

STANDARD SELF-LEVELING UNDERLAYMENT

DESCRIPTION

Penetron Standard Self-Leveling Underlayment is a high quality self-leveling polymer modified cementitious underlayment. It is formulated to provide ample working time with excellent self-leveling characteristics for ease of installation. It cures quickly to allow foot traffic in about 3-4 hours and will permit installation of most floor coverings in 18-24 hours (consult floor covering manufacturer's recommendations). At 70°F (21°C) the flowing time is approximately 20 minutes.

Penetron Standard Self-Leveling Underlayment is a precisely proportioned uniform blend of carefully graded natural silica fine aggregates, Portland and high alumina cements, dispersible dry polymers and proprietary chemical admixtures. Penetron Standard Self-Leveling Underlayment is intended for indoor applications over which floor covering will be applied. It must be applied over properly prepared and primed concrete floors at thickness from feather edge to 1/2 inch (13mm) when unextended, and from 1/2 inch (13 mm) to 6 inches (150mm) when extended with fine pea gravel. It can be pumped using Chemgrout or Airplaco piston-type pumps. It can also be installed manually using conventional pour-spread-smooth methods.

APPLICATION

Surface Preparation:

Concrete floors must be sound and free of contamination. Unsound and/or contaminated floors must be prepared by removing all unsound, weak or contaminated concrete and any residual cures, sealers, paints or other potential adhesion breakers. Shot blasting is the preferred preparation method. Sand blasting, high pressure water blasting or grinding may be satisfactory in some instances. **Note:** All dust must be removed from concrete surface prior to priming.

Priming or Prepared Concrete Floors:

Mix Self-Leveling PRIMER with potable water 1:1 by volume before use. Spread diluted primer on normally absorbent concrete at a coverage rate of 300-400 sq ft/gal (7-10 m²/l) by push broom, avoiding leaving any puddles. Highly absorbent concrete may require two applications of primer to seal the surface. Allow each application to dry completely before reapplying.

For non-absorbent concrete, quarry tile, terrazzo or concrete with minimal cut-back residue, use Self-Leveling PRIMER full strength (without dilution). Mix thoroughly then spread the primer uniformly at a coverage rate of 300-400 sq ft/gal (7-10 m²/l) by push broom. Allow primer to dry completely (at least 3 hours) until it is no longer tacky to the touch. Primed floors must be kept clean, dry and protected from abrasion. Penetron Standard Self-Leveling Underlayment must be installed within 72 hours of priming.

Mixing:

Pre-wet mixer (or container) for first batch and drain to remove excess water. Carefully measure 5.5 qts (5.2 l) of clean, potable mixing water for each 50 lb (22.7 kg) bag of Penetron Standard Self-Leveling Underlayment in the batch. Place mixing water into mixer (or container) and start mixer. For small batches, a mixing paddle mounted on a 1/2 inch, 600+ rpm drill motor will be needed. Slowly add Penetron Standard Self-Leveling Underlayment and mix for one or two minutes or as necessary to provide a uniform, lump-free consistency.

CAUTION: Do not over water. If yellow foam occurs on the surface of the batch it may be due to over watering. Reduce water slightly if this occurs. For applications in excess of 1/2 inch (13 mm) thickness, extend PENETRON Standard Self-Leveling Underlayment with pea gravel or rock. Use clean, rounded, 1/8 to 1/4 inch (3 to 6 mm) maximum size pea gravel or rock, up to 15 lb (7kg) per 50lb (22.7 kg) bag. Pre-moisten the aggregate and allow it to drain. Add the pea gravel or rock only after a uniform, lump-free mixture of underlayment is obtained, then continue mixing until the pea gravel or rock blends in evenly.

Installation:

Wear cleated shoes when working with Penetron Standard Self-Leveling Underlayment. Place by pumping or pouring the mixed Penetron Standard Self-Leveling Underlayment over the dry, primed floor surface, then spread evenly using a spreader tool set to the desired thickness. After spreading, follow with a light pass of a smoother blade held nearly flat with the front edge raised slightly to break any bubbles that may appear. Do not trowel the surface, allow it to level on its own. Once installation begins, continue without interruption. Keep placing fresh material against recently placed material, so that it merges properly without forming cold joints. When using extended mixes, self-leveling properties may be reduced. If extended mix surface is not smooth enough, wait until in place material cools down, prime again and let dry thoroughly, then apply a finish layer of unextended Penetron Standard Self-Leveling Underlayment to provide a smooth surface.

