TEST REPORT

5001 East Philadelphia Street
Ontario, California – USA 91761-2816
Ph: 909.472.4100 | Fax: 909.472.4243
http://www.iapmortl.org

Report Number: 2212-25024 **Project Number:** 45979

Report Issued: September 12, 2025

Client: **Laticrete International, Inc.**
1 Laticrete Park N
Bethany, CT 06524
Ph: (203) 393-0010
Contact: Dustin Prevete

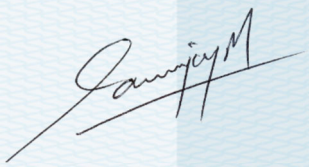
Code/Standard: ANSI A118.10-2014 [Reaffirmed 2019], *American National Standard Specifications for Load Bearing, Bonded, Waterproof Membranes for Thin-set Ceramic Tile and Dimension Stone Installation*

Product(s) Tested: Hydro Ban® 1

Test Date(s): May 12, 2025, to August 29, 2025

Conclusion: The Hydro Ban® 1 Water Proofing Membrane COMPLIED with all requirements of ANSI A118.10-2014 [R2019].

Prepared & Submitted By:



Sanjay "Jay" Mishra
Vice President of Building Product Testing

Table of Contents

APPENDIX

QAI Fungus Resistance test reports (3 pages)
Manufacturer Installation Instructions (5 pages)

1.0 INTRODUCTION

The tests listed in Section 3.0 below were conducted on Hydro Ban® 1 Water Proofing Membrane to determine compliance with ANSI A118.10-2014 [R2019].

2.0 TEST SPECIMENS

The membrane was submitted by Laticrete International and received at the IAPMO R&T Lab on May 02, 2025 in good condition. Test specimens were fabricated by IAPMO IBT personnel in Ontario, CA. The manufacturers' published installation instructions were followed in the preparation of the test specimens and can be found in the appendix of this report.

3.0 TEST PROGRAM

1	Fungus and Micro-Organism Resistance, ANSI A118.10
2	Seam Strength, ASTM D751
3	Breaking Strength, ASTM D751
4	Dimensional Stability, ASTM D1204
5	Waterproofness, ASTM D4068
6	Shear Strength, ASTM C482 • 7-day dry • 7-day water immersion • 4-week dry • 12-week dry • 100-day water immersion

4.0 TESTS FOR MATERIAL PROPERTIES

Film samples were obtained by applying the material to a polyethylene surface to the required thickness and peeling it after it had cured for 7 days at 73 degrees F. Samples for shear strength tests were fabricated as described in section 5 below.

The measurements, observations and tests listed in the section(s) below were conducted in accordance with the procedures specified in the referenced standard(s).

Conditioning and Test Conditions: All test specimens were conditioned for a minimum of 48 hours at 73.4 ± 4 ^{O}F (23 ± 2 ^{O}C) and 50 ± 5% relative humidity prior to fabricating or conducting any testing. Unless otherwise noted or specifically required by the test method, all tests were conducted under these same conditions.

4.1 Fungus and Micro-Organism Resistance, ANSI A118.10-2014 [R2019]

Test Result	
Hydro Ban® 1	COMPLIED

Samples were prepared as specified in section 4.1 of ANSI A118.10-2014 [R2019], which stipulates the following method:

- 39 grams of Agar were dissolved in 1 liter of heated water.
- The agar medium and three (2) inch square pieces of tile were autoclaved at 15 psi for 15 minutes.
- A section of the sample was bonded to one tile and then placed in a Petri dish.
- The other tile (control) was placed in a Petri dish.
- The agar medium was introduced to both petri dishes.
- The entire surfaces were then inoculated with Aspergillus Brasiliensis (formally known as Aspergillus Niger).

All samples were placed in a temperature and humidity-controlled incubator for 14 days. During the 14-day period the temperature and humidity were monitored and maintained at 82.4 to 86 ^{O}F and 85-96% relative humidity.

Requirement: The membrane shall not support mold growth.

Findings: Hydro Ban® 1 did not support mold growth; no traces of growth were observed.

Note: This test was conducted by QAI Laboratories, Tulsa, OK. The QAI test report is attached to the appendix.

4.2 Strength, ASTM D751-2006 (2019)

Test Result	
Hydro Ban® 1	COMPLIED

The tests were conducted on 2" (50.8 mm) wide samples on a United Universal Testing Machine (SFM-150KN) equipped with an electronic load cell and a computerized data acquisition system. The speed of testing was 12 inches (305 mm) per minute.

Seam Strength Test: Hydro Ban® 1		
Sample	*Ultimate Load (lbs./2 inch width)*	*Minimum Requirement*
1	18.21	8 lbs. per in. width minimum or 16 lbs. / 2-inch width
2	18.68	
3	17.91	
4	19.34	
5	17.24	
Average	**18.28**	
Standard Deviation	0.79	

4.3 Breaking Strength, ASTM D751-2006 (2019)

Test Result	
Hydro Ban® 1	COMPLIED

The tests were conducted on 1" (25.4 mm) wide samples on a United Universal Testing Machine (SFM-150KN) equipped with an electronic load cell and a computerized data acquisition system. The speed of testing was 12 inches (305 mm) per minute. Procedure B of ASTM D751 was followed.

