



LEVEL SET LW-60

Description

ProSpec® Level Set LW-60 is a premium lightweight Calcium Aluminate Cement (CAC) non-gypsum based, single component underlayment that provides a flat, smooth, durable floor without the weight of a normal portland cement or gypsum underlayment.

Features & Benefits

Lightweight – 50% lighter than both conventional cement and gypsum based systems

- Minimizes additional dead load
- Ideal for projects where load bearing restrictions apply

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

Contains post-consumer recycled content

- Contributes 5 LEED points

Very fluid

- Can be barrel mixed or pumped in place

Rapid Cure Technology (RCT)™

- Quick return to service
- Accepts foot traffic and tile and stone installations in 3-4 hours and moisture-sensitive floor covering in 16 hours

Expansion Stabilization Technology (EST)™

- Dimensionally stable installations (no shrinkage)

Applications from 1/8" to 2" (51 mm) per lift

- One step installation
- Can feather edge at transitions
- One pour application provides smooth surface, reducing installation costs compared to other products requiring a second pour

Mixes with water only

- No additional components required

* Based on independent industry reports available upon request

** Refer to resin manufacturer's technical information for specific installation recommendations

Uses

- Designed for interior use in leveling uneven rough concrete, camber problems and plywood floors
- Use over ceramic tile, terrazzo and wood to provide a smooth even finish in restoration projects

Technical Data

Cured Density*	Compressive Strength ASTM C 109 (Air Cured)
Approx. 60 lbs./ft ³ (961 kg/m ³)	4 hours 1,000 psi (6.9 MPa)
Working Time @ 70° F (21° C)	1 day 2,000 psi (13.8 MPa)
30 minutes	7 days 3,000 psi (20.7 MPa)
Set Time ASTM C 191 @ 70° F (21° C)	28 days 4,000 psi (27.6 MPa)
Initial set 80 min.	Flammability ASTM E 648
Final set 120 min.	Ignition None
	Flame Propagation Distance None
	Avg. Critical Radiant Flux (CRF) >1.1W/cm ²
	Delamination / Warpage None

* The density of typical portland cement underlayments is 125 lbs./ft³ (2002 kg/m³); the density of typical gypsum underlayments is 110 lbs./ft³ (1762 kg/m³)

NOTE: Test results obtained under controlled laboratory conditions at 72° F (22° C) and 50% relative humidity. Tested using 6.0 qts. (5.8 L) water per 25 lbs. of Level Set LW-60. Reasonable variations can occur due to atmospheric and job site conditions.

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Preparation

(See Substrate Preparation Bulletin)

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)

For residential use over interior wood floors that are structurally sound and not subject to moisture:

Best Performance:

- Residential installations only, 1/2" (13 mm) min. mortar thickness for areas up to 100 ft² (9.3 m²); 1 1/4" (32 mm) min. mortar thickness for areas greater than 100 ft² (9.3 m²)

- 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
- 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.

Requirements:

- Cleavage membrane
- 2.5 lbs./yd² metal lath (min.), nailed with 1" (25 mm) hot dipped galvanized ribbed roofing nails or stapled with 1" (25 mm) crown galvanized staples
- Design floor areas over which tile is to be applied to have a deflection not greater than 1/360 of the span. Make allowance for live load and impact as well as dead load, including weight of the tile and setting bed. Tape or caulk all plywood seams.

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](#)

Non-Porous Substrates:

- Ceramic tile, terrazzo, quarry tile and stone must be solid, well bonded, clean and free of any bond breaking contaminants such as glazes, wax, oil, sealers etc.
- Surfaces must be mechanically abraded until a "profile" is obtained for the maximum bonding of Level Set LW-60. Wet mop the floor removing all debris, dust and loose material prior to installing the primer.

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 LW-60. Do not bridge over existing expansion or control joints.
- If primed floor is not covered with ProSpec Level Set LW-60 within 24 hours, primer must be reapplied.
- Protect primed substrate from foot traffic.
- Install a bond breaker where vertical surfaces meet the new topping.

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Mixing

(See recommended tools)

1. Mix 2 bags of Level Set LW-60 at a time. For EACH bag add 6 qts. (5.8 L) potable water into a clean mixing drum.
2. Then add the Level Set LW-60 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. Mixing in one while pouring the other.
5. This way there is no job slow down while still mixing for the required 2-3 minutes.

Placement

- Pour the blended ProSpec Level Set LW-60 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 LW-60 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 LW-60 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.

NOTE: All applications require the use of ProSpec LEVEL SET PRIMERS prior to the placement of Level Set LW-60. Floor preparation is crucial in obtaining a successful underlayment installation. The contractor is responsible for ensuring the substrate is properly prepared prior to the application of ProSpec Level Set LW-60. A test application is recommended.

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 LW-60 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.

Curing

Protect from excessive drying due to temperature and air movement.

Clean Up

Use water to clean all tools immediately after use.

Tools

The following tools will ensure a satisfactory Level Set LW-60 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

Per 25 lb. (11.3 kg) bag

Nominal Thickness	Approximate Coverage
1/4" (6 mm)	25-30 ft ² (2.8 m ²)
1/2" (12 mm)	12-15 ft ² (1.4 m ²)



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Packaging

25 lb. (11.3 kg) moisture resistant bags

Storage

Always keeps in cool/dry place unexposed to sunlight and tightly reseal container.

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 40° F (4° C) and 100° F (38° C) within 24 hours of application
- Not a wearing surface. Must be covered with flooring or an overlay topping of ProSpec Level Set Wear Topping
- Do not over water, retemper, or add additional additives
- Always install a test area, insuring suitability of Level Set for intended use
- Rely upon floor covering manufacturer for directions concerning maximum allowable moisture content of subfloor, adhesive selection etc.
- It is recommended that two mixing drums be used simultaneously, mixing one while pouring the other
- Non-porous substrates require the use of Level Set Primer Plus
- 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.

LIMITED 1 YEAR WARRANTY FROM DATE OF MANUFACTURE: Bonsal American warrants that this product and the materials used therein meet or exceed the applicable standards listed and enforced at the time of manufacture. Bonsal American will replace any product or part which proves defective due to quality of ingredients used or due to the manufacturing process itself. This Warranty shall apply only if the product is used in strict accordance with applicable specifications and instructions provided by Bonsal American for its use, and Bonsal American shall not be liable otherwise. Replacement of any defective product, or, at Bonsal American's option, refund of the purchase of any defective product shall be the buyer's sole remedy under this Warranty, and Bonsal American shall in no event be liable for any damages in excess of the purchase price of the defective product. **BONSAL AMERICAN SHALL IN NO EVENT BE LIABLE FOR ANY CONSEQUENTIAL, INCIDENTAL OR SPECIAL DAMAGES INCLUDING LOSS OF PROFITS OF ANY KIND.**

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