

TechLevel-WSF Fiber Reinforced Self-Leveling Underlayment for Wood Subfloors

1 Product Name

TechLevel-WSF Fiber Reinforced Self-Leveling Underlayment for Wood Subfloors

2 Manufacturer

Custom Building Products
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3 Product Description

TechLevel-WSF SLU is a high flow, fiber reinforced calcium aluminate cement based, self-leveling underlayment that eliminates the need for reinforcing lath over plywood and OSB on interior wood framed subfloors. It produces a smooth, level substrate ready for the installation of ceramic and natural stone tile, wood, carpet, and other resilient floor coverings. Formulated with Controlled Cure Technology™, TechLevel-WSF SLU helps eliminate installation problems such as slow drying, bond failure, crumbling, and staining of resilient flooring caused by the free moisture found in traditional underlayment.

Key Features

- No lath required for plywood and OSB subfloors
- High strength for 1/4" to 1.5" nominal pours
- Low Prep Formula; Just Sweep, Prime & Pour- no sandblasting required on acceptable surfaces
- Compatible with most radiant heating systems
- Exceeds TCNA and ASTM requirements for ceramic tile and resilient floor covering installations
- High flow formula has excellent handling and exceptional flow retention properties

Uses

Suitable as an Underlayment for:

- Carpet, Wood, wood parquet, luxury vinyl tile (LVT), vinyl composition tile (VCT), Sheet vinyl flooring, Laminated flooring,
- Vitreous, semi-vitreous or non-vitreous ceramic tile; mosaic, quarry or cement body tile; impervious porcelain and glass tile
- Natural stone tile
- Terrazzo



Suitable Substrates

- APA rated 3/4" (18mm) T&G Type 1 exterior exposure plywood or OSB equivalent over 16" joists for most finishes (An additional plywood layer and/or floor support may be required for dimensionally weaker finishes such as natural stone, Saltillo, cement and glass tiles.)
- Concrete
- Gypsum-based underlayment
- Existing ceramic tile
- Cement terrazzo or epoxy terrazzo
- Cutback adhesive residue resilient flooring

Composition of Product

TechLevel-WSF™ is a proprietary dry blend of copolymers, cements, and inorganic chemicals and fiber reinforcement.

Benefits of Product in the Installation

- No lath required for wood frame and OSB subfloors
- No shot blasting required on acceptable surfaces
- Can be applied from 1/4" to 1.5" thick in a single pour
- Reduces bond failure and crumbling of resilient flooring
- Cures fast and develops high early-strength for quick installation
- Rated for extra heavy use on concrete per ASTM C627

Limitations to the Product

- For interior use only.
- Do not install when the temperature is below 50° F (10° C), or above 90° F (32° C).
- Do not bond directly to hardwood, Luan plywood, particle board, parquet, cushion or sponge-back vinyl flooring, metal, fiberglass or plastic. Contact technical services for recommendations.
- Do not use as a permanent wear surface.
- Do not use on sloped surfaces that require drainage.
- Precautions should be taken when applying over post-tensioned concrete, pre-stressed concrete or prefabricated concrete planks. Contact technical services for further details.

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4 Technical Data

Applicable Standards

ASTM International (ASTM)

- ASTM C1708 Standard Test Methods for Self-leveling Mortars Containing Hydraulic Cements
- ASTM C627 Standard Test Method for Evaluating Ceramic Floor Tile Installation Systems Using the Robinson-Type Floor Tester
- ASTM F1869 Standard Test Method for Measuring Moisture Vapor
- ASTM F710 Standard Practice for Preparing Concrete Floors to Receive Resilient Flooring Resilient Floor Covering Institute (RFCI) Recommended Work Practices for Removal of Resilient Floor Coverings

Tile Council of North America (TCNA) TCNA Handbook for Ceramic Tile Installation, TCNA Method EJ171

American National Standards Institute (ANSI) ANSI A108.01 and A108.02 of the American National Standards for the Installation of Ceramic Tile

Technical Chart

Property	Test Method	Typical Results (@700F (210C) and 50%RH)
Pot Life		15 Minutes
Flow Time	ASTM C-1708	20 minutes
Compressive Strength at 28 days	ASTM C-1708	>3,500 psi
Flexural Strength at 28 days	ASTM C-1708	>800 psi (5.5 MPa)
Walkable Hardness		2-4 Hours
Time Before Installing Floor Covering Ceramic Tile		Typically 4 Hours
Other Floor Covering		Typically 16 Hours

Environmental Consideration

Custom® Building Products is committed to environmental responsibility in both products produced and in manufacturing practices.

