



PALLET CARD PROGRAM LABORATORY REPORT



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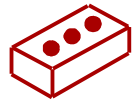
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ATTACHMENTS

- SOP TEC015-1 RILEM Tube Testing
- Technical Services TECH Note, RILEM Test Method No. II.4
- Product Data sheets for tested products
- Material Safety Data Sheets for tested products



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FOR: André Limoges
5096 Francois Cusson
Lachine, Québec H8T 1B3

cc: Scott Buscher

SUBJECT: F. Letendre Inc.
Drummondville, Québec J2B 5T2

DATE: June 17, 1998

PROJECT: 9802-08 PC

SAMPLES SUBMITTED: Four new red "Bourgogne" multi-celled concrete brick #905
Four new pink "Rough Perlé" multi-celled concrete brick #915
Four new brown "Brun" multi-celled concrete brick #925
Four new orange "Rouille" multi-celled concrete brick #932
Four new green "Vert" multi-celled concrete brick #940
Four new blue "Bleu Calcite" multi-celled concrete brick #945
Four new white "Blanc" multi-celled concrete brick #990

Size: 2 / " x 3 / " x 8 / "

Submitted by: André Limoges
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PURPOSE OF TEST:

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

- A. Adverse Effects** - Sure Klean[®] Custom Masonry Cleaner and Sure Klean[®] 600 Detergent were tested at various dilutions to determine if they would produce adverse effects during the cleaning process. Adverse effects were evaluated visually and were based upon damage to the surface such as erosion/etching of the masonry unit or discoloration.
- B. Protective Water Repellents** - ProSoCo's Sure Klean[®] Weather Seal Siloxane WB Concentrate and Sure Klean[®] Weather Seal Blok-Guard[®] S were evaluated for their ability to provide water repellency on the submitted concrete brick.

ADVERSE EFFECTS PRODUCTS EVALUATED:

Sample	Sure Klean [®] Custom Masonry Cleaner	Sure Klean [®] 600 Detergent
All submitted brick samples	1:2	1:4
All submitted brick samples	1:4	1:6
All submitted brick samples	1:6	1:8

WATER REPELLENT PRODUCTS EVALUATED:

Sample	Sure Klean [®] Weather Seal Siloxane WB	Sure Klean [®] Weather Seal Blok-Guard [®] S
All submitted brick samples	1:9	concentrate



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SECTION A – ADVERSE EFFECTS:

DESCRIPTION OF PRODUCTS EVALUATED – Adverse Effects:

Sure Klean® Custom Masonry Cleaner - A general purpose, concentrated, acidic cleaner for concrete surfaces. Removes concrete splashes, excess mortar, mud, retarders, heavy efflorescence, embedded stains, rust and surface soiling from textured custom masonry surfaces. Liquid concentrate for dilution with 2-8 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. 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.

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TEST METHODS - New Construction Cleaning

Dilution ratios refer to mixtures of concentrated cleaner: fresh water. Custom Masonry Cleaner was evaluated at dilutions of 1:2, 1:4 and 1:6 and 600 Detergent was evaluated at dilution of 1:4, 1:6 and 1:8 using the following procedure:

1. Prewet the surface with water.
2. Apply the cleaner at the appropriate dilution.
3. Allow appropriate exposure time.

Custom Masonry Cleaner.....	3 minutes
600 Detergent	5 minutes
4. Reapply the product and moderately agitate with a brush.
5. Pressure rinse thoroughly.*
6. Allow the surface to dry for at least 18 hours and visually examine.

* Pressure rinsing was conducted at approximately 800 psi with a cold water flow rate of 2.1 gallons per minute.



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TEST RESULTS – Adverse Effects Evaluation:

“Bourgogne” Concrete Brick #905

Custom Masonry Cleaner

1:2 dilution

1:4 dilution

1:6 dilution

Effects

slight darkening
very slight darkening
very slight darkening

600 Detergent

1:4 dilution

1:6 dilution

1:8 dilution

very slight darkening
very slight darkening
very slight darkening

“Rough Perlé” Concrete Brick #915

Custom Masonry Cleaner

1:2 dilution

1:4 dilution

1:6 dilution

Effects

slight darkening
very slight darkening
very slight darkening

600 Detergent

1:4 dilution

1:6 dilution

1:8 dilution

very slight darkening
slight darkening
very slight darkening

“Brun” Concrete Brick #925

Custom Masonry Cleaner

1:2 dilution

1:4 dilution

1:6 dilution

Effects

moderate darkening
moderate darkening
moderate darkening

600 Detergent

1:4 dilution

1:6 dilution

1:8 dilution

severe darkening
severe darkening
severe darkening



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TEST RESULTS – Adverse Effects Evaluation (cont'd.):