Hydro Ban® 1			
Sample	*Breaking Strength Test (psi)*		*Minimum Requirement*
	Longitudinal	*Transverse*	
1	385.0	391.7	170 psi
2	344.1	415.0	
3	362.7	376.3	
4	355.7	373.2	
5	376.0	390.3	
6	345.2	415.4	
Average	**361.5**	**393.6**	
Standard Deviation	16.5	18.2	

4.4 Dimensional Stability, ASTM D1204-2014 (2020)

Test Result	
Hydro Ban® 1	COMPLIED

Tests were conducted on 10"x10" (254 x 254 mm) samples. One set of samples were conditioned for four (4) hours in an oven at +158 ^{O}F (70 ^{O}C) and a second set of samples were conditioned for four (4) hours in a freezer at -15 ^{O}F (-26 ^{O}C). Dimensions were taken before and after exposure and the dimensional changes are tabulated below.

Dimensional Stability Test: Hydro Ban® 1			
Temperature	*Sample Direction*	*Results (%)*	*Requirement*
+158 ^{O}F (70 ^{O}C)	Longitudinal	-0.537	0.7% maximum length change (expansion or contraction)
	Transverse	-0.473	
-15 ^{O}F (-26 ^{O}C)	Longitudinal	-0.152	
	Transverse	-0.066	

4.5 Waterproofness, ASTM D4068-2017 (2022)

Test Result	
Hydro Ban® 1	COMPLIED

Three 3 in. x 3 in. (76 x 76 mm) specimens were tested in accordance with ASTM D4068 (Annex 2: Hydrostatic Pressure Test) for 48 hours. The water column height was 24 inches (609 mm).

Waterproofness Test: Hydro Ban® 1		
Test Sample	*Observation after 48 hours*	*Requirement*
1	Pass	No evidence of visible water penetration
2	Pass	
3	Pass	

5.0 Shear Strength, ASTM C482-2002 (2014)

5.1 Preparation of Mortar Blocks – FOLLOWED

Concrete test substrates / blocks were prepared as specified in ANSI A118.10, Informative Annex A. These blocks were stored for a minimum of 90 days at standard laboratory conditions prior to use.

5.2 Preparation of Shear Bond Assemblies – FOLLOWED

The manufacturer's instructions were followed, and the membrane was applied to the entire face of the mortar blocks molded in Section 5.1. 4"x4" Type X tile was applied to the membrane, offset ¼ in. (6.4 mm), using an A118.4 compliant thin-set adhesive / mortar that was obtained locally.

The bonded assemblies were allowed to cure for seven days at a room temperature of 70 ^{O}F to 77 ^{O}F (21.1 ^{O}C to 25.0 ^{O}C) and relative humidity of 45% to 55%. Further dry or wet conditioning was as described in ANSI A118.10.

Test Setup: The tests were conducted on a United Universal Testing Machine (SFM-150KN) equipped with an electronic load cell and a computerized data acquisition system. The speed of testing was 200 ± 20 psi per minute (1.4 ± 0.1 MPa/min.).

5.3 Seven Day Dry Shear Strength, ASTM C482

Test Result	
Hydro Ban® 1	COMPLIED

Four (4) specimens were prepared and cured for 7 days in accordance with Section 5.2 above. At the end of the seven-day conditioning period the samples were tested for shear strength in accordance with ASTM C482.

Hydro Ban® 1			
Sample	*Ultimate Load (lbs.)*	*Shear Strength (psi)*	*Requirement*
1	1339.56	89.3	Average shear strength greater than 50 psi.
2	1653.99	110.3	
3	1875.21	125.0	
4	2069.02	137.9	
Average	1734.44	**115.6**	
Standard Deviation	313.14	20.9	

5.4 Seven Day Water Immersion Shear Strength, ASTM C482

Test Result	
Hydro Ban® 1	COMPLIED

Four (4) specimens prepared as specified in Section 5.2 were immersed in water immediately after the seven-day conditioning described in Section 5.2. After seven days of water immersion, the samples were tested for shear strength in accordance with ASTM C482.

Hydro Ban® 1			
Sample	*Ultimate Load (lbs.)*	*Shear Strength (psi)*	*Requirement*
1	1089.65	72.6	Average shear strength greater than 50 psi.
2	1280.81	85.4	
3	991.85	66.1	
4	1082.41	72.2	
Average	1111.18	**74.1**	
Standard Deviation	121.53	8.1	

5.5 Four Week Dry Shear Strength, ASTM C482

Test Result	
Hydro Ban® 1	COMPLIED

Four (4) specimens prepared as specified in Section 5.2 were cured for an additional three (3) weeks at the temperature and relative humidity specified in Section 5.2. The specimens were then tested for shear strength in accordance with ASTM C482.

Hydro Ban® 1			
Sample	*Ultimate Load (lbs.)*	*Shear Strength (psi)*	*Requirement*
1	2036.96	135.8	Average shear strength greater than 50 psi.
2	2468.03	164.5	
3	1570.20	104.7	
4	2627.36	175.2	
Average	2175.64	**145.0**	
Standard Deviation	474.46	31.6	

5.6 Twelve Week Dry Shear Strength, ASTM C482

Test Result	
Hydro Ban® 1	COMPLIED

Four (4) specimens prepared as specified in Section 5.2 were cured for an additional eleven (11) weeks at the temperature and relative humidity specified in Section 5.2. The specimens were then tested for shear strength in accordance with ASTM C482.