Use of this product may contribute to LEED® certification.

5 Instructions

General Surface Prep

All surfaces must be structurally sound, clean, dry and free from contaminants that would prevent a good bond. Concrete must be fully cured. Refer to final flooring manufacturer's requirements for maximum moisture vapor transmission limitations. Concrete surfaces should be primed with an appropriate CustomTech™ primer. Smooth concrete surfaces, existing glazed tile, terrazzo, or polished stone may need to be roughened or scarified or primed with [MBP - Multi-Surface Bonding Primer](#)

For increased performance in demanding applications, concrete surfaces can be mechanically profiled and prepared by shotblasting, sandblasting, scarifying, diamond-grinding or other engineered approved methods (reference ICRI CSP 3 standards for acceptable profile height).

Bonding to Cement Surfaces

Contaminants or curing compounds should be mechanically removed before installation. Concrete must be free of efflorescence and not subject to moisture beyond the floor covering manufacturers' limits or hydrostatic pressure. Concrete surfaces must have a tensile strength in excess of 200 psi (1.4 n/mm²).

Bonding to Lightweight Cement and Gypsum Surfaces

Gypsum-based underlayment must obtain a minimum 2000 psi (13.8 MP) compressive strength. The underlayment must be sufficiently dry and properly cured to the manufacturer's specifications for permanent, non-moisture permeable coverings. Surfaces must be structurally sound and subject to deflection not to exceed the current industry standards. Surfaces shall be free of all grease, oil, dirt, dust, curing compounds, waxes, sealers, efflorescence, or any other foreign matter. All Gypsum surfaces should be primed with a properly applied sealer or a primer coat of RedGard, consisting of 1 part RedGard diluted with 4 parts clean, cool water. Mix in a clean bucket at low speed to obtain a lump-free solution. The membrane can be brushed, rolled or sprayed to achieve an even coat. Apply the waterproofing coat to the floor at a rate of 300 sq. ft./gal. (27.8 sq. m/L). Drying time depends on site conditions, but is normally less than 1 hour. Extremely porous surfaces may require 2 coats. At this point, an appropriate CustomTech™ primer and TechLevel-WSF can be applied to the primed lightweight or gypsum based surface. Refer to the individual product data sheet or packaging directions for application instructions.

Bonding to Plywood Surfaces

Plywood shall be a minimum ¾" (19mm) tongue & groove, APA rated Type 1 exterior exposure plywood or OSB equivalent. Subfloors shall be structurally compliant to building codes and area usage including joist blocking or bracing, be sound, clean, dry, and free from contaminants that would prevent adhesion. Any loose or deflecting areas must be addressed prior to leveler installation. Floors may be prepared by sanding. Do not use sweeping compounds, or chemicals or solvents to clean the floor.

It is generally accepted that wood-framed substrate deflection for Porcelain tiles is limited to <L/360; natural stone <L/720. Dimensionally weaker finishes such as natural stone, Saltillo, cement, glass tile and resilient flooring installations may require additional plywood layers based on area size/span; deflection; leveler thickness and project usage, live and dead loads. Leveler may require ½" thickness to replace cement backerboard use under tile. To help prevent failures from substrate creep (sagging), install heavy dead loads such as stone countertops prior to leveler and tile or flooring installation. Refer to ANSI A108 AN-2 "General Requirements for Subsurfaces" and TCNA details for further information for tile installations or contact CUSTOM Technical Services.

Block any open spaces to prevent leveler spilling to adjoining areas. Fill joints with a CUSTOM patching compound such as [Silk Patching & Finishing Compound](#) or prefill with TechLevel-WSF SLU mixed at the minimum water level. All wood subfloors require a primer application of undiluted [TechPrime A](#).

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Bonding to Cutback Adhesive

Adhesive layers must be removed. Use extreme caution; adhesives may contain asbestos fibers. Do not sand or grind adhesive residue, as harmful dust may result. Never use adhesive removers or solvents, as they soften the adhesive and may cause it to penetrate into the substrate. Adhesive residue must be wet-scraped to the finished surface of the substrate, leaving only the transparent staining from the glue. To determine desirable results, do a test bond area before starting. Refer to the RFCI Pamphlet "Recommended Work Practices for Removal of Resilient Floor Coverings" for further information.

