CustomTech™ TechLevel™ 150

1 Product Name
CustomTech™ TechLevel™ 150

2 Manufacturer
Custom Building Products
Technical Services
10400 Pioneer Boulevard, Unit 3
Santa Fe Springs, CA 90670
Customer Support: 800-272-8786
Technical Services: 800-282-8786
Fax: 800-200-7765
Email: contactus@cbpmail.net
custombuildingproducts.com

3 Product Description
TechLevel™ 150 is a premium, calcium aluminate-based, high quality self-leveling underlayment that achieves greater than 4300 psi compressive strength and incorporates low-prep technology. TechLevel 150 levels floors prior to the installation of ceramic tile, natural stone tile, resilient flooring, carpet, wood and other floor coverings. This quick setting underlayment can be applied up to 1.5" (3.8 cm) thick in one pour and seeks its own level in minutes. Formulated to have excellent compressive strength, TechLevel 150 may be applied in residential structures with floor joists up to 24" (61 cm) o.c. Formulated using Controlled Cure Technology™, TechLevel 150 helps eliminate installation problems such as bond failure, crumbling and staining of resilient flooring caused by the free moisture found in traditional underlayments.

Key Features
- Low Prep Formula; Just Sweep, Prime & Pour
- Superior Crack Resistance - Formula reduces shrinkage & minimizes cracks
- 4,300 PSI Compressive Strength
- Exceeds ASTM requirements for resilient floor covering installations
- High flow formula has excellent handling and exceptional flow retention properties
- Crack resistant

Uses
Suitable as an Underlayment for:
- Carpet
- Wood, parquet
- Vinyl composition tile (VCT)
- Sheet vinyl flooring
- Laminated flooring
- Vitreous, semi-vitreous or non-vitreous tile
- Ceramic, mosaic, quarry or cement body tile
- Impervious porcelain and glass tile
- Brick and stone veneer
- Cement-based precast terrazzo
- Natural stone tile
- Stone, terrazzo

Suitable Substrates
- Absorbent concrete
- Non-absorbent concrete
- Lightweight concrete
- Gypsum-based underlayments
- Existing ceramic tile
- Cement terrazzo
- Epoxy terrazzo
- Exterior grade plywood
- OSB
- Cutback adhesive residue
- Resilient flooring
- Properly prepared steel and aluminum

Composition of Product
TechLevel 150™ is a proprietary dry blend of copolymers, cements, and inorganic chemicals.

Benefits of Product in the Installation
- No shot blasting required on acceptable surfaces
- Can be applied from featheredge to 1.5" (3.8 cm) 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 and wood subfloors with joists to 24" (61 cm) per ASTM C627

Limitations to the Product
- For interior use only. Do not use 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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CustomTech™ TechLevel™ 150

Packaging
50 lb (22.68 kg) Bags

4 Technical Data

Applicable Standards
ASTM International (ASTM)
- 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

<table>
<thead>
<tr>
<th>Property</th>
<th>Test Method</th>
<th>Typical Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pot Life</td>
<td></td>
<td>15 minutes</td>
</tr>
<tr>
<td>Flow Time</td>
<td></td>
<td>18 minutes</td>
</tr>
<tr>
<td>Compressive Strength at 28 days</td>
<td>ASTM C-109</td>
<td>&gt;4,300 psi</td>
</tr>
<tr>
<td>Flexural Strength at 28 days</td>
<td>ASTM C-109</td>
<td>&gt;800 psi (5.5 MPa)</td>
</tr>
<tr>
<td>Walkable Hardness</td>
<td></td>
<td>2 - 4 Hours</td>
</tr>
<tr>
<td>Time Before Installing Floor Covering</td>
<td></td>
<td>4 - 16 Hours</td>
</tr>
</tbody>
</table>

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

USE CHEMICAL-RESISTANT GLOVES, such as nitrile, when handling product.

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

Bonding to Concrete 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. Lightweight concrete surfaces must have a tensile strength in excess of 200 psi (1.4 n/mm²).

