



PRODUCT PERFORMANCE TESTING LABORATORY

100 Clemson Research Blvd., Anderson, SC 29625

Phone 864.646.8453 Fax 864.646.2821

Email testing@tcnatile.com Web www.TCNAtile.com

March 27, 2018

Laticrete International
Attn: Steve Fine
1 Laticrete Park N.
Bethany, CT 06524

Dear Mr. Fine,

Tile Council of North America has tested the samples you submitted. Test report TCNA-0094-18 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



TCNA TEST REPORT NUMBER: TCNA-0094-18 **PAGE: 1 OF 5**

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: "LATICRETE STRATA_MAT with NXT LEVEL PLUS"

TEST DATE: 3/13/2018 – 3/14/2018

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	23/32" T&G	N/A	TCNA
2	Laticrete STRATA_MAT	N/A	Laticrete
3	Laticrete NXT Level Plus	0901-0055-21	Laticrete
4	Laticrete 254 Platinum	0254-0050-21	Laticrete
5	12" x 12" Crossville Porcelain	A850	TCNA
6	Laticrete Permacolor Select Grout	2600-012-2 Color: D#631878	Laticrete

Substrate: The substrate was prepared by a TCNA representative.

Subfloor type: Wood

Joist Spacing: 19.2" OC

Wood thickness and type: 23/32" T&G

2nd layer thickness and type: N/A

Installation notes: The seam was positioned 15" off the centerline of the system and perpendicular to the joist. The subfloor was nailed to the joists with 2" ring shank nails set at six-inch centers on the perimeter joists and twelve-inch centers on the intermediate joists. A 1/4" bead of construction adhesive was applied to each joist prior to nailing. 2" tall borders were placed around the perimeter of the tested area.





TCNA TEST REPORT NUMBER: TCNA-0094-18

PAGE: 2 OF 5

Underlayment: The underlayment was installed by a TCNA representative.

Product Name: Laticrete STRATA_MAT and Laticrete NXT Level Plus

Installation Notes: Laticrete 254 Platinum was mixed per manufacturer specification (22.9:100 by weight) and applied to the surface of the test 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. The mat was cut into 2 pieces (37-1/2" x 43-3/4" and 8-7/8" x 43-3/4") and laid into the thin-set with an abutted seam. Using the flat side of the trowel, the mat was pressed into the thin-set to ensure proper coverage. The system was allowed to cure 24 hours. Laticrete NXT Level Plus was mixed per client specification (20.9:100) and poured to 1/2" depth and 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 254 Platinum Thin-set

Mix Ratio: 22.9:100 by weight

Trowel Size: square-notch trowel

Installation Notes: 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 Select Grout

Mix Ratio: 17.6:100 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.





TCNA TEST REPORT NUMBER:

TCNA-0094-18

PAGE: 3 OF 5

TEST RESULTS:

Cycle	Wheels	Weight (lb)	Observations
1	Soft Rubber	100	No damage observed, maximum deflection 0.037"
2		200	No damage observed, maximum deflection 0.051"
3		300	No damage observed, maximum deflection 0.062"
4		300	No damage observed, maximum deflection 0.061"
5	Hard Rubber	100	No damage observed, maximum deflection 0.040"
6		200	No damage observed, maximum deflection 0.055"
7		300	No damage observed, maximum deflection 0.065"
8		300	No damage observed, maximum deflection 0.065"
9	Steel	50	No damage observed, maximum deflection 0.029"
10		100	No damage observed, maximum deflection 0.035"
11		150	No damage observed, maximum deflection 0.041"
12		200	No damage observed, maximum deflection 0.051"
13		250	No damage observed, maximum deflection 0.052"
14		300	No damage observed, maximum deflection 0.062"

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.*



TCNA TEST REPORT NUMBER: TCNA-0094-18

PAGE: 4 OF 5

PHOTOS:

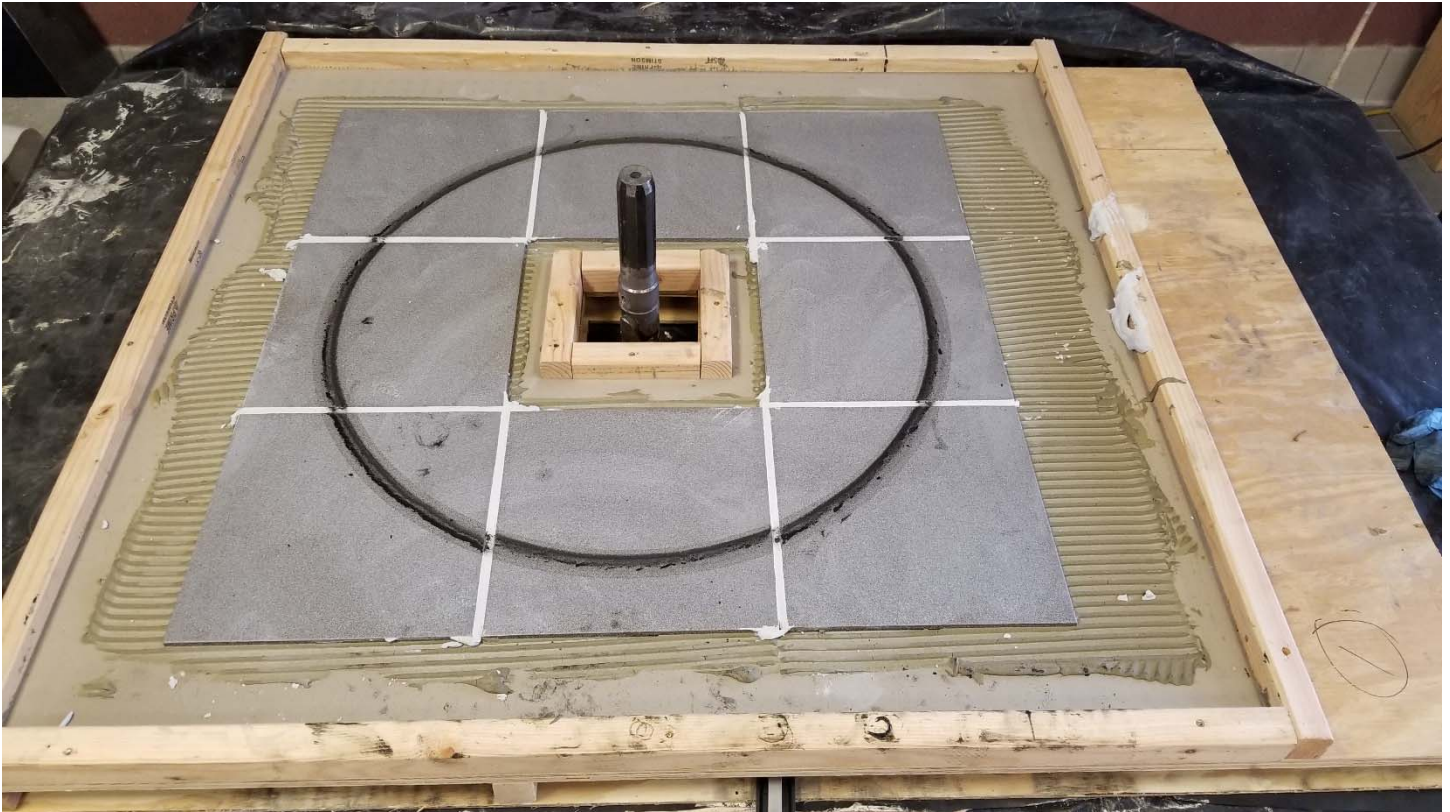


Image 1: Full assembly after testing



TCNA TEST REPORT NUMBER: TCNA-0094-18

PAGE: 5 OF 5

DISCLAIMER AND LIMITATION OF LIABILITY

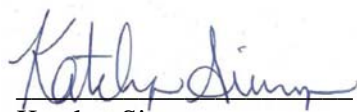
This report is provided for the sole use of the client and no one else. It is intended for professional use by a knowledgeable professional. If published by the client, it must be published in full, including this disclaimer and limitation of liability.