Hydro Ban® 1			
Sample	*Ultimate Load (lbs.)*	*Shear Strength (psi)*	*Requirement*
1	1884.06	125.6	Average shear strength greater than 50 psi.
2	3369.82	224.7	
3	2063.35	137.6	
4	2121.71	141.4	
Average	2359.74	**157.3**	
Standard Deviation	680.94	45.4	

5.7 One-Hundred Day Water Immersion Shear Strength, ASTM C482

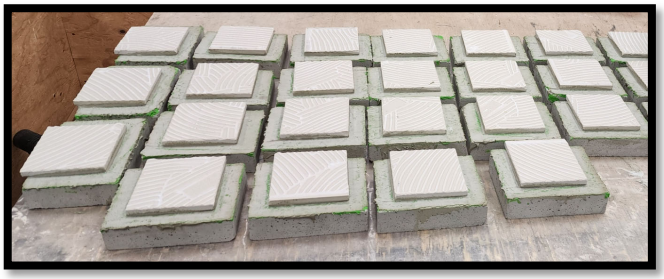
Test Result	
Hydro Ban® 1	COMPLIED

Four (4) specimens prepared as specified in Section 5.2 were immersed in water immediately after the seven-day conditioning described in Section 5.2. After 100 days of water immersion, the samples were tested for shear strength in accordance with ASTM C482.

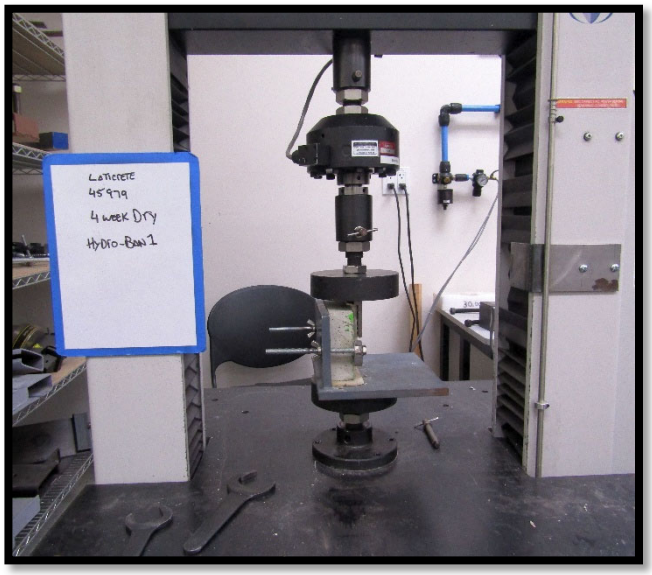
Hydro Ban® 1			
Sample	*Ultimate Load (lbs.)*	*Shear Strength (psi)*	*Requirement*
1	992.39	66.2	Average shear strength greater than 50 psi.
2	2118.90	141.3	
3	1981.03	132.1	
4	1097.99	73.2	
Average	1547.58	**103.2**	
Standard Deviation	584.42	39.0	

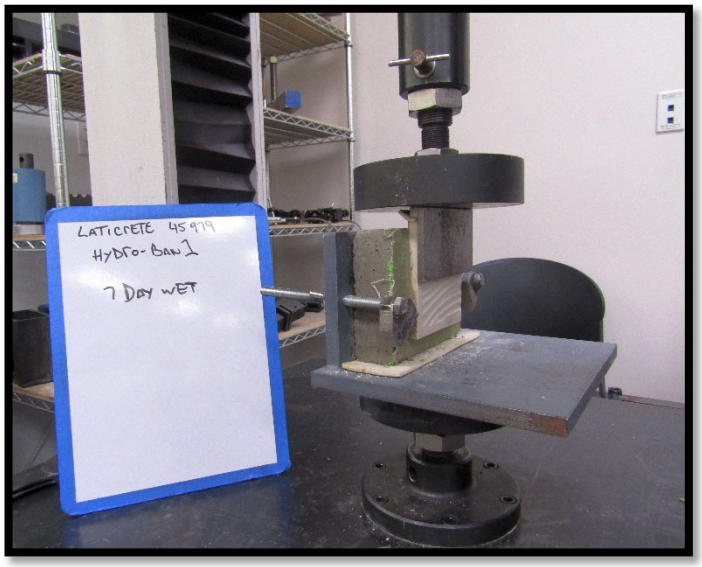
6.0 PHOTOGRAPHS

Shear strength test: sample fabrication



Flim samples on polyethylene board





Shear strength test: front and side views

Seam strength test

Waterproofness test

APPENDIX

QAI Fungus Resistance test report (3 pages)

Manufacturer Installation Instructions (5 pages)

QAI LABORATORIES
CERTIFICATION TESTING INSPECTION

5110 N. Mingo Road
Tulsa, OK 74117
918.437.8333 ph. | 918.437.8487 fx.

CLIENT: **IAPMO R&T LAB**
4755 E. Philadelphia Street
Ontario, CA 91761

Test Report No: QA-1986-1	Date: July 14, 2025

SAMPLE ID: Samples Identified as: **Hydro Ban 1 Water Proofing Membrane**

REFERENCE: **Project No. 45979**

SAMPLING DETAIL: Test samples were submitted to the laboratory directly by the client. No special sampling conditions or sample preparation were observed by QAI.

DATE OF RECEIPT: Samples were received at QAI on June 16, 2025.