Bonding to Plywood Surfaces

Plywood floors, including those under resilient flooring, must be structurally sound and must meet all industry guidelines. For questions about proper subfloor installation, call Custom Technical Services. A 2.5 lb/yd² metal lath must be fastened every 6” - 8” (15 - 20 cm) with fasteners that have a galvanized or corrosion-resistant coating over primed surface.

OSB Underlayments

OSB underlayments should be coated with 10-15 mils of RedGard® Waterproofing and Crack Prevention Membrane prior to priming with an appropriate CustomTech™ primer. A 2.5 lb/yr² metal lath must be fastened every 6” - 8” (15 - 20 cm) with fasteners that have a galvanized or corrosion-resistant coating. A minimum of 1/4” (6 mm) of TechLevel 150 can be applied over this properly prepared OSB.

Bonding to Gypsum Surfaces

Gypsum-based underlayments 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./L (7.5 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 150 can be applied to the primed lightweight or gypsum based surface. Refer to the individual product data sheet or packaging directions for application instructions. Expansion joints must be installed in accordance with local building codes and industry guidelines.

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 concrete. Adhesive residue must be wet-scraped to the finished surface of the concrete, 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.

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Priming
Prime all surfaces with an appropriate CustomTech™ primer before application of TechLevel 150.

Movement Joint Placement
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 Caulk. 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 5.25 - 5.75 quarts (5 - 5.4 L) 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 heavy-duty 1/2" (13 mm) electric drill and an "egg-beater" mixing paddle at minimum 650 RPM. Thoroughly mix for 2 minutes to a lump-free consistency. Do not overmix. Overmixing or moving the mixer up and down during the mixing process could trap air, which could shorten the pot life or cause pinholing during application and curing.

Pumping:
TechLevel 150 can be pumped with a mixing pump. Adjust the water setting to obtain the optimum workability. Do NOT overwater. 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 150, then spread with a long-handled gauged spreader. TechLevel 150 will seek its own level during the first 20 minutes. For featheredging and touch-ups, use a smoothing tool. Can be applied up to 1.5" (3.8 cm) thick in one application. If a second layer is required, install immediately after the first layer has set to a walkable hardness. If the first layer has dried over 12 hours, re-prime before second application. The surface will dry to a walkable hardness in 2 - 4 hours. For pumping and large scale applications, contact Custom's® Technical Services Department for more information.

Curing of Product
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. Test for moisture content before applying vinyl or wood flooring to the surface of the self-leveling underlayment.

Cleaning of equipment
Clean with water before material dries.
### Coverage

**SQUARE FOOT COVERAGE PER 50 LB BAG (SQUARE METER PER 22.68 KG)**

<table>
<thead>
<tr>
<th>Thickness</th>
<th>Coverage (sq ft)</th>
<th>Coverage (sq m)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/8&quot; (3.2 mm)</td>
<td>46 - 48</td>
<td>4.3 - 4.5</td>
</tr>
<tr>
<td>1/4&quot; (6.4 mm)</td>
<td>23 - 24</td>
<td>2.1 - 2.2</td>
</tr>
<tr>
<td>3/8&quot; (9.5 mm)</td>
<td>15.3 - 16</td>
<td>1.4 - 1.5</td>
</tr>
<tr>
<td>1/2&quot; (12.7 mm)</td>
<td>11.5 - 12</td>
<td>1.07 - 1.1</td>
</tr>
<tr>
<td>3/4&quot; (19 mm)</td>
<td>7.7 - 8</td>
<td>0.72 - 0.74</td>
</tr>
<tr>
<td>1&quot; (25.4 mm)</td>
<td>5.7 - 6</td>
<td>0.53 - 0.56</td>
</tr>
<tr>
<td>1 1/2&quot; (38 mm)</td>
<td>3.8 - 4</td>
<td>0.35 - 0.37</td>
</tr>
<tr>
<td>2&quot; (51 mm)</td>
<td>2.9 - 3</td>
<td>0.27 - 0.28</td>
</tr>
</tbody>
</table>

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 800-282-8766.