“Rouille” Concrete Brick #932

	<u>Effects</u>
Custom Masonry Cleaner	
1:2 dilution	slight darkening
1:4 dilution	slight darkening
1:6 dilution	slight darkening
600 Detergent	
1:4 dilution	slight darkening
1:6 dilution	slight darkening
1:8 dilution	slight darkening

“Vert” Concrete Brick #940

	<u>Effects</u>
Custom Masonry Cleaner	
1:2 dilution	very slight darkening
1:4 dilution	very slight darkening
1:6 dilution	very slight darkening
600 Detergent	
1:4 dilution	very slight darkening
1:6 dilution	very slight darkening
1:8 dilution	very slight darkening

“Bleu calcite” Concrete Brick #945

	<u>Effects</u>
Custom Masonry Cleaner	
1:2 dilution	very slight darkening
1:4 dilution	very slight darkening
1:6 dilution	very slight darkening
600 Detergent	
1:4 dilution	very slight darkening
1:6 dilution	very slight darkening
1:8 dilution	very slight darkening



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TEST RESULTS – Adverse Effects Evaluation (cont'd.):

“Blanc” Concrete Brick #990

	<u>Effects</u>
Custom Masonry Cleaner	
1:2 dilution	no adverse effects
1:4 dilution	no adverse effects
1:6 dilution	no adverse effects
600 Detergent	
1:4 dilution	very slight darkening
1:6 dilution	very slight darkening
1:8 dilution	very slight darkening

CONCLUSIONS – Adverse Effects:

All of the results from the adverse effects evaluation address changes in color, as compared to an uncleaned sample. Where any color changes are noted, the change observed is a result of the removal of paste and fines from the surface. The degree of darkening is relative to the sample's true color and the degree of paste and fines at the surface. Except in extreme cases, this is not considered an adverse effect; rather the actual color and texture of the sample are exposed following the cleaning process.

All cleaning operations with **Custom Masonry Cleaner** and **600 Detergent** which occurred on “Bourgogne”, #905; “Rough Perlé”, #915; “Rouille”, #932; “Vert”, #940; “Bleu Calcite”, #945; and “Blanc”, #990 resulted in effects ranging from none to slight darkening of the surface.

Cleaning of “Brun”, #925 with **Custom Masonry Cleaner**, at all dilutions, resulted in moderate darkening of the substrate. Application of **600 Detergent**, at all dilutions, produced severe darkening of the surface.



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RECOMMENDATIONS – Adverse Effects:

Based on test results, **Sure Klean® Custom Masonry Cleaner** and **Sure Klean® 600 Detergent** at appropriate dilutions are recommended for job site testing to remove excess mortar, grout, job dirt and related new construction soiling on any of the submitted concrete brick, with the following exception:

Custom Masonry Cleaner only is recommended for job site evaluations on the “Brun” concrete brick, #925.

To minimize potential for surface erosion or etching, remove excess mortar, grout, job dirt or similar cementitious staining as soon as practical. Apply all products in accordance with the manufacturers recommendation provided on container labels and product data sheets. On-site testing should be conducted to determine the most appropriate cleaning product and procedures for a particular project. See product literature for additional application and product information.

RECOMMENDED PRODUCTS AND DILUTIONS:

Sample	Sure Klean® Custom Masonry Cleaner	Sure Klean® 600 Detergent
“Bourgogne”	= 1:2	= 1:4
“Rough Perlé”	= 1:2	= 1:4
“Brun”	= 1:2	-
“Rouille”	= 1:2	= 1:4
“Vert”	= 1:2	= 1:4
“Bleu Calcite”	= 1:2	= 1:4
“Blanc”	= 1:2	= 1:4



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SECTION B - PROTECTIVE WATER REPELLENTS:

DESCRIPTIONS OF PRODUCTS EVALUATED - Protective Water Repellents:

Weather Seal Siloxane WB Concentrate - A self-emulsifying water repellent concentrate designed for dilution with fresh water at the jobsite. This solvent-free blend of silanes and oligomeric alkoxy siloxanes mixes easily with water to produce a penetrating water repellent ideal for application to dense or porous masonry surfaces.

