

CEMENT-BASED SELF-LEVELING UNDERLAYMENT

DESCRIPTION

STANDARD UNDERLAYMENT SL is a premium, calcium aluminate based, interior, self-leveling underlayment that may be used as a wear surface in light duty applications with the appropriate sealers. Its long working time, low shrinkage and superior leveling properties make it the ideal product for many demanding interior applications, with short compatibility demands.

ADVANTAGES

- ▶ Ideal for barrel mixing or pumping applications
- ▶ Can be installed from a featheredge - 2" (5 cm) neat and to 5" (12.5 cm) properly extended with aggregate
- ▶ Maintains healing and pour merging properties for up to 20 minutes
- ▶ Fast return to service; walkable in just 1-2 hours
- ▶ Accepts common floor coverings, installed with water based adhesive, in as little as 12 hours
- ▶ Can be installed over 5-day-old Green concrete
- ▶ High early strength – 3,000 psi in just 4 h
- ▶ Will not contribute to the growth of mold or mildew
- ▶ No dangerous emissions or irritating fumes
- ▶ Environmentally friendly
- ▶ Lower alkali binder system creates an alkali barrier system from the underlying concrete when installed at $\geq 3/16"$ (5 mm) thick. This protects organic adhesives and coatings from alkali decomposition and secondary VOC emissions up to 90% RH (water of convenience).

TECHNICAL CHARACTERISTICS

Technical characteristics of STANDARD UNDERLAYMENT SL

Characteristic	Test Result			Test Method
Compressive Strength	4 hours	1 day	28 days	ASTM C-109
	3,000 (20.7 MPa)	4,500 psi (31.0 MPa)	5,500 psi (37.9 MPa)	
Flexural Strength	4 hours	1 day	28 days	ASTM C348
	-	-	>1,100 psi (7.5 MPa)	
Tensile Strength	4 hours	1 day	28 days	ASTM C 190
	-	-	>570 psi (4.0 MPa)	
Flammability	Flame Spread	Fuel Contribution	Smoke Development	ASTM E84
	0	0	0	
Set	Flow Time		Final Set	ASTM C-191 [70 °F (20 °C), 50% RH]
	20 minutes		60 minutes	

All data are average values obtained under laboratory conditions. Impractical use, temperature, humidity and absorption of the substrate may influence the above given values.

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DIRECTIONS FOR USE

Surface Preparation:

All Surfaces: Surfaces must be clean, sound, dry, 50 °F (10 °C) and free of oil, gypsum compounds, wax, grease, sealers, curing compounds, urethane, paint, asphalt, loose surface material or any contamination that will act as a bond breaker. Never use acid or mastic removers on any surface to which a Penetron flooring product will be applied.

Concrete: Weak surfaces, must be cleaned down to solid sound concrete by mechanical means such as chipping, shotblasting, grinding or scarifying.

Non-Porous: Substrate must be sound and fully bonded. Shot-blast ceramic and quarry tile substrates. Grind or shotblast Terrazzo and epoxy coatings; remove all dust prior to priming.

Wood: Prepare by sanding down to clean bare wood. Secure loose boards with deck screws and fill open seams with appropriate sealer (i.e. SURFIX™ FEP or similar). Subfloors must be minimum 3/4" (19 mm) solid hardwood, untreated, APA rated, tongue & groove, Type 1, exterior grade, plywood, OSB or equal. The subfloor must be free of deflection (minimum L/360), considering both live and dead loads. Use an approved anti-fracture membrane over STANDARD UNDERLAYMENT SL in areas where ceramic tile or stone are being installed. After priming, install 3.4 Diamond Lathe (or similar) over the entire area, overlap seams 1 inch (25.4 mm) and fasten every 6 inches (15 cm). Be sure to keep the application of STANDARD UNDERLAYMENT SL within the 24 hours open time of the PRIMER STX 100™ coat. Apply a 3/8" (9.5 mm) minimum of STANDARD UNDERLAYMENT SL.

Metal: Contact PENETRON ROMANIA for specific recommendations for application over metal.

Adhesive Residue: STANDARD UNDERLAYMENT SL can be installed over thin (translucent) sound, non-water soluble adhesive residues that are free of tack and well bonded to the substrate. The adhesive cutback needs to be prepared using the wet scrape method, (i.e. as outlined in the Resilient Floor Covering Institute booklet, "Recommended Work Practices for the Removal of Resilient Floor Coverings"). Remove all patching materials below the adhesive and avoid applications, where heat or excessive moisture will soften or degrade the adhesive.

NOTE: STANDARD UNDERLAYMENT SL is not a vapor barrier. Test per ASTM F-1869 for MVER and ASTM F-2170 for RH. If the substrate exceeds 8 lb (3.6 kg) (MVER) or 95% (RH) or the readings exceed those of a coatings, adhesive or flooring manufacturer's product that will be applied (whichever is stricter), use VB 225.

Priming:

Concrete: Dilute PRIMER STX 100™ 1:1 with clean water and apply evenly, using a nylon push broom with exploded

tips. Do a thin coat and work into surface; leave no bare spots or puddles. Broom out puddles that may form, while primer is drying (minimum 2 hours, maximum 24 hours). On very porous concrete do an initial primer application diluted 3:1 water to PRIMER STX 100™ in the same manner. Allow to dry (minimum 1 hour) before applying 1:1.

Non-porous, Wood & Adhesive Residue: Apply one coat of undiluted PRIMER STX 100™ using a 3/8" (9.5 mm) nap roller. Apply a thin film, leave no puddles or bare spots. Allow primer to dry (minimum 2 hours, maximum 24 hours).