TESTING PERIOD: June 16 – July 1, 2025

AUTHORIZATION: Signed QAI Proposal No: 25DN0228-01 by Jay Mishra, on June 6, 2025. PO#IB0596

TEST PROCEDURE: Testing to ANSI A118.10-2014 (R2019), Section 4.1 (micro-organism resistance)

TEST RESULTS: The samples met the criteria of ANSI A118.10, Section 4.1. Detailed test results are presented in the subsequent pages of this report.

Prepared By

Rocky Hale
Material Test Technician

Signed for and on behalf of QAI Laboratories, Inc.

Digitally signed by Jarred L. Johnson
Date: 2025.07.14 12:18:25 -05'00'

Jarred Johnson
Project Reviewer

Procedures and Results:

4.1 Fungus and Micro-Organism Resistance **PASS**

Samples were prepared as required per section 4.1, which stipulates the following method: 39 grams of Agar were dissolved in 1 liter of heated water. The agar medium and three 2-inch square pieces of tile were autoclaved at 15psi for 15 minutes. A section of the sample was bonded to tiles and then placed in Petri dishes. The other tile (control) was then placed in a Petri dish. The agar medium was then introduced to all petri dishes. The entire surfaces were then inoculated with Aspergillus Brasiliensis (formally known as Aspergillus Niger).

All samples were placed in a temperature and humidity-controlled incubator for 14 days. During the 14-day period the temperature and humidity were monitored and maintained at 82.4 to 86ºF and 85-96% relative humidity.

Following the 14 days, the samples were removed and evaluated for fungus and micro-organism growth. Table 1 is the ratings the samples may receive. Table 2 is the results after 14 days of incubation. Photographic evidence can be seen in Figure 1.

Table 1

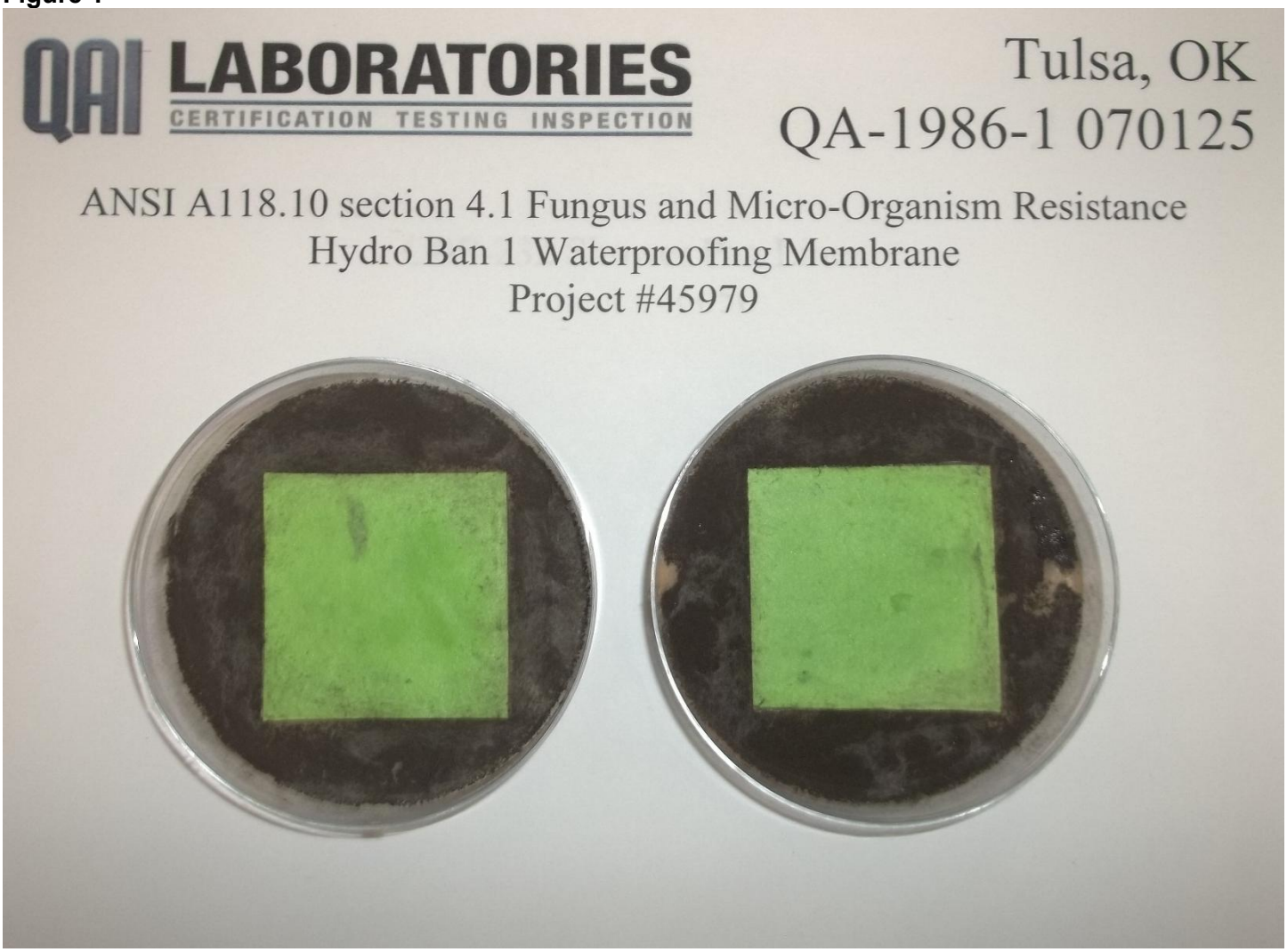
Observation	Rating
No Traces of Growth	0
Traces of Growth (less than 10%)	1
Light Growth (10 to 30%)	2
Medium Growth (30 to 60%)	3
Heavy Growth (60% to complete coverage)	4

Table 2-Results

Test Start Date:	06/17/25	Test End Date:	07/01/25
Total Incubation Period:		14 Days	
Specimen		Rating	
1		0	
2		0	
Control		3	

Requirement: The membrane shall not support mold growth.

