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ProSpec®

RCT Rapid Cure Technology

EST

LEVEL SET WEAR TOPPING

Description

ProSpec® Level Set Wear Topping is a premium Calcium Aluminate Cement (CAC), non-gypsum based, single component premium, high strength, abrasion resistant self-leveling wear surface for stains, sealers and coatings.

Features & Benefits

Lower alkaline binder system creates an alkali barrier from the underlying concrete when installed at ≥ 3/16" (5 mm) thick*

- Protects organic adhesives and coatings from alkali decomposition and secondary VOC emission up to 90% RH
- Compatible with epoxy, urethane and other resin-based systems**
- Contributes to better air quality
- Does not promote the growth of mold or mildew

No sanding or grinding required

- Time and labor savings; apply coatings and adhesives to finished surface

Easy to use; no troweling required

- Low in place cost

Very fluid

- Can be barrel mixed or pumped in place

Rapid Cure Technology (RCT)™

- Quick return to service
- Accepts foot traffic in 3 hours and hard rubber wheel traffic within 48 hours

Expansion Stabilization Technology (EST)™

- Dimensionally stable installations (no shrinkage)

Applications from 1/4" to 2" (6 to 51 mm) neat; can be tapered to existing elevations

- One step installation

Mixes with water only

- No additional components required

Accepts stains, pigments and color penetrating sealers

- Provides a perfect crack-resistant base for decorative concrete
- Can be polished

* Contact ProSpec Technical Services

Uses

- Correct imperfections in new construction
- Level uneven floors or to correct distressed surfaces on restoration projects
- Create a solid, smooth, abrasion resistant surface on interior floors
- Countertops
- Polished flooring

Technical Data

Working Time @ 70º F (21º C)	
30 minutes	
Set Time ASTM C 191 @ 70º F (21º C)	
Initial set	Approx. 90 min.
Final set	Approx. 120 min.
Compressive Strength ASTM C 109 (Air Cured)	
4 hours	2,000 psi (13.8 MPa)
1 day	3,500 psi (24.1 MPa)
7 days	5,000 psi (34.5 MPa)
28 days	6,000 psi (41.4 MPa)
Flexural Strength ASTM C 348	
7 days	720 psi (5.0 MPa)
28 days	1,290 psi (8.9 MPa)

Tensile Strength ASTM C 190	
7 days	400 psi (2.9 MPa)
28 days	660 psi (4.6 MPa)
Flammability ASTM E 648	
Ignition	None
Flame Propagation Distance	None
Avg. Critical Radiant Flux (CRF)	>1.1W/cm^2
Delamination / Warpage	None

NOTE: Test results obtained under controlled laboratory conditions at 72° F (22° C) and 50% relative humidity. Tested using 4.5 qts. (4.3 L) water per 50 lbs. of Level Set Wear Topping. Reasonable variations can occur due to atmospheric and job site conditions.

LEVEL SET WEAR TOPPING

Preparation

Concrete substrates:

- Clean area and remove all unsound concrete, grease, oil, paint and any other foreign materials that will inhibit performance.
- Substrates must be stable, solid and structurally sound
- After cleaning and profiling test for MVER (moisture vapor emission rate - reference ASTM F1869) see Best Performance
- Repair deep areas, holes and nonmoving cracks with ProSpec® Vinyl Concrete Patch or Floor Patch prior to application and allow to cure for a minimum of 3 hours.
- Tensile strength of substrate must be > 72 psi DTBS (ASTM C-1583)
- If < 72 psi DTBS then the substrate surface will need to be mechanically prepared, i.e. Shotblast, Scarify or Aggressive Diamond Grinding or similar to achieve a sound floor.
- Concrete that has been power troweled must be tested to verify surface strength and adhesion, i.e. DTBS.
- All surfaces require Level Set Primer or Level Set Primer Plus (see "Priming" section)
- Tight concrete substrates and nonporous substrates require Level Set Primer Plus
- Floor preparation is crucial in obtaining a successful installation. The contractor is responsible for ensuring the substrate is properly prepared prior to application of ProSpec Level Set Wear Topping. Do not apply over lightweight or gypsum base concrete. A test application is recommended.

NOTE: It is the responsibility of the installer/applicator to ensure that test areas are performed to determine the suitability of the product for its intended use.

Refer to

- ASTM D 4259 Abrading Concrete
- ACI 201.1R Guide for Making a Conditions Survey of Concrete in Service
- ACI 224.1R93 Causes and Repair of Cracks in Concrete Structure
- ICRI 03732 Selecting and Specifying Concrete Surface Preparation for Sealers, Coatings, and Polymer Overlays

Priming

- ProSpec Level Set Primer must be applied over entire substrate. Do not apply over standing water.
- For porous or highly porous substrates 2 coats of ProSpec Level Set Primer may be necessary. The dilution rate may vary from 1:1 to 1:3 (primer to water).
- For non-porous substrates, use Level Set Primer Plus.
- If the primer dries in approximately 30 minutes, then additional coats are needed.
- Allow the first coat to dry before applying additional coats.
- Allow ProSpec Level Set Primer to dry completely to a tacky translucent film with no milky wet spots before installation of the Level Set Wear Topping. Do not bridge over existing expansion or control joints.
- If primed floor is not covered with ProSpec Level Set Wear Topping within 24 hours, primer must be reapplied.
- Protect primed substrate from foot traffic.
- Install a bond breaker where vertical surfaces meet the new topping.
- The surface of Level Set Wear Topping must always be protected and since sealers and coatings vary, always do a test area and contact the supplier for specific application directions. Level Set Wear Topping is a cement based product and therefore should be compatible with most sealers and coatings.