Metal: Contact PENETRON ROMANIA for specific priming recommendations.

Mixing:

Concrete, Non-porous & Adhesive Residue: For each bag of STANDARD UNDERLAYMENT SL, add a maximum 5.5 quarts (5.2 Lt) of clean cold water into a mixing drum. Then, add bags of STANDARD UNDERLAYMENT SL, while mixing at full speed with a mixing wand attached to a heavy duty 1/2" drill (min. 850 rpm). Mix for 2 minutes or until lump free. Add NO additional water and keep the mixing wand immersed in the material to avoid entraining excess air.

Wood & Metal: The addition of ACRYLIC BONDCRETE is required to increase the resiliency of STANDARD UNDERLAYMENT SL for applications over wood and metal. Mix in the same manner, but, for each bag of STANDARD UNDERLAYMENT SL, combine 1 quart (0.9 Lt) ACRYLIC BONDCRETE and 4.5 quarts (4.3 Lt) of clean cold water.

Application:

Barreling: Pour the blended STANDARD UNDERLAYMENT SL on the floor immediately and disperse with a gauge rake followed by finishing with a smoother. Plastic athletic type cleats should be worn, when using the smoother, to avoid leaving marks. STANDARD UNDERLAYMENT SL will maintain its workability and healing for up to 20 minutes.

Pumping: Deep placements and large projects are more efficiently installed with the use of a pump. Contact PENETRON ROMANIA for instructions, recommended pumping procedures and approved equipment.

Coverage:

Approximate coverage (Yield) per 50 lb (22.68 kg) bag

1/8" (3.2 mm)	50 ft ² (4.6 m ²)
3/16" (4.8 mm)	37 ft ² (3.4 m ²)
1/4" (6.4 mm)	25 ft ² (2.3 m ²)

Installed weight per ft²

1/4" (6.4 mm)	2.08 lb (0.9 kg)
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Accepts coverings [70 °F (20 °C), 50% RH]

Thinset Ceramic Tile	4 hours
Water Based Adhesives	12 hours
Epoxy/Urethane Adhesives	16 hours
Epoxy Coatings up to 20 Mils	24 hours
Epoxy Coatings over 20 Mils	3-5 days

NOTE: Application temperature range is 50 – 95 °F (10 – 35 °C). Above 85 °F (30 °C) use ACI Hot-Weather Application Guidelines. Cooler temps, inadequate ventilation and higher humidity can extend drying times.

Contact PENETRON ROMANIA for project specific extension instructions.

SPECIAL CONSIDERATIONS

During application and for the first 24 hours, prevent excessive air movement, but maintain adequate ventilation and protect material from direct sunlight. These variables can cause uneven curing patterns, a false set, and cracking. STANDARD UNDERLAYMENT SL is self-curing; no wet curing methods or cure and seals should be used.

Substrate must have a minimum direct tensile bond test reading of 72 psi (5 bar) per ASTM C-1583-04.

Do not install over Gypsum underlayment – contact PENETRON ROMANIA for specific recommendations over gypsum underlayments.

Expansion and isolation joints must be reflected through STANDARD UNDERLAYMENT SL.

Application tools: Mixing drum, mixing paddle, depth gage spreader, surface smoother, ½" heavy duty drill. Clean with water immediately after use prior to materials hardening.

Contact PENETRON ROMANIA regarding project specific warranties.

PACKAGING

STANDARD UNDERLAYMENT SL is available in 50 lb (22.68 kg) bags.

STORAGE / SHELF LIFE

STANDARD UNDERLAYMENT SL storage life is at least 6 months from the manufactured date. Always keep in cool/dry place unexposed to sunlight.

SAFE HANDLING INFORMATION

Wear appropriate eye, skin and breathing protection when using this product. In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. For further information please refer to Material Safety Data Sheet. KEEP OUT OF REACH OF CHILDREN.

WARRANTY - DISCLAIMER

BEST IMPORT PRODUCTS PENETRON warrants that its products are manufactured under certified ISO Standard procedures, are of excellent quality and shall be free from material defects and contain all components in their proper proportion. Should any of the products be proven defective, the liability to BEST IMPORT PRODUCTS PENETRON shall be limited to replacement of the material proven to be defective, since the standard application procedures have been met and the suitability of the product for the particular application have been proven. BEST IMPORT PRODUCTS PENETRON makes no warranty as to merchantability of fitness for a particular purpose. User, after contacting the distributor of the product, shall determine the suitability of the product for his intended use and assume all risks and liability in connection therewith. While every care has been taken, the information provided in this product's data sheet make no part of any contract. All recommendations, technical data and test data contained in this product's data sheet are based upon the results of control laboratory tests or in actual field tests. However, BEST IMPORT PRODUCTS PENETRON makes no warranty of any kind, concerning this data. In any case, this data are given in good faith based in the BEST IMPORT PRODUCTS PENETRON experience, till the publication of this sheet. Due to variance in storage, handling and applications of the materials, BEST IMPORT PRODUCTS PENETRON accepts no liability for the results obtained. It is suggested that potential users try small applications to determine the suitability of each individual product for their specific requirements. The users should always refer to the most recent edition of the product's data sheet. BEST IMPORT PRODUCTS PENETRON may particularly differentiate its versions of the product's data sheet compared with those of PENETRON INTERNATIONAL LTD or respective PENETRON companies worldwide. These changes are due to text formatting, different application weathering and procedures or different product names and aim at the optimal consumer information.

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