Priming Surface

Prime all surfaces with an appropriate CustomTech™ primer before application of TechLevel-WSF.

Joints or Cracks in Substrate

Expansion joints and cold joints, as described in ANSI A108.01, should be carried from the substrate up through the tile or flooring surface and filled with an appropriate elastomeric sealant, such as CUSTOM's® 100% Silicone Sealant. For the proper treatment of control or saw cut joints and cracks for flooring, refer to ASTM F710. For tile installations, refer to TCNA Details EJ171, F125 & F125A. Contact CUSTOM's® Technical Services for additional information.

Mixing Ratios

Mix the entire 50 lb (22.68 kg) bag of powder with 4.75 – 5.25 quarts (4.5-5.0L) of clean, cool water.

Mixing Procedures

Barrel: Mix 50 lb. (22.68 kg) bag of powder with the appropriate amount of clean, cool water. Slowly add powder to water while mixing with a heavyduty 1/2" (13 mm) electric drill and an "eggbeater" mixing paddle at minimum 650 RPM. Thoroughly mix for 2 minutes to a lump-free consistency. Do not overmix. Over-mixing or moving the mixer up and down during the mixing process could trap air, which could shorten the pot life or cause pinholes during application and curing.

Pumping: TechLevel-WSF can be pumped with a mixing pump. Adjust the water setting to obtain the optimum workability. DO NOT overwater. DO NOT underwater. Pump the mix and use spreader to evenly distribute the materials to desired thickness.

Application of Product

Apply an appropriate CustomTech™ primer according to the specifications in the respective technical data sheet for each product. Pour or pump TechLevel-WSF, then spread with a long-handled gauged spreader. TechLevel-WSF will seek its own level during the first 10-15 minutes. Can be applied 1/4" to 1.5" (0.64-3.80 cm) thick in one application. For applications thicker than 1.5", multilift pours, and pumping of large scale applications, contact Custom's® Technical Services Department for more information.

Expansion joints must be installed in accordance with local building codes and industry guidelines.

Curing of Product

Maintain temperature of between 50° F (10° C) to 90° F (32° C) and <90% relative humidity for 48-72 hours after pour. Install non-moisture-sensitive ceramic tile or stone in 4 hours; most floor coverings can be installed after 16 hours. Drying time can vary with temperature and humidity; also leveler thickness. Test for moisture content before applying vinyl or wood flooring to the surface of the self-leveling underlayment.

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Cleaning of equipment

Clean with water before material dries.

Health Precautions

See Safety Data Sheet for complete safety information. This product contains Portland cement. Avoid eye contact or prolonged contact with skin. Wash thoroughly after handling. If eye contact occurs, flush with water for 15 minutes and consult a physician. Use with adequate ventilation; do not breathe dust and wear a NIOSH approved respirator. If ingested, do not induce vomiting; call a physician immediately. Conformance to Building Codes Installation must comply with the requirements of all applicable local, state and federal code jurisdictions.

6 Availability & Cost

LOCATION	ITEM CODE	SIZE	PACKAGE
USA/Canada	TLWSF50T	50lb (22.68 kg)	Bag

Contact the manufacturer or visit custombuildingproducts.com for more information about product cost and availability.

7 Product Maintenance

Properly installed product requires no special maintenance.

8 Technical Services Information

For technical assistance, contact Custom technical services at 800-272- 8786 or contact us online.

9 Filing System

Additional product information is available from the manufacturer upon request.

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10 Related Products

Coverage

THICKNESS	TYPICAL COVERAGE
1.5" (38.1 mm)	3.77 ft ² (0.35 M ²)
1" (25.4 mm)	5.72 ft ² (0.53 M ²)
0.75" (19.05mm)	7.62 ft ² (0.7 M ²)
0.5"(12.07mm)	11.44 ft ² (1.06 M ²)
0.25"(6.35)	22.88 ft ² (2.12 M ²)

Chart for estimating purposes. Coverage may vary based on installation practices and jobsite conditions. For more sizes, use the material calculator at CustomBuildingProducts.com or contact CUSTOM Technical Services at 800-282-8786.