This report is not an endorsement, recommendation, approval, certification, or criticism by TCNA of any particular product or its application. TCNA recommends that anyone considering the use or installation of a particular product consult with the manufacturer or an industry professional for advice specific to the person's needs and consider any applicable laws, statutes, codes, or regulations relevant to the particular product. TCNA does not know all the different manners and applications in which a client's particular product might be used, and, therefore, it disclaims any and all duty to provide warnings or to further investigate the suitability of the use of a particular product in a particular situation.

Unless otherwise expressly stated, TCNA tested the specific test subject material provided by the client and identified in the lab report, as indicated by the client. TCNA does not independently verify the information provided by the client, and it makes no representation that similar results would be achieved with other, untested materials, even if such other materials purportedly have the same product name, are purportedly of the same or similar type of tile or product made by the client, or are purportedly from the same batch of tile or product. Nor does TCNA state that the date in this report is representative of production occurring at the same time or at any other time. Only the manufacturer may make that claim, based on sampling and quality control parameters beyond the knowledge and control of TCNA. TCNA does not provide any supervision, review, management, or quality control of any manufacturer's production.

TCNA makes no representation that the client's products are uniform or identical to the test subject material, that the test subject material is suitable for any particular use, application, or installation, or that it will exhibit the same properties when installed or used in a particular manner. The data provided in this report results from standardized laboratory testing performed under laboratory conditions. As such it does not represent all conditions under which the products may be used or subjected. For testing on actual materials being used or considered for a job site, contact TCNA for sampling provisions and possible testing.

This report is intended solely to provide the results of the test procedure stated above as performed on the test subject material provided by the client, and may not be relied on for any other purpose. TCNA MAKES NO OTHER REPRESENTATIONS OR WARRANTIES OF ANY KIND, WHETHER EXPRESS OR IMPLIED. ALL IMPLIED WARRANTIES, INCLUDING, WITHOUT LIMITATION, IMPLIED WARRANTIES OF MERCHANTABILITY, OR FITNESS FOR A PARTICULAR PURPOSE, ARE HEREBY EXPRESSLY DISCLAIMED. IN THE EVENT OF A DISPUTE CONCERNING THIS REPORT, THE EXCLUSIVE REMEDY FOR CLIENT SHALL BE FOR TCNA TO REPEAT THE TEST REQUESTED, BUT IN NO EVENT SHALL TCNA BE LIABLE FOR AN AMOUNT GREATER THAN THE AMOUNT IT RECEIVED FROM CLIENT FOR THE TEST. UNDER NO CIRCUMSTANCES WILL TCNA BE LIABLE TO CLIENT FOR ANY OTHER DAMAGES (NOR SHALL IT BE LIABLE TO ANY OTHER PERSON OR BUSINESS ENTITY FOR ANY DAMAGES), INCLUDING WITHOUT LIMITATION ANY AND ALL DIRECT, INDIRECT, SPECIAL, INCIDENTAL, CONSEQUENTIAL, OR EXEMPLARY DAMAGES, RESULTING, IN WHOLE OR IN PART, FROM ANY USE OF, REFERENCE TO, OR RELIANCE UPON THE REPORT, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGES. TCNA DISCLAIMS ALL LIABILITY TO ANY THIRD PARTY CONCERNING THIS REPORT. THE FOREGOING LIMITATION OF LIABILITY IS A FUNDAMENTAL ELEMENT OF TCNA'S AGREEMENT TO CONDUCT AND PROVIDE THE REPORT.


Katelyn Simpson
Laboratory Manager

3/27/2018

