PDS PRODUCT DATA SHEET

PREMIUM UNDERLAYMENT SL

SUPERIOR CEMENT-BASED SELF-LEVELING UNDERLAYMENT

PENETRON® TOTAL CONCRETE PROTECTION

DESCRIPTION

PREMIUM UNDERLAYMENT SL is a Calcium Aluminate based, self curing, self leveling floor underlayment that is used to create a level, flat and durable surface prior to the installation of finished floor coverings. Mixed with water only, PREMIUM UNDERLAYMENT SL's Ethylene-Vinyl Acetate binding system creates an excellent bond to virtually any substrate and can be installed from featheredge up to 1 ½" (3.8 cm) neat and up to 5" (13 cm) extended with aggregate. PREMIUM UNDERLAYMENT SL provides a substrate which can accept ceramic tile and natural stone within 3-4 hours after application. Finished floor coverings such as carpet, VCT, Vinyl sheet goods, rubber, epoxy, and engineered wood plank can be installed in as little as 24 hours.

APPLICATION

- Plywood
- Concrete
- Terrazzo
- Steel decking
- Well bonded Cut-Back adhesive
- Ceramic or Quarry Tile

ADVANTAGES

- PREMIUM UNDERLAYMENT SL is suitable for use on all residential, commercial, and institutional applications.
- Ideal for pumping and barrel mixing applications.
- Maintains healing properties for over 25 minutes.
- Water Resistant - Non Gypsum based.
- Contains no protein additives.
- Can be applied from featheredge to 5" (13 cm).
- High early strength, walkable in just 3-4 hours.
- No dangerous emissions or irritating fumes.
- Lower alkali binder system creates an alkali barrier system from the underlying concrete when installed at ≥ 3/16" (5mm) thick. This protects organic adhesives and coatings from alkali decomposition and secondary VOC emissions up to 90% Rh (water of convenience).
- Contains zero volatile organic content and is safe for use both outdoors and in confined indoor spaces.

DIRECTIONS FOR USE

Surface Preparation:

NOTE: PREMIUM UNDERLAYMENT SL should not be installed over gypsum, latex patches, asphalt, coal tar, or lightweight insulating concrete.

Concrete Floors: Substrate must be well-bonded and completely clean; free of oil, wax, grease, sealers, curing compounds, asphalt, paint, dirt, loose surface material and any contaminate that will act as a bond-breaker. Weak concrete surfaces must be cleaned down to solid sound concrete by mechanical means. Acid etching or chemical cleaning is not acceptable. Expansion Joints in the concrete substrate must be reflected through the applied layer of PREMIUM UNDERLAYMENT SL.

Over Cutback and Adhesive Residue: Cutback and adhesives may contain asbestos fibers whose inhalation is harmful. Consult government agencies for rules concerning the removal of asbestos containing flooring and adhesives. Mechanically remove adhesive residue to a translucent, clean, well bonded film. PREMIUM UNDERLAYMENT SL can be installed over non-asbestos adhesives if the residue is solid, well bonded to the substrate and not affected by water. Avoid applications where heat may soften the adhesive causing de-lamination.

Wood: Wooden sub-floors such as 3/4" (2 cm) tongue and groove, APA rated Type 1, Exterior Exposure plywood and parquet must be clean, free of varnish, shellac or any contaminant that hinders bond. If needed, sand down to bare clean wood. Do not use chemical cleaners. The substrate must be solid and secure to provide a rigid base. Any moving boards should be renailed and open joints filled with a feather edge patch. Prime the substrate as outlined in "Substrate Priming". Then anchor a thin galvanized expanded diamond metal lath (3.4 plaster lath) to the sub-floor, securing every 6" (15 cm) to prevent movement, over lapping adjacent pieces by 1" (2.5 cm).

Non Porous Substrates: Terrazzo, ceramic and quarry tile, burnished concrete, and epoxy coatings must be solid, well bonded, clean and free of any bond breaking contaminates such as glazes, wax, oil, sealers etc. Surfaces must be mechanically abraded until a "profile" is obtained. Vacuum all debris, dust and loose material prior to installing the primer.

Steel Decking: All metal sub-floors must be clean and free of rust, oil, grease, and all other contaminants. Steel decking must be structurally sound and properly anchored. Metal foils must be completely bonded to the substrate. Sandblast, wire brush or use other mechanical methods to remove rust and other contaminants from the surface of the metal. For steel decking, paint the surface with an anti-corrosive coating to prevent rust from recurring. Aluminum, copper and lead do not require this treatment.

Priming:

Concrete: All substrates must be clean and dry before primer is applied. Sub-floor temperature must be at least 50°F (10°C). One gallon (3.8 L) of PRIMER STX 50 (for non-porous surfaces use PRIMER STX 100) mixed with one gallon of clean potable water will cover approximately 350-400 sq. ft. (32-37 m^2) of floor area. Primer must be applied evenly with a nylon push broom with exploded tips. DO NOT use paint rollers, mops, or spray equipment. Apply a thin primer layer leaving no bare spots, puddles or excess primer. Allow to dry to a clear, thin film (usually 3 hours, but less than 24 hours).