Mixing

(See recommended tools)

1. Mix 2 bags of Level Set Wear Topping at a time. For EACH bag add 4.5 qts. (4.3 L) potable water into a clean mixing drum.
2. Then add the Level Set Wear Topping bags, while mixing at full speed with a paddle mixer attached to a heavy-duty 1/2" drill (min. 650 to 1,000 rpm).
3. Mix completely for a minimum of 2-3 minutes until lump free, adding no additional water.
4. It is recommended that two (2) Level Set mixing drums be used simultaneously.
5. Mixing in one while pouring the other.
6. This way there is no job slow down while still mixing for the required 2-3 minutes.

LEVEL SET WEAR TOPPING

Placement

- Pour the blended ProSpec Level Set Wear Topping on the floor and disperse with the Level Set Spreader followed by smoothing the material with the Level Set Smoother. Cleated shoes must be worn to avoid leaving marks.
- Level Set Wear Topping will level itself for 20 minutes at 70° F (21° C). No troweling needed.
- After use clean all mixing equipment thoroughly to avoid getting hardened product into subsequent batches.
- Level Set Wear Topping can also be pumped affording high productivity and continuous smooth placement.
- Over watering or over mixing will affect strength, abrasion resistance and may cause cracking or pinholing.

Increased thickness

- Level Set Wear Topping can be applied from 1/4" to 2" (6 to 51 mm) without extension with aggregate, and up to 5" (127 mm) extended. To extend, blend the Level Set Wear Topping with washed, dried, clean 3/8" (10 mm) pea gravel.
- Mix Level Set Wear Topping first with water, then add 15 lbs. (6.8 kg) of the aggregate, mixing until the pea gravel is coated, then place.
- Be aware that wet aggregate may cause over watering and the addition of aggregate will reduce the workability and may necessitate a finish coat.
- Allow the extended layer to dry, normally 16-18 hours.
- Prime the surface with Level Set Primer mixed 1:1 with water per the priming instructions outlined. When this primer is completely dry, install the smooth unextended finish layer.
- Typically water-based sealers can be applied in 3 to 4 hours and solvent-based or 100% epoxy coatings can be applied in 3 to 5 days. Refer to coatings manufacturer recommendations.

Refer to

- RFCI (Resilient Floor Covering Institute publication) MRP: Addressing Moisture Related Problems Relevant to Resilient Floor Coverings Installed Over Concrete
- NOFMA (National Oak Flooring Institute) publication: Installing Hardwood Flooring, Rev. 3/10/98
- TCA (Tile Council of North America) Handbook for Ceramic Tile Installation
- American National Standard Specifications for the Installation of Ceramic Tile

Note: ProSpec Level Set Wear Topping will not correct or compensate for a structurally defective substrate. Faults in the substrate can appear in the underlayment. The use of alkali resistant glass fabric or galvanized metal reinforcing (Federal Specification QQL 101C) can be helpful in reducing reflective cracking.

Clean Up

Use water to clean all tools immediately after use.

Tools

The following tools will ensure a satisfactory Level Set Wear Topping installation. Call ProSpec for details.

- Level Set Mixing Drum
- Level Set Mixing Paddle
- Level Set Measuring Pails
- Level Set Depth Gauge Spreader
- Level Set Surface Smoother
- 1/2" Heavy-Duty Drill

Coverage

50 lb. (22.7 kg) bag covers approximately 21-25 ft^2 (2 m^2) at 1/4" (6 mm) thickness.

Colors

White and gray

LEVEL SET WEAR TOPPING

Packaging

50 lb. (22.7 kg) moisture resistant bags

Storage

Always keep in cool/dry place unexposed to sunlight and tightly reseal container. Prevent Level Set Primers from freezing.

Shelf Life

One year when stored properly in original unopened container.

Best Performance

- For interior use only
- Apply when air or substrate temperature is between 40º F (4º C) and 100º F (38º C)
- Do not install over gypsum based surfaces
- Do not over water, retemper, or add additional additives
- Always install a test area, insuring suitability of Level Set Wear Topping for intended use
- Rely upon floor covering or sealer manufacturer for directions concerning maximum allowable moisture content of sub-floor, adhesive selection etc.
- It is recommended that two mixing drums be used simultaneously, mixing one while pouring the other
- Do not install when the substrate surface direct tensile bond strength is less than 72 psi (0.5 MPa), (ASTM C 1583). Note: American Concrete Institute recommends the concrete surface direct tensile bond strength of at least 200 psi (1.4 MPa).

Caution

KEEP OUT OF REACH OF CHILDREN AND ANIMALS. WARNING!

Contains Portland cement and silica sand. May irritate eyes and skin. Avoid contact with eyes or prolonged contact with skin. In case of contact, flush thoroughly with water. The wearing of gloves and safety goggles is recommended.

In case of eye contact, flood eyes with potable water and call physician. DO NOT RUB EYES.

Do not take internally. Crystalline silica sand may cause serious lung problems. Avoid breathing dust and wear a respirator in dusty areas.

Consult Material Safety Data Sheet for further information

First Aid

Inhalation: Remove to fresh air

Eye Contact: Irrigate eye with water or consult physician if irritation persists.

Skin Contact: Washed exposed skin area with soap and water; consult a physician if irritation persists

Ingestion: Immediately consult a physician

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