Sure Klean[®] Weather Seal Blok-Guard[®] S - A clear, solvent-based, elastomeric silicone formulated to weatherproof architectural concrete block and other porous masonry without altering the natural appearance. Treatment with Blok-Guard[®] S provides long-lasting protection against water penetration and many types of graffiti.

SAMPLE PREPARATION - Protective Water Repellents:

Weather Seal Siloxane WB (1:9) was brush applied in a wet-on-wet saturating application. Blok-Guard[®] S was brush applied in a single saturating application. These treatments were allowed to cure for 7 days prior to testing.

TEST METHODS - Protective Water Repellents:

Water Absorption Tube Test: RILEM II.4, 2.5 milliliters, 20 minutes

The water absorption tube test simulating wind driven and wind blown rain conditions was performed. Tests were run with 2.5-milliliter head pressures that simulate a 76 mph dynamic wind pressure.

See SOP TEC015 and attached copy of RILEM II.4 Tech Note for additional information.



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TEST RESULTS - Protective Water Repellents:

Water Absorption Tube Test: RILEM II.4, 2.5 milliliters, 20-Minutes

“Bourgogne” Concrete brick

	<u>Results</u>
Untreated control	1.5 milliliters
Weather Seal Siloxane WB - 1:9	0.1 milliliters
Blok-Guard [®] S	0.0 milliliters

“Rough Perlé” Concrete Brick #915

	<u>Results</u>
Untreated control	0.1 milliliters
Weather Seal Siloxane WB - 1:9	0.1 milliliters
Blok-Guard [®] S	0.0 milliliters

“Brun” Concrete Brick #925

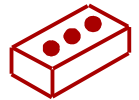
	<u>Results</u>
Untreated control	> 2.5 milliliters
Weather Seal Siloxane WB - 1:9	0.0 milliliters
Blok-Guard [®] S	0.0 milliliters

“Rouille” Concrete brick

	<u>Results</u>
Untreated control	> 2.5 milliliters
Weather Seal Siloxane WB - 1:9	0.0 milliliters
Blok-Guard [®] S	0.5 milliliters



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TEST RESULTS - Protective Water Repellents (cont'd):

“Vert” Concrete Brick #940

	<u>Results</u>
Untreated control	0.2 milliliters
Weather Seal Siloxane WB - 1:9	0.1 milliliters
Blok-Guard® S	0.0 milliliters

“Bleu Calcite” Concrete Brick #945

	<u>Results</u>
Untreated control	2.2 milliliters
Weather Seal Siloxane WB - 1:9	0.0 milliliters
Blok-Guard® S	0.0 milliliters

“Blanc” Concrete Brick #990

	<u>Results</u>
Untreated control	0.6 milliliters
Weather Seal Siloxane WB - 1:9	0.0 milliliters
Blok-Guard® S	0.0 milliliters



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CONCLUSIONS - Protective Water Repellents:

Blok-Guard® S and Weather Seal Siloxane WB both provided excellent water repellency to all of the submitted concrete brick samples.

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RECOMMENDATIONS - Protective Water Repellents:

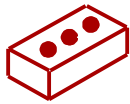
Select the desired product for each brick type from the following table and apply all products in accordance with recommendations provided on container labels and product data sheets.

WATER REPELLENT PRODUCTS RECOMMENDED:

Sample	Sure Klean Weather Seal Blok- Guard® S	Weather Seal Siloxane WB (1:9)
"Bourgogne"	✓	✓
"Rough Perlé"	✓	✓
"Brun"	✓	✓
"Rouille"	✓	✓
"Vert"	✓	✓
"Bleu Calcite"	✓	✓
"Blanc"	✓	✓

C. Ryan Winders
Technical Services Analyst

CRW/tdh



Laboratory Report

Pallet Card Evaluation

**F. Letendre Inc.
Drummondville, Québec**

Project No. 9802-08 PC

Prepared For:

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Prepared By:



**ProSoCo, Inc.
June, 1998**