

SURFIX™ FEP

HIGH-PERFORMANCE, CEMENT-BASED, SKIM COATING & PATCHING COMPOUND

DESCRIPTION

SURFIX™ FEP is a cement-based, rapid-setting, feather edge patching and skim material used to smooth subfloors prior to the installation of finish floor covering. It is compatible with all adhesives approved for use over concrete surfaces and results in an ultra-smooth finish. SURFIX™ FEP's creamy consistency, exceptional coverage, and tenacious bond are ideal in the preparation of concrete, wood, cement-based terrazzo, ceramic and quarry tile, cutback and non-water soluble adhesive residue for flooring.

APPLICATIONS

Suitable for use on all residential, commercial, and institutional applications

Smooth subfloors prior to final flooring

Patching and skim coating all substrates

Transitions, low spots and doorways

Embossing - when mixed with ACRYLIC BONDCRETE

Install over gypsum-based underlayment with PRIMER STX 100™

ADVANTAGES

Tenacious bond to a wide variety of substrates

Accepts many floor coverings in as little as 15 to 20 minutes

Creamy smooth workability

Exceptional coverage and cost effective

Can be retempered without the addition of water

No dangerous emissions or irritating fumes

Will not contribute to the growth of mold or mildew

Environmentally friendly. May be LEED eligible; visit www.penetronsp.com for LEED contributions document

Can be applied in conditions up to 99% RH (per ASTM F2170 / Internal Relative Humidity Testing)

TECHNICAL DATA

Flammability (ASTM E84):

Flame spread	-0-
Fuel contribution	-0-
Smoke development	-0-

Approximate coverage (Yield) per 10-lb (4.5-kg) bag:

Skim up to 400 ft² (37 m²)

Installation thickness:

Feather edge up to 1/2" (1.3 cm)
Any thickness in small defined areas

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):

Working time	15 minutes
Final set	30 minutes

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

Water-based adhesives for carpet, VCT, vinyl sheet goods, etc.: As soon as skim or patch can be worked on without damaging the surface.

Moisture sensitive adhesives (urethane and epoxy): 16 hours.

Color:

Gray

NOTE: Cooler temperatures and higher humidity can extend drying times. All data derived from tests under laboratory conditions; field conditions may yield slightly different results.

SHELF LIFE / STORAGE

6 months from the date of manufacture, when unopened bags are properly stored in a cool, dry place, unexposed to moisture and sunlight.

PACKAGING

10-lb (4.5-kg) bags, 4 to a box.

DIRECTIONS FOR USE

SURFIX™ FEP is not a vapor barrier. Penetron Specialty Products recommends testing per ASTM F1869 for Moisture Vapor Emission Rate (MVER) and ASTM F2170 for RH. If the readings exceed those of a coating, adhesive or flooring manufacturer's product that will be applied (whichever is stricter), use VB 225™ prior to installation.

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Surface preparation:

All surfaces: Surfaces must be clean, sound, dry, minimum 50°F (10°C), and free of oil, gypsum compounds, wax, grease, sealers, coatings, curing compounds, urethane, paint, asphalt, dirt, loose surface material or any contaminant that will act as a bond breaker. Never use acid or mastic removers on any surface that a Penetron Specialty Products material will be applied. Honor all existing expansion joints, control joints and moving cracks. Failure to do so could result in delamination or cracking of the SURFIX™ FEP.

NOTE: When using as an embossing filler or installing over gypsum underlayment, follow the procedures for surface preparation and priming that are detailed in the "Installation" section.

Concrete: Weak surfaces must be cleaned to solid, sound concrete by mechanical means, such as chipping, shot-blasting, grinding or scarifying; remove all dust by sweeping and vacuuming.

Non-porous: Abrade ceramic, quarry tile and cement-based terrazzo substrates to a dull finish; remove all dust by sweeping and vacuuming, followed by damp mopping. Allow to dry before priming.

Wood: Prepare by sanding to clean bare wood and secure loose boards with deck screws. Subfloors must be minimum 3/4" (2 cm) 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.

Metal: Contact Penetron Specialty Products Technical Support for specific recommendations for application over metal.

Adhesive residue: SURFIX™ FEP can be installed over thin (translucent) sound, non-water soluble adhesives that are free of tack and well-bonded to the substrate. The adhesive cutback needs to be prepared using the wet scrape method 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. If adhesive inter reaction, migration or staining are a concern, install an approved Penetron Specialty Products self-leveling underlayment.

Priming:

Concrete: Usually, no primer is needed; when installing on very porous concrete, use PRIMER STX 50™ or PRIMER STX 100™ 3:1 (3 parts clean water to 1 part PRIMER STX). Apply evenly and aggressively work the material into the surface, using a clean push broom. Apply a thin coat and work into surface; leave no bare spots or puddles. Broom out puddles that may form while PRIMER STX is drying (minimum 1 hour, maximum 24 hours). Next, apply an additional PRIMER STX coat diluted 1:1 in the same manner and allow to dry (minimum 1 hour, maximum 24 hours).