Figure 1



***** END OF TEST REPORT *****

HYDRO BAN® 1

DS-65452-0723

Globally Proven Construction Solutions

1. PRODUCT NAME
HYDRO BAN® 1

2. MANUFACTURER
LATICRETE International, Inc.
1 LATICRETE Park North
Bethany, CT 06524-3423 USA
Telephone: +1.203.393.0010, ext. 1235
Toll Free: 1.800.243.4788, ext. 1235
Fax: +1.203.393.1684
Website: laticrete.com

3. PRODUCT DESCRIPTION
HYDRO BAN 1 is a single component self-curing liquid rubber polymer that is applied in a single coat and forms a flexible, seamless waterproofing membrane. HYDRO BAN 1 is a thin, load bearing waterproofing/crack isolation membrane with extreme performance. HYDRO BAN 1 is specific designed to handle a wide variety of environmental/substrate conditions, such as substrate temperatures as low as 35°F (2° C) and also be used in steam showers and steam rooms. HYDRO BAN 1 does not require the use of fabric in the field, coves or corners. HYDRO BAN 1 bonds directly to a wide variety of substrates. It features a hi-vis green color for enhanced visibility and easier lay-out
Equipped with anti-mcrobial Protection

Uses
- Interior and exterior
- Swimming pools, fountains and water features
- Shower pans, stalls and tub surrounds
- Steam rooms and steam showers
- Industrial, commercial and residential bathrooms and laundries
- Spas and hot tubs
- Kitchens and food processing areas
- Terraces and balconies over unoccupied spaces
- Countertops and facades

Advantages
- Single Coat Application with a brush or 3/16" V-Notch Trowel
- Allow for flood testing in 2 to 3 hours at 70°F (21°C) or higher (Refer to cautions section for more information on curing)
- Does not require the use of fabric (For gaps 1/8" (3 mm) or less).
- Fully cures on substrates 35°F (2°C) or higher
- Anti-fracture protection of up to 1/8" (3 mm) over shrinkage and other non-structural cracks
- Thin; only 0.020–0.030" (0.5–0.8 mm) thick when cured
- Exceeds ANSI A118.10 and A118.12 (ASTM D 4068)
- “Extra Heavy Service” rating per TCNA performance levels (RE: ASTM C627 Robinson Floor Test
- Equipped with anti-micr0bial technology to protect the treated article
- Bonds directly to metal, ABS, PVC and various other common materials
- Color changing technology for ease of inspection and cure time notification
- Hi-Vis pigement for enhanced visibility and easier lay-out
- Non-flammable

Suitable Substrates
- Cement Backer Board
- Cement Mortar Bed
- Cement Plaster
- Cement Terrazzo
- Concrete
- Concrete and Brick Masonry
- Poured Gypsum Underlayment
- Self-Leveling and Patching Compounds
- Exterior Glue Plywood (Interior Only)
- Ceramic Tile and Stone
- Gypsum Wallboard (Interior use only, non-wet areas)
- Gypsum Plaster (Interior use only, non-wet areas)
- HYDRO BAN Board

Packaging
Packaging
1 Gallon - 4 x 1 gal (3.8 L) pails of liquid packed in a carton (30 cartons/pallet)
5 Gallon - (18.9 L) pail liquid (36 commercial units/pallet)

Approximate Coverage
Coverage

1 Gallon - 50 ft² (4.6 m²)
5 Gallon - 250 ft² (23.2 m²)

Limitations

- DO NOT bond to OSB, particle board, interior glue plywood, luan, Masonite® or hardwood surfaces.
- Adhesives/mastics, mortars and grouts for ceramic tile, pavers, brick and stone are not replacements for waterproofing membranes. When a waterproofing membrane is required, use HYDRO BAN® 1.
- Do not use as a primary roofing membrane over occupied space. For more information in installation of tile over wood decks, or, over occupied or finished spaces please refer to TDS 157 “Exterior Installation of Tile and Stone Over Occupied Space.”
- Do not use over dynamic expansion joints, structural cracks or cracks with vertical differential movement.
- The installation of Waterproofing Membranes in submerged applications must be installed in a manner that creates a continuous "waterproof pan effect" without voids or interruptions. Therefore, applying waterproofing membranes in limited areas (e.g. solely at the waterline) in submerged applications is not recommended.
- Do not use over cracks >1/8" (3 mm) in width.
- Do not expose unprotected membrane to sun or weather for more than 30 days.
- Do not expose to negative hydrostatic pressure, excessive vapor transmission, rubber solvents or ketones.
- Must be covered with ceramic tile, stone, brick, dry pack thick bed mortar beds (non-submerged applications), terrazzo or other traffic-bearing finish. Use protection board for temporary cover.
- Obtain approval by local building code authority before using product in shower pan applications.
- Follow all applicable local building code having jurisdiction.
- Do not install directly over single layer wood floors, plywood tubs/showers/fountains or similar constructs.
- Not for use beneath cement or other plaster finishes. Consult with plaster manufacturer for their recommendations when waterproofing membrane is required under plaster finishes.
- Not for use under self-leveling underlayments or decorative wear surfaces.
- Surfaces must be structurally sound, stable and rigid enough to support ceramic/stone tile, thin brick and similar finishes.
- Substrate deflection under all live, dead and impact loads, including concentrated loads, must not exceed L/360 for thin bed ceramic tile/brick installations or L/480 for thin bed stone installations and L/600 for all exterior veneer applications where L=span length.

