



PRODUCT PERFORMANCE TESTING LABORATORY

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March 20, 2018

Laticrete International
Attn: Chris Byron
1 Laticrete Park North
Bethany, CT 06524

Dear Mr. Byron,

Tile Council of North America has tested the samples you submitted. Test report TCNA-0081-18 is enclosed. If you have any questions or concerns, please contact us.

Best Regards,

TILE COUNCIL OF NORTH AMERICA, INC.

Katelyn Simpson
Laboratory Manager
Enclosures

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TEST REQUESTED BY: Laticrete International

TEST PROCEDURE: ASTM C627: "A Standard Test Method for Evaluating Ceramic Floor Tile Installation Systems Using the Robinson-Type Floor Tester"

Informal Test Method Description: This test method covers the evaluation of ceramic floor tile installation systems, using the Robinson-type floor tester. This test method consists of preparing an installation assembly to simulate the type of installation under consideration, subjecting it to various cycles on a Robinson-type floor tester, and evaluating the results in a prescribed manner.

This summary is provided for the reader's convenience and is not a complete description of the method. See ASTM C627 for all method details and information.

TEST SUBJECT MATERIAL: Identified by client as: "STRATA_HEAT System on 1/4" Hydro Ban Board"

TEST DATE: 3/12/2018 – 3/13/2018

TEST ASSEMBLY SET-UP:

All the materials used were specified by the client and the tested assembly was built per the client's instructions.

Materials:

As per client's request, the following materials were used for the preparation of the test assembly.

Item #	Product name and size	Product Code	Provided By:
1	Concrete base with a smooth finish Nominal Size: 48" x 48" x 2" (1219 mm x 1219 mm x 51 mm)	N/A	TCNA
2	1/4" Laticrete Hydro Ban Board	N/A	Laticrete
3	Hydro Ban Sealing Tape	9455-0598-2	Laticrete
4	Laticrete STRATA_HEAT Mat	N/A	Laticrete
5	Laticrete STRATA_HEAT Wire	N/A	Laticrete
6	Laticrete 253 Gold Thin-Set	53259-0025-21	Laticrete
7	Laticrete STRATA_HEAT Thermal Packet	N/A	Laticrete
8	12" x 12" Crossville Porcelain Tile	A850	TCNA
9	Laticrete Permacolor Grout	68403-015	Laticrete

Substrate:

Subfloor Type: Concrete, A 48" x 48" x 2" concrete base was prepared and cured for a minimum of 28 days prior to testing.





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Underlayment: The underlayment was installed by a TCNA representative.

Product Name: 1/4" Laticrete Hydro Ban Board, Laticrete STRATA_HEAT Mat, Laticrete STRATA_HEAT Wire

Installation Notes: Laticrete 253 Gold was mixed per manufacturer's specification (22.9:100 by weight) and applied to the surface of the concrete using a 1/4" x 1/4" square notch trowel. The thin-set was first keyed in with the flat side of the trowel then combed with the notched side to form parallel ridges. Hydro Ban Board was cut into 2 pieces (33" x 44" and 3" x 44") then pressed into the thin-set with a 1/8" seam in the wheel path. The seam was covered with Laticrete Hydro Ban Sealing Tape and filled with thin-set. The system was allowed to cure for 24 hours. Laticrete 253 Gold was again mixed to the same mix ratio and applied to the surface of the board using a 1/4" x 3/16" V-notched trowel. The thin-set was first keyed in with the flat side of the trowel then combed with the notched side to form parallel ridges. Laticrete STRATA_HEAT Mat was cut into 2 pieces (36-1/2" x 38-3/4" and 7-1/4" x 38-3/4") and laid into the thin-set with the seam in the wheel path, perpendicular to the seam in the Hydro Ban Board. Using the flat side of the trowel, the mat was pressed into the thin-set to ensure proper coverage. Laticrete STRATA_HEAT Wire was laid into the mat per the client's instructions: Wire was installed at 3 peg spacing, leaving 3 pegs from the edges of the installation. The wire was then turned 90 degrees and run up 3 pegs on the mat, then run back the length of the area in the other direction. The system was allowed to cure for 24 hours before tiles were installed.

Tile: The tile was installed by a TCNA representative.

Tile Type: 12" x 12" Crossville Porcelain

Setting Material: Laticrete 253 Gold with STRATA_HEAT Thermal Pack

Mix Ratio: 25:100 by weight (per the client's specification)

Trowel Size: 1/4" x 3/8" square-notch

Installation Notes: The thin-set mortar and STRATA_HEAT Thermal Pack were mixed per the client's instructions. The thin-set was first keyed in with the flat side of the trowel then combed with the notched side to form parallel ridges. The tiles were back buttered with a skim coat to ensure proper coverage. The assembly was cured 24 hours before grouting.

Grout: The grout was installed by a TCNA representative.

Grout Type: Laticrete Permacolor Grout

Mix Ratio: 18.8:100 by weight

Grout Joint Size: 1/4"

Installation Notes: A grout float was used to force the grout into the joints. Excess grout was removed with the edge of the float. The grout was allowed to set up for approximately 20 minutes before the installation was cleaned with a sponge and water.

Cure Time: The grouted installation was allowed to cure for 28 days.





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TEST RESULTS:

Cycle	Wheels	Weight (lb)	Observations
1	Soft Rubber	100	No damage observed.
2		200	No damage observed.
3		300	No damage observed.
4		300	No damage observed.
5	Hard Rubber	100	No damage observed.
6		200	No damage observed.
7		300	No damage observed.
8		300	1 broken tile (Test was stopped due to the extent of the damage potentially causing damage to the test equipment).
9	Steel	50	
10		100	
11		150	
12		200	
13		250	
14		300	

Note: Per ASTM C627, section 10, criteria for failure is based on the number of tiles or grout joints damaged during cycling. Cycling of a test assembly is stopped when the damage observed exceeds one or more of the following criteria:
Chipped Tile—5 % of the tile in the wheel path or one tile, whichever is greater.
Broken Tile—3 % of the tile in the wheel path or one tile, whichever is greater.
Loose Tile—3 % of the tile in the wheel path or one tile, whichever is greater.
Popped-Up Grout Joint—5 % of the joints in the wheel path or one joint, whichever is greater.
Cracked Grout Joint—5 % of the joints in the wheel path or one joint, whichever is greater.
Powdered Grout Joints—5 % of the joints in the wheel path or one joint, whichever is greater.

HANDBOOK CLASSIFICATIONS*:

Classification	Cycles
Residential	Passes cycles 1-3
Light	Passes cycles 1-6
Moderate	Passes cycles 1-10
Heavy	Passes cycles 1-12
Extra Heavy	Passes cycles 1-14

**For more detailed information, refer to the TCNA Handbook for Ceramic, Glass, and Stone Tile Installation.*



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PHOTOS:



Image 1: Full assembly after testing



Image 2: Broken Tile



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3/20/2018