CURING

In-place underlayment is self curing. Do not cure with polyethylene and do not apply curing compounds. Light foot traffic (flat soles, no cleats) can usually be accommodated in about 3-4 hours @ 73°F (23°C) without damaging surface. Construction traffic normally can be resumed and most floor coverings applied 18-24 hours @ 73°F (23°C) after the underlayment placement (consult floor covering manufacturer's recommendations).

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CLEAN UP

Clean mixer and tools as often as necessary to avoid build-up. Flush out pump and hoses without delay if stopping for any reason. Water is usually all that is required for prompt clean up.

CAUTIONS

Refer to Material Safety Data Sheet (MSDS) prior to use. This product contains Portland and high alumina cements and silica aggregates. Use of proper safety equipment (goggles, dust masks and gloves) is strongly recommended. **IF EYE CONTACT OCCURS FLUSH REPEATEDLY WITH FRESH WATER, THEN CONTACT A PHYSICIAN WITHOUT DELAY.** Wash exposed skin areas with soap and water.

KEEP OUT OF REACH OF CHILDREN.

LIMITATIONS

Thickness:	1/2 in (13 mm) max., unextended 1/2 in (13 mm) min., extended 6 in (150 mm) max., extended
Temperature (air and substrate):	50°F (10°C) minimum 90°F (32°C) maximum 70°F (21°C) optimum

This product is not intended for use in freeze-thaw exposed areas, over concrete less than 28 days old, over light weight concrete or over gypsum products.

OTHER CONSIDERATIONS

Bring all existing joints in the floor up through Penetron Standard Self-Leveling Underlayment to avoid reflective cracking. This can be accomplished by marking and outlining the in-place product after it sets or by using plastic inserts set into joints prior to placement. Make certain that the application are is sealed to avoid loss due to leakage.

Installation of a test area is recommended to determine suitability of this product for its intended use under actual job site conditions.

PACKAGING

Penetron Standard Self-Leveling Underlayment is packaged in 50 lb (22.7 kg) multi-wall bags with moisture resistant liners. Penetron Self-Leveling Primer is sold separately.

SHELF LIFE/STORAGE

This product has a nominal shelf life of 1 year from the date of manufacture when unopened bags are properly stored in a cool, dry and shaded environment.

TECHNICAL DATA

Typical laboratory test results @73°F (23°C)*

Property/ Parameter	ASTM Designation	Test Result
Time of Setting, Initial	C 191	70 minutes
Time of Setting, Final	C 191	85 minutes
Compressive Strength, 1 day	C 109 mod.	1300 psi (9.0 MPa)
Compressive Strength, 7 days	C 109 mod.	2200 psi (15.2 MPa)
Compressive Strength, 28 days	C 109 mod.	3300 psi (22.8 MPa)
Flexural Strength, 1 day	C 348 mod.	400 psi (2.8 MPa)
Flexural Strength, 7 days	C 348 mod.	700 psi (4.8 MPa)
Flexural Strength, 28 days	C 348 mod.	950 psi (6.5 MPa)

***Actual results can vary depending on field conditions.**

For estimation purposes, yield per mixed 50 lb (22.7 kg) bag is 0.48 ft² (0.014 m²). Coverage is approximately 23 ft² @ 1/4 inch (2.3 m² @ 6 mm).

WARRANTY

ICS PENETRON INTERNATIONAL LTD. warrants that the products manufactured by it shall be free from material defects and will conform to formulation standards and contain all components in their proper proportion. Should any of the products be proven defective, the liability to ICS PENETRON INTERNATIONAL LTD. shall be limited to replacement of the material proven to be defective and shall in no case be liable otherwise or for incidental or consequential damages. ICS PENETRON INTERNATIONAL LTD. makes no warranty as to merchantability or fitness for a particular purpose and this warranty is in lieu of all other warranties expressed or implied. User shall determine the suitability of the product for his intended use and assume all risks and liability in connection therewith.