Cautions

- Consult SDS for safety information.
- Allow membrane to cure fully (typically 24 hours at 35°F – 69°F (2°C – 21°C) and 70% RH and after full color change at 70°F (21°C) or higher and 50% RH before flood testing); flood test prior to applying tile or stone.
- HYDRO BAN 1 will go from a light to a darker shade when fully cured. All flood test times should be after the coat is fully cured with no lighter green areas showing.
- Maximum amount of moisture in the concrete substrate should not exceed 5 lbs/1,000 ft² (283 µg/s m²)/24 hrs per ASTM F-1869 or 85% relative humidity per ASTM F-2170 as measured with moisture probes.
- Protect finished work from traffic and /or added water / moisture until fully cured.
- For white and light-colored marbles, use a white Latex Portland Cement Thin Set Mortar.
- For green and moisture sensitive marble, agglomerates and resin backed tile and stone use LATAPOXY® 300 Adhesive (refer to DS-633).
- Wet coat thickness is 0.03 to 0.04" (0.8 to 1.0 mm) 30m to 40 mils. Use a wet film thickness gauge to check thickness.
- Allow wet mortars to cure for 72 hours at 70°F (21°C) prior to installing HYDRO BAN 1.
- After application the time to tile will vary depending on substrate, temperature and relative humidity.
- Sanding or screening may be needed when installing over mortar beds or self-leveling underlayments to remove laitance, loose material, etc.

4. TECHNICAL DATA

Physical Properties

Physical Property	Test Method	HYDRO BAN® 1
7-day Hydrostatic Test	ANSI A118.10	Pass
7-day Breaking Strength	ANSI A118.10	265–300 psi (1.8–2.1 MPa)
7-day Water Immersion	ANSI A118.10	95–175 psi (0.7–1.17 MPa)
7-day Shear Bond	ANSI A118.10	200–275 psi (1.4–1.9 MPa)
28-day Shear Strength	ANSI A118.10	215–345 psi (1.5– 2.3 MPa)
System Crack Resistance Test	ANSI A118.12.5.4	Pass (High)
Water Vapor Permeance	ASTM E 96 Procedure E	0.25 perms
System Performance	ANSI A118.12; ASTM C627; TCA Rating	cycles 1–14 "Extra Heavy"
Thickness (Dried)		20–30 mils (0.5–0.8 mm)

The data in the above table shall be used by the Project Design Professional to determine suitability, placement, building code conformance and over-all construct appropriateness of a given installation assembly.

Substrate	Time to Tile (min.)****
Concrete	60
Cement Board	40
Fiber Cement Underlayment	20

*After application coat is applied at 70°F (21°C) and 50% RH. The time to tile will vary depending on substrate, temperature and relative humidity.

Working Properties
HYDRO BAN® 1 can be applied using a paint brush or trowel. All areas must be fully coated to stated application thickness to ensure waterproofing capabilities. When using a 3/16" V-Notch Trowel the substrate will not show through HYDRO BAN 1 if coated with 0.020 – 0.030" (0.4 – .5 mm) of dried membrane. Color changes from a lighter to a darker shade when fully cured.

Specifications subject to change without notification. Results shown are typical but reflect test procedures used. Actual field performance will depend on installation methods and site conditions.

5. INSTALLATION

- **Working Properties**
  HYDRO BAN® 1 can be applied using a paint brush or trowel. All areas must have 1 coat in the range 0.030 – 0.040" to ensure waterproofing capabilities. When using a paint brush or trowel the substrate will not show through HYDRO BAN 1 if coated with 0.020 – 0.030" (0.4 - 0.5 mm) of dried membrane. Color changes from a lighter to a darker shade of green when fully cured.
  Surface Preparation
  Surface temperature must be 35°F – 90°F (2 – 32°C) during application and for 24 hours after installation. All substrates must be structurally sound, clean and free of dirt, oil, grease, paint, laitance, efflorescence, concrete sealers or curing compounds. Make rough or uneven concrete smooth to a wood float or better finish with a underlayment. Do not level with asphalt based products. Maximum deviation in plane must not exceed 1/4" in 10 ft (6 mm in 3 m) with no more than 1/16" in 1 ft (1.5 mm in 0.3 m) variation between high spots. Dampen hot, dry surfaces and sweep off excess water—installation may be made on a damp surface.
  1. Surfaces must be structurally sound, stable and rigid enough to support ceramic/stone tile, thin brick and similar finishes. Installer must verify that deflection under all live, dead and impact loads of interior plywood floors does not exceed industry standards of L/360 for ceramic tile and brick or L/480 for stone installations and L/600 for all exterior veneer applications where L=span length.

