

LEVELINE[®] LITE

LIGHTWEIGHT, CALCIUM ALUMINATE, CEMENT-BASED, SELF-LEVELING UNDERLAYMENT

DESCRIPTION

LEVELINE[®] LITE is a lightweight, fast-setting, Calcium Aluminate, cement-based, interior, self-leveling underlayment for use in areas where normal weight levelers or concrete would exceed allowable dead loads.

LEVELINE[®] LITE may be used as the final substrate for finished flooring and can be installed from 1/4" to 2" (0.6-5 cm) neat in a single lift or up to 6" (15 cm) in multiple lifts. Finished flooring can be installed after 24 hours.

APPLICATIONS

Where floors need to be level and flat
For interior use only
Added weight is a concern

ADVANTAGES

Ideal for barrel mixing or pumping applications
Can be installed from 1/4" to 2" (0.6-5 cm) neat and to 6" (15 cm) in multiple lifts
Maintains healing and pour merging properties for up to 20 minutes
Lightweight - cured density of less than 80 lb/cu ft (1282 kg/m³) and does not require any light-weight aggregate or fill
Can be used as the final substrate for finished flooring
Calcium Aluminate base allows for reduced shrinkage and rapid strength
No dangerous emissions or irritating fumes
Can contribute points to LEED certified projects
Is not gypsum-based and thus water resistant, preventing support of mold or mildew
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 DATA

Compressive strength (ASTM C109):

1 day	2000 psi (13.8 MPa)
7 days	3500 psi (24.1 MPa)
28 days	3650 psi (25.2 MPa)

Flammability (ASTM E84):

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

Approximate coverage (Yield) per 25-lb (11.3-kg) bag:

1/4" (6 mm)	25 sq ft (2.3 m ²)
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Installed weight:

1/4" (6 mm)	<1.66 lb per sq ft (8.1 kg per m ²)
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Cured density:

<80 lb per cu ft (1282 kg per m ³)

Application temperature range:

50°-95°F (10°-35°C)

NOTE: Above 85°F (29°C), use ACI Hot-Weather Application Guidelines

Set (ASTM C191; 70°F (21°C), 50% RH):

Flow time	20 minutes
Final set	60 minutes

Accepts coverings (70°F (21°C), 50% RH):

Thinset ceramic tile	24 hours
Carpet, wood, VCT	24 hours

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

STORAGE / SHELF LIFE

This product has a nominal shelf life of 6 months from the date of manufacture, when unopened bags are properly stored in a cool, dry, and shaded environment.

PACKAGING

25-lb (11.3-kg) bags / 100 bags per pallet; 2000-lb (907-kg) Super Sacks.

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QUALITY CONTROL: The Fail-Safe System

Due to the many variables that can affect consistency and flow in all leveling products, it is recommended that the Penetron SP Fail-Safe system be incorporated when mixing the LEVELINE® Lite.

Please obtain a Fail-Safe kit from your Penetron representative prior to mixing.

- To ensure proper consistency and performance, the flow of the material using the Fail-Safe ring should never exceed 11.5 inches (29 cm).
- As a baseline, mix a 2-bag batch. For each bag, start with 4.5 qt (4.3 l) of water per bag, holding 0.5 qt (0.47 l)/bag in reserve.
- Mix to a smooth lump-free consistency and check flow with the Fail-Safe ring. If more flow is desired, slowly add reserve water until the desired flow is achieved, never to exceed 11.5 inches (29 cm) of flow or the water to exceed 5 quarts (4.7 l) per bag.
- Determine the water required to get the desired flow and monitor batches using the Fail-Safe method, making adjustments as necessary to achieve the desired flow, not to exceed 11.5 inches (29 cm).
- For pumping installations, the mixed material at the end of the hose should produce the same result as the baseline test.

DIRECTIONS FOR USE

Surface preparation:

NOTE: LEVELINE® LITE is not a vapor barrier. Test per ASTM F1869 for Moisture Vapor Emission Rate (MVER) and ASTM F2170 for RH. If the substrate exceeds 8 lb (3.6 kg) MVER or 95% RH or the readings exceed those of a coating, adhesive or flooring manufacturer's product that will be applied (whichever is stricter), use VB 225™.

All surfaces: Surfaces must be clean, sound, dry, and free of oil, gypsum compounds, wax, grease, sealers, curing compounds, urethane, paint, asphalt, loose surface material or any contaminants 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, shot-blasting, grinding or scarifying.

Non-porous: Substrate must be sound and fully bonded. Shot-blast ceramic and Quarry tile substrates. Grind or shot-blast Terrazzo and epoxy coatings; remove all dust prior to priming. LEVELINE® LITE is not a wear surface and should not be installed over Gypsum underlayment.

