | Substrate Deterioration | Color Change | Staining |
| Sure Klean® Vana Trol® | 1:6 | 0 | 0 | 0 | 0 |
| Sure Klean® Vana Trol® | 1:8 | 0 | 0 | 0 | 0 |
| Substrate: Clay brick | | Pigment Color: “Used” | | | |
| Product | Dilution | Surface Finish Removal | Substrate Deterioration | Color Change | Staining |
| Sure Klean® Vana Trol® | 1:6 | 0 | 0 | 0 | 0 |
| Sure Klean® Vana Trol® | 1:8 | 0 | 0 | 0 | 0 |
| Substrate: Clay brick | | Pigment Color: “Wakefield” | | | |
| Product | Dilution | Surface Finish Removal | Substrate Deterioration | Color Change | Staining |
| Sure Klean® Vana Trol® | 1:6 | 0 | 0 | 0 | 0 |
| Sure Klean® Vana Trol® | 1:8 | 0 | 0 | 0 | 0 |
| Substrate: Clay brick | | Pigment Color: “Yorktown” | | | |
| Product | Dilution | Surface Finish Removal | Substrate Deterioration | Color Change | Staining |
| Sure Klean® Vana Trol® | 1:6 | 0 | 0 | 0 | 0 |
| Sure Klean® Vana Trol® | 1:8 | 0 | 0 | 0 | 0 |

Scale used for reporting results of both categories

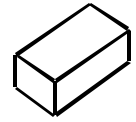
- | | |
|-----------------------|------------------------|
| 0 – No change | 3 – change – heavy |
| 1 – change – slight | 4 – change - excessive |
| 2 – change – moderate | |

CONCLUSIONS – Limiting Surface Alterations

Test results indicate that none of the products tested caused any surface alterations on any of the submitted clay bricks. It is recommended that the selected cleaners always be used in the lowest possible concentration. They should be rinsed with the lowest pressure of water as practical, such as garden hose strength, 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 – Limiting Surface Alterations

Product recommendations for limiting surface alterations for each type of clay brick submitted by Columbus Brick Company, Columbus, MS are provided in the chart below. Recommendations are based on the optimum dilution for complete removal of mortar while limiting surface alterations.

| Brick Type | New Construction Cleaning (Type N, 21 Days) |
|--|--|
| "Camellia" "Old Colony" "Riverview" "Savannah Gray" "Wakefield" | Sure Klean® Vana Trol® 1:6 |
| "Canterbury" "Jefferson Manor" "Market Street" "Old Waverly" "St. Louis" "Used" "Yorktown" | Sure Klean® Vana Trol® 1:8 |
| "Red Burlington" "Callaway" "F/R Bark" F/R Sand "Saxton" | Sure Klean® Vana Trol® 1:8 OR Sure Klean® 600 Detergent 1:8 |
| "Red Bark" "Red Scratch" | Sure Klean® 600 Detergent 1:6 |
| "Red Sand" "Red Smooth" | Sure Klean® 600 Detergent 1:8 |

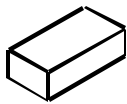
Excessive pressure and water volume may combine to damage or remove decorative finishes. To facilitate easier removal of excess mortar and construction dirt while minimizing any potential surface alterations to the decorative finish, clean within 7 days of construction. Rinsing with high-pressure spray (400-800 psi) is recommended.

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.

Nathan R. Colaner
Technical Analyst

NRC/



Laboratory Report

Cleaning Evaluation

Columbus Brick Co., Columbus, MS

Project No. 0305-17 PTP

Prepared For:

**Butch Reed
Columbus Brick Company
Columbus, MS**

Prepared By:



***PROSOCO, Inc.
July 2003***