  2. Minimum construction for interior plywood floors. **SUBFLOOR:** 5/8" (15 mm) thick exterior glue plywood, either plain with all sheet edges blocked or tongue and groove, over bridged joints spaced 16" (400 mm) o.c. maximum; fasten plywood 6" (150 mm) o.c. along sheet ends and 8" (200 mm) o.c. along intermediate supports with 8d ring-shank, coated or hot dip galvanized nails (or screws); allow 1/8" (3 mm) between sheet ends and 1/4" (6 mm) between sheets edges; all sheet ends must be supported by a framing member; glue sheets to joints with construction adhesive.
  UNDERLAYMENT: 5/8" (15 mm) thick exterior glue plywood fastened 6" (150 mm) o.c. along sheet ends and 8" (200 mm) o.c. in the panel field (both directions) with 8d ring-shank, coated or hot dip galvanized nails (or screws); allow 1/8" (3 mm) to 1/4" (6 mm) between sheets and 1/4" (6 mm) between sheet edges and any abutting surfaces; offset underlayment joints from joints in subfloor and stagger joints between sheet ends; glue underlayment to subfloor with construction adhesive. Refer to Technical Data Sheet 152 “Bonding Ceramic Tile, Stone or Brick Over Wood Floors” for complete details.
  Bonding to TCNA Compliant Poured Gypsum Underlayment Poured gypsum-based underlayments must meet TCNA requirements for compressive strength and the performance requirements of ASTM C627 for the anticipated service level designated by the design professional. Poured gypsum underlayment thickness and application varies, consult the manufacturer for specific recommendations. The underlayment must be dry and properly cured following the manufacturer's recommendations to achieve a permanent installation. Surfaces to be covered must be clean, structurally sound and meet the maximum allowable deflection standard of L/360 for ceramic tile and L/480 for stone under total anticipated load. Expansion joints must be installed in accordance with ANSI/TCNA guidelines. Prime all surfaces to receive HYDRO BAN 1 with properly applied manufacturer's

sealer or with a primer coat of HYDRO BAN 1, consisting of 1 part HYDRO BAN 1, diluted with 4 parts clean, cool tap water. In a clean pail, mix at low speed to obtain a homogeneous solution. The primer can be brushed, rolled or sprayed to achieve an even coat. Apply the primer coat to the floor at a rate of 250 to 300 ft^2/gallon (6.1 to 7.5 M^2/L) of diluted HYDRO BAN 1. Allow the primer coat to dry completely (approximately 24 hrs., depending on substrate and air temperature and humidity). When dry apply 1 full coat of HYDRO BAN 1 to the primed area following the guidelines in this data sheet.

Pre-Treat Cracks & Joints

Fill all substrate cracks, cold joints, and control joints to a smooth finish using a Latex Fortified Thin-Set. Alternatively, a liberal coat^^ of HYDRO BAN 1 applied with a paint brush or 3/16" V-Notch trowel may be used to fill in non-structural joints and cracks. Apply a liberal coat^^ of HYDRO BAN 1 approximately 8" (200 mm) wide over substrate cracks, cold joints, and control joints using a paint brush or 3/16" V-Notch trowel 6" (150 mm) Waterproofing/Anti-Fracture Fabric can be used to pretreat cracks, joints, curves, corners, drains and penetrations with HYDRO BAN 1.

Pre-Treat Coves and Floor/Wall Transitions

Fill all substrate coves and floor/wall transitions to a smooth finish and changes in plane using a latex fortified thin-set mortar. Alternatively, a liberal coat^^ of HYDRO BAN 1 applied with a paint brush or 3/16" V-Notch trowel (afterward knocking down the ridges with the flat side of the trowel or grout float) may be used to fill in cove joints and floor/wall transitions <1/8" (3 mm). Apply a liberal coat^^ of HYDRO BAN 1 approximately 8" (200 mm) wide over substrate coves and floor/wall transitions using a paint brush or trowel. This type usage also applies for steam showers and steams rooms.

Pre-Treat Drains

Drains must be of the bonding flange or clamping ring type, with weepers and as per ASME A112.6.3. Apply a liberal coat^^ of HYDRO BAN 1 Waterproofing Membrane liquid around and over the bonding flange or the bottom half of drain clamping ring. When dry, apply a LATASIL™ bead where the HYDRO BAN 1 meets the drain throat. Install top half of drain clamping ring.

Pre-Treat Penetrations

Allow for a minimum 1/8" (3 mm) space between drains, pipes, lights or other penetrations and surrounding ceramic tile, stone or brick. Pack any gaps around pipes, lights or other penetrations with a Latex fortified thin-set mortar. Apply a liberal coat^^ of HYDRO BAN 1 liquid around penetration opening. Bring HYDRO BAN 1 up to level of tile or stone. When dry, seal flashing with LATASIL.

Crack Isolation (Partial Coverage) Crack suppression must be applied a minimum of 3 times the width of the tile or stone being installed. The tile installed over the crack cannot be in contact with the concrete.

Follow TCNA Method F125 for the treatment of hairline cracks, shrinkage cracks, and saw cut or control joints: Apply a liberal coat^^ of HYDRO BAN 1 to a minimum of three (3) times the width of the tile using a 3/16" V-Notch trowel or paint brush and allow to dry.