Priming:

Concrete: For porous substrates, dilute PRIMER STX 50™ or PRIMER STX 100™ 1:1 with clean water and apply evenly using a nylon push broom with exploded tips. Apply 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 50™ or PRIMER STX 100™ in the same manner. Allow to dry (minimum 1 hour) before applying 1:1.

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 (1 to 3 hours, maximum 24 hours).

Mixing:

LEVELINE® LITE should be mixed 3 bags at a time. For each bag, add a maximum of 5 quarts (4.7 l) of clean cool water into a mixing drum. Add bags of LEVELINE® LITE while mixing at full speed, using a mixing wand with a heavy duty 1/2" drill (min. 650 rpm). Mix completely for approximately 2 minutes or until lump free. Keep mixing wand immersed in material to avoid entraining excess air. Do not add any additional water.

Installation:

Manual: Immediately pour the blended LEVELINE® LITE on the floor and disperse with a gauge rake followed by smoothing the material with a smoothing paddle. Plastic athletic type cleats should be worn when using smoother to avoid leaving marks. LEVELINE® LITE will maintain its workability and leveling properties for 20+ minutes.

Pumping: Deep placements and large projects are more efficiently installed with the use of a pump. Contact your Penetron Specialty Products representative for instructions, recommended pumping procedures and approved equipment.

Deep fill: Due to its unique lightweight technology, LEVELINE® LITE is often poured deep. If barreling, blocking will be necessary to contain the very fluid material in manageable sized sections. The blocking can be pulled as soon as the material takes its initial set. If the area is being "leveled," use leveling pins and an auto-level or rotary laser to set pin heights. Normally the pins are set in a grid pattern anywhere from 3 to 5 feet (0.9-1.5 m) apart, depending on the tolerance of level trying to be achieved. The leveling pins should remain in the applied cement.

Keep the base pours approximately 1/4" to 3/8" (0.6 to 1 cm)

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below the tops of the pins. The final finish coat will move quickly and leave the best surface. Base pours cannot exceed 2" (5 cm) in a single application. After applying a base pour, wait 12-16 hours and re-prime the surface with one coat of PRIMER STX 50™ or PRIMER STX 100™ 1:1 as outlined in "Priming." If additional pours are required, repeat process to a maximum of 6" (15 cm).

APPLICATION TOOLS

Mixing drum, mixing paddle, depth gage spreader, surface smoother, 1/2" heavy duty drill, and approved pumping equipment.

CLEAN UP

Clean with water immediately after use prior to materials hardening.

SPECIAL CONSIDERATIONS

- During application and for 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. LEVELINE® LITE 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 (0.5 MPa), per ASTM C1583.
- Do not install over Gypsum underlayment - contact your Penetron Specialty Products Inc. for specific recommendations over Gypsum underlayments.
- Expansion and isolation joints must be reflected through LEVELINE® LITE.
- Contact your Penetron Specialty Products Inc. representative regarding project specific warranties.

JOB MOCKUPS

The manufacturer requires that when its Penetron Specialty Products are used in any application or as part of any system that includes other manufacturers' products, the contractor and/or design professional shall test all the system components collectively for compatibility, performance and long-term intended use in accordance with pertinent and accepted industry standards prior to any construction. Written documentation of the tests performed shall be satisfactory to the design professional and contractor. Test results must include the means and methods of application, products used, project specific conditions being addressed, and standardized tests performed for each proposed system or variation.

SAFE HANDLING INFORMATION

Before using this product, refer to the SDS that can be found on our website penetransp.com.

Avoid contact with eyes and wear suitable protective eye wear. Avoid

prolonged or repeated contact with skin. Wear gloves and suitable protective clothing. Do not breathe dust. In case of insufficient ventilation, wear respiratory equipment.

Waste disposal method: This product, when discarded or disposed of, is not listed as a hazardous waste in federal regulations. Dispose in a landfill in accordance with local regulations.

KEEP OUT OF REACH OF CHILDREN

WARRANTY: PENETRON SPECIALTY PRODUCTS INC. 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 SPECIALTY PRODUCTS INC. 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 SPECIALTY PRODUCTS INC. 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.

This Product Data Sheet has been prepared in good faith on the basis of information available at the time of publication. It is intended to provide users with information about and guidelines for the proper use and application of Penetron Specialty Products under normal environmental and working conditions. Because each project is different, PENETRON SPECIALTY PRODUCTS INC. cannot be responsible for the consequences of variations in such conditions, or for unforeseen conditions.

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