



PRODUCT TESTING SERVICES

100 Clemson Research Blvd. • Anderson, SC 29625 • Tel (864) 646-TILE • Fax (864) 646-2821

July 15, 2011

Moreland Company USA
Attn: Jason Neubauer
1617 South Tuttle Ave 3rd Floor
Sarasota, FL 34239

Dear Mr. Neubauer,

Tile Council of North America has tested the samples you submitted. Test report TCNA-201-11 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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TCNA TEST REPORT NUMBER: TCNA-201-11

PAGE: 1 OF 1

TEST REQUESTED BY: Moreland Company USA
Attn: Jason Neubauer
1617 South Tuttle Ave 3rd Floor
Sarasota, FL 34239

TEST SUBJECT MATERIAL: Identified by client as: Ultraply XL Premium Underlayment

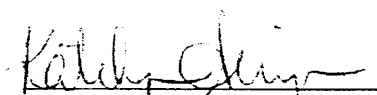
TEST DATE: 6/17/11-6/24/11

TEST PROCEDURE: Modified ANSI A118.12 Specification for Crack Isolation Membranes. Section 5.1.3: Seven Day Shear Strength
The Ultraply XL Premium Underlayment was secured to four 2 x 7 x 15-1/2-inch concrete blocks. Two specimens were created so that the grain of the underlayment would be parallel to the force and two were created so that the grain would be perpendicular to the force. BASF Nanolight Rapid White thin-set mortar was used to bond the two 4" x 4" porcelain tiles to the underlayment on each block. After curing for 7-days at room temperature the shear bond strength was tested using an Instron Universal Tester.

TEST RESULTS:

Parallel		Perpendicular	
	Shear Bond Strength (psi)		Shear Bond Strength (psi)
Specimen 1	105 psi	Specimen 1	121 psi
Specimen 2	119 psi	Specimen 2	121 psi
Specimen 3	66 psi	Specimen 3	111 psi
Specimen 4	120 psi	Specimen 4	92 psi
Average	103 psi	Average	111 psi

[For informational purposes only: ANSI A118.12 states that the average shear strength after seven days shall be greater than 50 psi.]


Katelyn Simpson
Laboratory Manager

6/28/11
Date

Testing Services: testing@tileusa.com • Literature Orders: literature@tileusa.com • Web Site: www.tileusa.com

This report is confidential and has been prepared for the exclusive use of the client. It is not an endorsement, approval, certification, or criticism of any product by TCNA. This report shall not be published in any form without prior written consent of TCNA.



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TCNA TEST REPORT NUMBER: TCNA-201-11 PAGE: 1 OF 2

TEST REQUESTED BY: Moreland Company USA
Attn: Jason Neubauer
1617 South Tuttle Ave 3rd Floor
Sarasota, FL 34239

TEST SUBJECT MATERIAL: Identified by client as: Ultraply XL Premium Underlayment

TEST DATE: 7/8/11 – 7/11/11

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

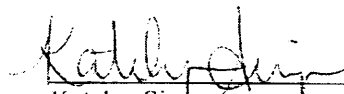
Materials:

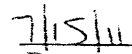
A thin-set installation over a 48" x 49 1/2" plywood base was prepared using the following materials:

- 1) APA rated "Exposure 1" 23/32" Exterior grade plywood
- 2) Ultraply XL Premium Underlayment
- 3) BASF Nanolight Rapid white thin-set mortar
- 4) 12" x 12" Crossville porcelain tiles with 3/16" grout joints
- 5) Laticrete SpectraLOCK Pro epoxy grout

Base and Underlayment:

The plywood subfloor was nailed to four 2" x 2" joists spaced 16" O.C. to simulate the support provided in an actual installation. Prior to nailing the subfloor, a 1/4" bead of construction adhesive was applied to each joist. For maximum stiffness, the face grain was directed perpendicular to the joists. The seam was positioned 15" off the centerline of the system perpendicular to the joists. The 23/32" plywood was nailed to the joists with 2" ring shank nails set at six inch centers on the perimeter joists and ten inch centers at the intermediate joists. Ultraply XL Premium Underlayment was fastened to the subfloor using 1/4" Crown with 3/4" length staples. The staples were set at four inch centers. Special care was taken to ensure the fasteners did not penetrate the framing.


Katelyn Simpson
Laboratory Manager


Date



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Tile and Grout:

BASF Nanolight Rapid white thin-set mortar, mixed with water per manufacturer's instructions, was troweled over the plywood subfloor with a 1/4" x 3/8" square-notched trowel. The thin-set mortar was first keyed in with the flat side of the trowel and then combed with the notched side to form parallel ridges. The 12" x 12" Crossville porcelain tiles were set in the thin-set by pressing down and sliding the tiles in a direction perpendicular to the combed ridges. A beat-in block and rubber mallet were used to reduce lippage between tiles. After the tiles were installed, the thin-set was allowed to cure for 24 hours before grouting.

Laticrete SpectraLOCK Pro epoxy grout, mixed per manufacturer's instructions, was forced into the 3/16" grout joints with a rubber float. 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. The grouted installation was subsequently allowed to cure for 14 days.

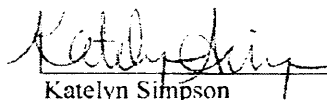
At the end of the cure period, the installation was subjected to load cycling as defined in ASTM C627. The deflection of the plywood subfloor was measured in the wheel path, midway between the 16" O.C. joists.

TEST RESULTS:

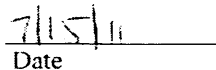
The installation completed ten cycles with no evidence of damage to the tile or grout joints. At the completion of cycle eleven (steel wheels, one hundred fifty pounds per wheel) there was one chipped tile. At the completion of cycle fourteen (steel wheels, three hundred pounds per wheel) there was one additional chipped tile and two cracked grout joints. The maximum deflection of the plywood subfloor during cycling was approximately 0.015".

CONCLUSION:

In accordance with the Performance-Level Requirement Guide of the 2011 *TCA Handbook for Ceramic, Glass, and Stone Tile Installation*, page 37, the installation is classified as "HEAVY" for "shopping malls, stores, commercial kitchens, work areas, laboratories, auto showrooms and service areas, shipping/receiving, and exterior decks".



Katelyn Simpson
Laboratory Manager



Date