As an alternative; Apply a liberal coat^^ of HYDRO BAN 1 liquid, 3 times the width of the tile over the crack using a 3/16" V-Notch trowel (afterward knocking down the ridges with the flat side of the trowel or grout float) or paint brush and immediately apply the 6" (150mm) wide Waterproofing/Anti-Fracture Fabric into the wet liquid over the crack. Press firmly with brush or the flat side of the 3/16" V-Notch trowel to allow complete “bleed through” of liquid. When the treatment has dried, apply a liberal coat^^ of HYDRO BAN 1 to over the first wide coat, using a 3/16" V-Notch trowel (afterward knocking down the ridges with the flat side of the trowel or grout float) or paint brush, and allow to dry. Treat closest joint to the crack, saw cut, or cold joint in the tile or stone installation with LATASIL.

^^ Wet coat thickness is 30 – 40 mils (0.8 – 1 mm) consumption per coat is -0.02/gal/ft^2 (-0.8m^2/L);

Main Application

Allow any pre-treated areas to dry to the touch. Apply a liberal coat^^ of HYDRO BAN 1 with brush or 3/16" V-Notch trowel (afterward knocking down the ridges with the flat side of the trowel or grout float) over substrate including pre-treated areas. Let the coat dry to the touch, approximately 2–3 hours at 70°F (21°C) and 50% RH. When it is dry to the touch, inspect final surface for pinholes, voids, thin spots or other defects. HYDRO BAN 1 will turn a darker green when it's dry to touch. Use additional HYDRO BAN 1 to seal defects.

Movement Joints

Note: Apply a liberal coat^^ of HYDRO BAN 1 approximately 8" (200 mm) wide over the areas. Then embed and loop the 6" (150 mm) wide Waterproofing/Anti-Fracture Fabric and allow to bleed through.

Protection

Provide protection for newly installed membrane, even if covered with a thin bed ceramic tile, stone or brick installation, against exposure to rain or other water for a minimum of 2 hours at 70°F (21°C) and 50% RH.

Flood Testing
Allow membrane to cure fully before flood testing, typically 2 to 3 hours after final cure at 70°F (21°C) and 50% RH. Cold and/or wet conditions will require a longer curing time. For temperatures 35°F – 69°F (2 – 21°C) allow 24 hours after final cure prior to flood testing.

Installing Finishes
Once HYDRO BAN 1 has dried to the touch, ceramic tile, stone or brick may be installed by the thin bed method with a Latex Thin-Set Mortar. Allow HYDRO BAN 1 to cure 2 to 3 hours at 70°F (21°C) and 50% RH before covering with, thick bed mortar, epoxy adhesives, terrazzo or moisture sensitive resilient or wood flooring. Do not use solvent-based adhesives directly on HYDRO BAN 1.

Drains & Penetrations
Use LATASIL and foam backer rod to seal space between drain or penetration and finish. Do not use a grout or joint filler mortar.

Control Joints
Ceramic tile, stone and brick installations must include sealant- filled joints over any control joints in the substrate. However, the sealant-filled joints can be offset horizontally by as much as one tile width from the substrate control joint location to coincide with the grout joint pattern.

Movement Joints
Ceramic tile, stone and thin brick installations must include expansion at coves, corners, other changes in substrate plane and over any expansion joints in the substrate. Expansion joints in ceramic tile, stone or brickwork are also required at perimeters, at restraining surfaces, at penetrations and at the intervals described in the Tile Council of North America, Inc. (TCNA) Handbook Installation Method EJ171. Use LATASIL and backer rod.

6. AVAILABILITY AND COST

Availability
LATICRETE materials are available worldwide.

For Distributor Information, Call:
Toll Free: 1.800.243.4788
Telephone: +1.203.393.0010
For on-line distributor information, visit LATICRETE at **laticrete.com**

Cost
Contact a LATICRETE Distributor in your area.

7. WARRANTY

See 10. FILING SYSTEM:
- 25 Year System Warranty (US) (English)
- 10 Year System Warranty (US) (English)
- 1 Year Product Warranty (US) (English)
- LATICRETE Lifetime System Warranty (US) (English)

8. MAINTENANCE

Non-finish LATICRETE and LATAPOXY installation materials require no maintenance but installation performance and durability may depend on properly maintaining products supplied by other manufacturers.

9. TECHNICAL SERVICES

Technical Assistance
Information is available by calling the LATICRETE Technical Service Hotline:
Toll Free: 1.800.243.4788, ext. 1235
Telephone: +1.203.393.0010, ext. 1235
Fax: +1.203.393.1948

Technical and Safety Literature
To acquire technical and safety literature, please visit our website at **laticrete.com**.

10. FILING SYSTEM

Additional product information is available on our website at laticrete.com. The following is a list of related documents:
- DS 230.13: LATICRETE Product Warranty
- DS 230.05: LATICRETE 5 Year System Warranty (United States and Canada)
- DS 230.15: LATICRETE 15 Year System Warranty for Steel or Wood Framed Exterior Facades (United States and Canada)
- DS 025.0: LATICRETE 25 Year System Warranty (United States and Canada)
- DS 230.99: LATICRETE Lifetime System Warranty (United States and Canada)
- DS 633.0: LATAPOXY 300 Adhesive
- DS 6200.1: LATASIL™
- TDS 152: “Bonding Ceramic Tile, Stone or Brick Over Wood Floors
- TDS 157: “Exterior Installation of Tile and Stone Over Occupied Space.”

LATICRETE International, Inc.
One LATICRETE Park North, Bethany, CT 06524-3423 USA • 1.800.243.4788 • +1.203.393.0010 • www.laticrete.com