IMPORTANT: PREMIUM UNDERLAYMENT SL must be applied within 48 hours of priming to insure that a good bond is achieved between primer and substrate.

Non-porous Sub-floors, Wood, and Cutback: Prime with PRIMER STX 100. Apply one coat of undiluted PRIMER STX 100 using a 3/8" nap roller. Apply a thin film, leave no puddles or bare spots. Allow primer to dry (minimum 2 hours, maximum 24 hours).

Metal: Contact your Penetron Representative for specific priming recommendations.

Mixing and Installation:

IMPORTANT: To insure installation success, be sure to test a small area for compatibility, bond strength and performance.

NOTE 1: Before application, close all doors, windows and protect from direct sunlight. These variables can cause uneven curing patterns.

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NOTE 2: Penetron International, Ltd. also recommends setting up a "mixing station" where all product mixing takes place. Dusting usually occurs in the area where the product is mixed and could have a negative affect on the product's bond to the substrate. Limiting the areas where mixing occurs can assure that the floor will be kept clean and "Bond-Breaker" free.

Manual Installation: Mix 2-bags of PREMIUM UNDERLAYMENT SL at a time. For each bag add 6.0 to a maximum 6.5 quarts (5.7 to 6 L) of clean potable water into a mixing drum. Then, add the bags of PREMIUM UNDERLAYMENT SL while mixing at full speed with a paddle mixer attached to a heavy duty 1/2" drill (min. 650 rpm). Mix completely for a minimum of 2-3 minutes until lump free, adding no additional water.

Over wood, cutback, metal and non-porous sub-floors the addition of ACRYLIC BONDCRETE is required to increase the resiliency of PREMIUM UNDERLAYMENT SL. Mix 2 quarts (1.9 L) of ACRYLIC BONDCRETE with 5 quarts (4.7 L) of water for each bag of PREMIUM UNDERLAYMENT SL used and combine as outlined above.

Pour the blended PREMIUM UNDERLAYMENT SL on the floor and disperse with a gauge rake, followed by smoothing the material with a smoother. Cleated shoes must be worn to avoid leaving marks. PREMIUM UNDERLAYMENT SL will maintain its workability and leveling properties for 25 minutes.

Pumping: Please contact Penetron Penetron International, Ltd. for instructions on recommended pumping procedures and equipment.

Extension:
PREMIUM UNDERLAYMENT SL can be installed up to 5" (13 cm) thick when extended with aggregate. Please contact Penetron International, Ltd. technical service department regarding job specific extension procedures.

Curing:
PREMIUM UNDERLAYMENT SL is self curing self leveling underlayment. Do not use damp curing methods or curing and sealing compounds. PREMIUM UNDERLAYMENT SL is walkable within 3-4 hours after installation. Protect PREMIUM UNDERLAYMENT SL from excessive heat conditions during its initial curing stage. Turn off all forced ventilation and radiant heat systems for the first 24 hours.

APPLICATION TOOLS

Mixing drum, mixing paddle, depth gage spreader, surface smoother, ½" heavy duty drill.

CLEAN UP

Clean tools with water immediately after use prior to material hardening.

SPECIAL CONSIDERATIONS

Contact your Penetron International, Ltd. representative regarding project specific warranties.

PACKAGING

Bags (50 lb/22.7 kg) and Super Sacks.

STORAGE / SHELF LIFE

12 months from the manufactured date. Always keep in cool/dry place unexposed to sunlight.

TECHNICAL DATA

Compressive Strength (ASTM C-109):

4 Hours	1500 psi (10.3 MPa)
1 day	3000 psi (20.7 MPa)
7 day	4500 psi (31.0 MPa)
28 day	5000 psi (34.5 MPa)

Flexural Strength (ASTM C348):

28 Days	1100 psi (7.6 MPa)

Set Times (ASTM C191):

Working Time	30 minutes
Initial Set	50 minutes
Final Set	55 minutes

Density:
Approx. 120-125 lbs per cu. ft. (1.9-2.0 kg/L)

Flammability (ASTM E84):

Flame Spread	-0-
Fuel Contribution	-0-
Smoke Development	-0-

Approximate Coverage (Yield) per 50 lb Bag:

1/8" (3 mm)	50 sq. ft.
1/4" (6 mm)	25 sq. ft.

NOTE: Cooler temps, inadequate ventilation and higher humidity can extend drying times.

SAFE HANDLING INFORMATION

Refer to the MSDS before using this product.

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11
PREMIUM
UNDERLAYMENT SL
for the structural and non-structural protection and repair of concrete structures

Compressive strength:
Class R3 (≥ 25 MPa)
Chloride content:< 0,10 % by mass
Adhesive bond: NPD
Restrained shrinkage, expanding: NPD
Elastic modulus: NPD
Thermal compatibility (Part 1):NPD
Corrosion behaviour: deemed to have no corrosive effect
Dangerous substances: NPD
Reaction to fire: NPD

WARRANTY

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 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. **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 its intended use and assume all risks and liability in connection therewith.

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