TechLevel-HPT High Performance Topping

1. **Product Name**

   TechLevel-HPT High Performance Topping

2. **Product Description**

   TechLevel-HPT is a High Performance, Self-Leveling Topping designed for fast-track resurfacing and smoothing of interior substrates such as concrete, porous tile and certain non- porous surfaces when properly prepared. TechLevel-HPT can be sealed to create a concrete wear surface for commercial, light industrial and residential applications. TechLevelHPT can be installed from 1/4” to 1”. TechLevel-HPT is pourable and seeks its own level to produce a smooth, flat, durable surface that hardens quickly and dries fast.

   Key Features

   - Versatile product, performs as high performance SLU or interior wear surface topping
   - Compressive strength > 6,000 psi
   - Cures fast; walkable in as little as 2 hours and accepts coatings in 24 hours
   - Crack resistant, exceptionally smooth surface

   Uses

   Suitable as an Underlayment for:

   - Carpet
   - Wood and parquet flooring
   - Luxury Vinyl Tile/Planks (LVT/LVP)
   - Vinyl composition flooring (VCT)
   - Sheet vinyl and rubber flooring
   - Laminated flooring
   - Ceramic, mosaic, quarry or cement body tile
   - Impervious porcelain and glass tile
   - Cement-based precast terrazzo
   - Natural stone tile
   - Terrazzo

   Suitable Substrates

   - Properly prepared concrete
   - Existing ceramic/porcelain tile
   - Cementitious and epoxy terrazzo

   Composition of Product

   TechLevel™ HPT is a proprietary dry blend of copolymers, cements, and inorganic chemicals.

   Benefits of Product in the Installation

   - Abrasion-resistant; holds up to traffic during construction
   - 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. Ambient, substrate and product temperature is to be between 50° F (10° C) 90° F (32° C). Chill or warm water when needed to make mixture fall between these temperatures.
   - Substrate must be suitable for project usage.
   - Do not use on sloped surfaces that require drainage.
   - Precautions regarding excessive substrate deflection should be taken when applying over post-tensioned concrete, pre-stressed concrete or prefabricated concrete planks.
   - TechLevel-HPT is a cement-based product and may require a suitable sealer, coating or paint for protection depending on service usage. The application of wax or polish in addition to a sealer may help to preserve the surface. Such materials will need to be reapplied on a regular basis.
   - Sharp, rough and hard steel objects can damage cement based toppings such as TechLevel-HPT. Use protection boards for hard wheeled traffic and heavy equipment.

   Packaging

   50 lb (22.68 kg) Bag

3. **Technical Data**

   Applicable Standards

   ASTM International (ASTM)

   - ASTM C1708 Standard Test Methods for Self-leveling Mortars Containing Hydraulic Cements
   - ASTM F2873 Standard Practice for the Installation of Self-Leveling Underlayment and the Preparation of Surface to Receive Resilient Flooring
   - ASTM C627 Standard Test Method for Evaluating Ceramic Floor Tile Installation Systems Using the Robinson-Type Floor Tester
   - ASTM F2170 Standard Test Method for Determining Relative Humidity in Concrete Floor Slabs Using in situ Probes
   - 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 @70°F (21°C) and 50%RH

CUSTOM BUILDING PRODUCTS CUSTOM® A QUIKRETE® COMPANY

TechLevel-HPT High Performance Topping

Pot Life (in bucket)		>20 minutes
Healing Time (Re-heal)	ASTM C-1708	10-15 minutes
Compressive Strength at 28 days	ASTM C-1708	>6,000 psi
Flexural Strength at 28 days	ASTM C-348	>1350 psi (9.3MPa)
Walkable Hardness		2-3 Hours
Installed Density - Dry		111.4-118.3 lb/ft^3
Robinson Test	ASTM C-627	Extra Heavy
Time Before Installing Flooring		
Typical curing time for application of most sealers or coatings		>16-24 Hours
Ceramic tile/Non-moisture sensitive floor covering		>4 Hours
Moisture-sensitive floor coverings		>16 Hours

4. 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 such as grease, oil, dirt, dust, curing compounds, waxes, sealers, efflorescence, or any other foreign matter. Concrete must be fully cured and absorb water. Approved substrates must be mechanically profiled and prepared by shot-blasting, scarifying, diamond grinding or other engineered approved methods to achieve a CSP #3 (reference ICRI CSP 3 standards for acceptable profile height).

CUSTOM® products may be used in assemblies over concrete with high moisture vapor emission levels provided that other materials such as sealers, coatings, finish flooring, adhesives or membranes are approved in these conditions. Consult the manufacturers for their limitations and requirements. Additionally, any sources of moisture are to be limited to initial concrete placement and not from sources such as water intrusion or from a lack of an effective vapor retarder/barrier.