Non-porous, wood & adhesive residue: Apply 1 coat of undiluted PRIMER STX 100™ using a 3/8" nap roller. Apply a thin film, leave no puddles or bare spots. Allow PRIMER STX 100™ to dry (minimum 1 hour, maximum 24 hours).

Metal: Contact Penetron Specialty Products Technical Support for specific priming recommendations.

Mixing:

Mix an amount of SURFIX™ FEP that can be placed within 15 minutes at 70°F (21°C). Higher temperatures will shorten working time, and cooler temperatures will prolong it. Place approximately 1 part clean cool water into a mixing pail, then add 2 parts SURFIX™ FEP and mix to a lump free consistency. A mixing paddle and 1/2" light duty drill will result in a better consistency and save time. Smaller quantities can be mixed by hand.

Water requirements: 2.5-2.75 qt (2.4-2.6 l) per 10 lb (4.5 kg) bag (1 part water to 2 parts powder).

Installation:

Concrete, non-porous & wood: Use a steel finishing trowel when applying SURFIX™ FEP to the properly prepared substrate. Force the material into all voids; there is no minimum thickness required.

Metal: Contact Penetron Specialty Products Technical Support for specific installation recommendations.

Embossing filler: Existing felt-backed, embossed residential sheet vinyl must be clean and free of wax, grease, sealer or any other contaminant. The flooring must be solid, have been installed over a suitable substrate and must not show any signs of moisture or alkaline salts. Do not use as an embossing filler over cushion-backed flooring thicker than .08" (2 mm) or over sheet flooring installed using the perimeter bond method. Lightly sand surface to a dull finish, but do not sand through the wear layer. Remove all dust by damp mopping and allow surface to dry completely. Mix 2 parts SURFIX™ FEP to 1 part undiluted ACRYLIC BONDCRETE. Mix to a creamy consistency using a margin trowel or mixing paddle and drill. Apply SURFIX™ FEP to the prepared sheet vinyl using a steel finishing trowel in the thinnest possible layer that will fill the existing embossing. If additional smoothing is required, allow the first coat to dry completely (approximately 60-90 minutes) or when a twist on the ball of your foot does not damage the surface. For the second coat, mix SURFIX™ FEP as before, but dilute 1 part ACRYLIC BONDCRETE with 3 parts water and allow to dry before applying finished floor product to the new surface. The substrate is now considered non-porous and only an adhesive that is approved for this type of application should be used.

Gypsum underlayment: Thoroughly sand and vacuum the existing gypsum underlayment and apply 2 coats of PRIMER STX 100™. Dilute the first coat 1 part PRIMER STX 100™ to 3 parts

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water. Apply liberally and aggressively work the material into the surface using a clean push broom, allowing the PRIMER STX 100™ to toughly penetrate the substrate. Continually broom to a thin film while the PRIMER STX 100™ is drying; leave no puddles or bare spots. Allow the first coat to dry for a minimum of 2 hours. Dilute the second coat 1 part PRIMER STX 100™ to 1 part water and apply same as above. Allow PRIMER STX 100™ to dry (minimum 1 hour, maximum 24 hours) before applying SURFIX™ FEP.

NOTE: The SURFIX™ FEP application will provide a sound surface for flooring to bond, but it will not change the integrity of the gypsum underlayment substrate.

Contact Penetron Specialty Products Technical Support for additional information and recommendations on any surface not specifically listed on this Product Data Sheet. Installation videos can be found on the Penetron Specialty Products website: www.penetronsp.com.

Curing:

SURFIX™ FEP is self-curing. Do not use damp curing methods or curing and sealing compounds. Protect from excessive heat, cold, direct sunlight and forced air movement conditions during its initial curing stage and for the first 24 hours. These variables can cause uneven curing patterns, a false set, and cracking.

APPLICATION TOOLS

Mixing pail, mixing paddle, 1/2" light duty drill and hand trowels.

CLEAN UP

Clean all tools and equipment with water immediately after use, prior to material hardening.

SPECIAL CONSIDERATIONS

- Penetron Specialty Products recommends installing a test area, ensuring suitability of SURFIX™ FEP for intended use
- Do not install if the substrate moisture vapor content (RH) or surface moisture vapor transmission rate (Calcium Chloride) exceeds flooring manufacturer's recommendations
- Do not use for exterior applications
- Substrate must have a minimum direct tensile bond test reading of 72 psi per ASTM C1583
- This product is ready to use with the addition of water. DO NOT add any materials or additives to mixture other than those described above

JOB MOCKUPS

Penetron Specialty Products recommends that, when our products are used in any application or as part of any system that includes other manufacturers' products, the installer 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 installation. Written documentation of the tests performed shall be satisfactory

to the design professional and installer. 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, review the SURFIX™ FEP Safety Data Sheet (SDS) that can be found on the Penetron Specialty Products website: www.penetronsp.com. Avoid contact with eyes and wear suitable protective eyewear. 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. For additional information regarding first aid and emergency procedures, refer to the product Safety Data Sheet (SDS).

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 PENETRON SPECIALTY PRODUCTS INC. 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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