For concrete with high moisture vapor emissions, apply Custom TechMVC™ Moisture Vapor and Alkalinity Barrier. prior to placing topping. See Priming section below regarding sand broadcast to rejection method when grinding or polishing TechLevel-HPT.

For additional questions about proper substrate preparation, call Custom Technical Services.

Additional Note: Substrates must be cured sufficiently when coatings are to be applied to the topping surface. Always perform a mockup to confirm acceptance of final appearance.

Bonding To Concrete Surfaces

In addition to general surface preparation requirements listed above, concrete must be free of efflorescence and hydrostatic pressure. Concrete surfaces must have a tensile strength in excess of 200 psi (1.4 n/mm²). Concrete that was treated with curing compounds must be evaluated for suitability or mechanically removed.

Priming

For use as a wear surface over a shot-blasted surface, use a single coat of TechPrime™ E 100%-Solids Epoxy Primer or Custom TechMVCTM Moisture Vapor and Alkalinity Barrier with clean and dry #30 silica sand broadcast to full rejection while primer is wet as the priming system for TechLevel- HPT. After primer has cured, thoroughly vacuum excess sand from cured surface. Refer to the individual product data sheet for mixing and application instructions.

Movement Joint Placement

Joints or Cracks in Substrate

Expansion joints and construction joints that are designed to move are to be carried from the substrate up through the topping and filled with an appropriate elastomeric sealant. Failure to do so may cause hairline cracking and possible delamination.

Mixing Ratios

Mix the entire 50 lb. (22.68 kg) bag of powder with 5 - 5.25 quarts (4.7 -5 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 €œeggbeater€ 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 pin holing during application and curing.

Application of Product

Pour the mixed product and spread with a long-handled gauge rake to the desired thickness. Directly after the topping has been dispersed, use a smoothing blade to break the material's surface rheology and blend any inconsistencies to create a more uniform or homogeneous appearance. Keep a €œwet edge€ when pouring multiple mixes in the same area.

*** Always install a test area to confirm proper bonding as well as a desired appearance.

IMPORTANT NOTES: Self leveling cement based products may exhibit slight cracking due to structure and substrate moment; shrinkage; and creep. Sharp or reentrant wall corners can contribute to crack formation. These cracks are considered normal. Other causes of cracking are due to high ambient or substrate temperatures; wind or air flow; water ratios and mixing technique. When surface is sealed with clear or semi-transparent coatings, these cracks may become more visible.

Raw materials are naturally colored and therefore variations in colors should be expected. Mix batches from various pallets to achieve a more consistent color. Final finish color consistency can also be affected by water, wind, mixing, air flow etc., when being left as a wear surface.

Curing of Product

TechLevel-HPT is typically ready for water-based applied coatings after 4-6hrs. For epoxy and other moisture intolerant coatings at least 24hrs in moderate climatic conditions is typically required. See manufacturer's recommendations and confirm during mock up.

Install non-moisture-sensitive ceramic tile or stone in 4 hours; all other floor coverings should be installed after 16 hours Cure time can vary with temperature and humidity. Confirm moisture limitations of flooring and adhesives before installing over leveler.

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

TechLevel-HPT High Performance Topping

physician immediately. Conformance to Building Codes Installation must comply with the requirements of all applicable local, state and federal code jurisdictions.

Conformance to Building Codes

Installation must comply with the requirements of all applicable local, state and federal code jurisdictions.

5. Size & Availability

Location	Item Code	Size	Package
USA/Canada	TLHPT50T	50lb (22.68 kg)	Bag

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

6. Product Warranty

Obtain the applicable LIMITED PRODUCT WARRANTY at www.customtechflooring.com/reference-library/warranties/ or send a written request to Custom Building Products, Inc., Five Concourse Parkway, Atlanta, GA 30328, USA. Manufactured under the authority of Custom Building Products, Inc. © 2017 Quikrete International, Inc

7. Product Maintenance

Properly installed product requires no special maintenance.

8. Technical Services Information

For technical assistance, contact Custom Building Products.

9. Filing System

Additional product information is available from the manufacturer upon request.

Coverage Chart

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

THICKNESS	COVERAGE
1/4" (6.35 mm)	23 24 ft² (2.1 2.2 M²)
1/2" (12.7 mm)	11.5 12 ft² (1.05 1.1 M²)
1" (25.4 mm)	5.75 6 ft² (0.52 0.55 M²)

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.