ECO2LEVEL™ LP

PRODUCT DESCRIPTION

ECO2 LEVEL™LP (Low Prep) is a solvent-free high-performance polymer-modified self-leveling cement. Its unique hybrid-cement technology allows the ability to successfully install over questionable substrates without the need for additional mechanical preparation such as shot-blasting, scarifying, or grinding. It can be poured or pumped to correct, level, and smooth substrates from a feathered edge up to 3" neat or up to 6" with aggregate.

Green Features

- **75% recycled content (37.5 lb per 50 lb bag)**
- **100% silica sand free**
- **pH 10 in wet-state (eco-friendly for installers)**
- **Solvent-free - no VOCs**
- **Will not promote mold, mildew or bacteria growth**
- **Use with ECO2 MMS/MMS RAPID™ + ECO2 AGGREGATE™ as a complete "green" system to protect finish flooring from moisture up to 100% RH as per ASTM F-2170**
- **Contributes to LEED® and WELL® objectives and requirements**
- **LEED v4 Health Product Declaration v2.1**
- **LEED v4 Certificate of Recycled Content**

Performance Features

- No change to installation method
- No increase to project cost
- Pour from a feathered edge up to 3" neat and 6" with aggregate (continuous pours must be a minimum of 1/8" depth)
- Walking time: 3 to 4 hours after pour; light traffic: 24 hours after pour
- Hybrid-Cement Technology (just add water)
- Usable over most substrates without mechanical preparation (see Suitable Substrates)
- Performance exceeds requirements for interior institutional, commercial and residential applications
- Accepts all setting materials, adhesives, and floor coverings
- Can be barrel mixed or pumped
- Can be used as a thermal mass over hydronic and electric radiant heating systems

ECO2 LEVEL LP is also available in a lightweight formulation. Please visit www.eco2level.com for details.

Packaging

50 lb (22.7 kg) bag

Suitable Substrates

NOTE: Prime all substrates with ECO2™ PRIMER prior to application (refer to technical data sheet for complete details).

- Dry, cured concrete (28-days old). For concrete substrates less than 28-days old please contact technical service
- Cement backer units (CBU)
- Cementitious and Epoxy Terrazzo floors
- Exterior Grade Douglas Fir Plywood, certified CANPLY (SELECT) or (SEL-TF) CSA 121, for INTERIOR Residential Light-Duty Floors in dry areas only
- Approved OSB
- Resin-based floor coverings (epoxy, urethane, or polyurethane)
- Metal such as steel, copper, stainless steel, aluminum, or lead
- When using a self-leveling product over a radiant heating system (previously checked for functionality), turn the system off 24 hours prior to the installation and wait at least 2 weeks before turning it back on
- Existing ceramic and quarry tiles, porcelain, granite, and marble
- Existing VAT and VCT tiles, and non-cushioned vinyl sheet goods
- Old cut-back adhesive residue and water-soluble adhesive residues
- Gypsum and light-weight concrete surfaces flooring

* *Perform a bond test over questionable substrates to ensure compatibility and performance. It is the applicators responsibility to determine use.*

Limitations

- For INTERIOR installations only.
- Do not use at temperatures below 50°F (10°C) or above 95°F (35°C)
- Do not apply directly over particleboard, chipboard, presswood, Lauan, masonite, or other dimensionally unstable materials
- Allow the self-leveling underlayment to dry properly prior to installing the floor covering
- Do not install over moving control joints, active cracks, or expansion joints
- Do not use where excessive moisture/hydrostatic conditions, and/or recurring moisture problems exist
- Do not use in places subject to immersion
- Do not add water to the mix once it begins to thicken.
- Do not add sand or additional water to the mix
- Protect from any direct air ventilation or heat radiation source, such as direct sunlight, during and after the installation for a minimum of 24 hours
- **Do not accelerate curing time by using ventilators or heating appliances**

TECHNICAL DATA

Applicable Standards

For Additional Information, please refer to the most recent TCNA handbook for ceramic tile installation or the TTMAC Specification Guide 09 30 00 Tile Installation Manual, or visit our website at www.eco2level.com.

WORKING PROPERTIES (@73°F [23°C] and 50% RH)	
Working time	≥ 20 minutes
Flowing time	≥ 20 minutes
Final set	120 minutes
Time before installing floor covering	24 hrs per 1/8"
Time before installing ceramic tile	24 hrs per 1/4"

PHYSICAL PROPERTIES (@73°F [23°C] and 50% RH)	
VOC content	0 g/L
Recycled content	75% (37.5 lb per 50 lb bag)
Silica sand content	0%
Silica quartz content	0%
Linear shrinkage (%) @ 28 days	< 0.02%
Flexural strength (ASTM C-348) @ 28 days	> 1,150 psi (7.9 MPa)
Tensile bond strength (ASTM D4541 [Concrete]) @ 7 days	> 400 psi (2.8 MPa)
Compressive strength (ASTM C-109) @ 28 days	> 4,200 psi (29 MPa)
Wet density	2 g/mL
28 days-dried weight	2.2 lb per ft² x 1/4" thick (10.9 kg per m² x 6 mm)
Approximate coverage per 50 lb (22.7 kg) bag	
Thickness	Coverage
1/8" (3 mm)	50 ft² (4.6 m²)
1/4" (6 mm)	25 ft² (2.3 m²)
1/2" (12 mm)	12.5 ft² (1.1 m²)
1" (25 mm)	6.25 ft² (0.6 m²)
Shelf life	
6 months if kept in its original unopened packaging and stored in a dry location.	

INSTALLATION

Surface Preparation

NOTE: Shot-blasting or profiling is not required for most concrete flooring when using ECO2 LEVEL LP. ECO2™ PRIMER must be used to ready nearly any surface for ECO2 LEVEL underlayments without the need for scarifying or shotblasting, saving valuable time and money (see respective technical data sheet for details)

- All supporting surfaces must be structurally sound, solid and stable.
- Surfaces must be clean and free of dust, oil, grease, paint, tar, wax, curing agent, primer, sealer, form release agent or any deleterious substance and debris which may prevent or reduce adhesion.
- Perform a bond test over and questionable substrates to ensure compatibility and performance. It is the applicator's responsibility to determine use.
- Acids, concentrated alkaline conditions and cleaning chemical residues must be neutralized or removed.
- All concrete substrates must be solid, sound, slightly textured and have a direct tensile cohesive strength greater than 175 psi (1.2 MPa) when tested in accordance with ACI 503 R – (Appendix A) procedure.
- On grade or below grade concrete slabs must be installed over an effective vapor barrier.

- All concrete substrates must be dry and free of hydrostatic conditions and/or extreme moisture problems. Do not prime, repair, level or patch the substrate, or install any floor covering materials until moisture problems and conditions have been addressed to meet finished flooring manufactures requirements. Please contact our Technical Service Department for appropriate recommendations.
- Smooth concrete substrate surfaces must be either primed with ECO2™ PRIMER or mechanically roughened in accordance with an engineer-approved procedure (shotblasting, scarification, grinding, sand or water-blasting, etc) to provide sufficient surface texture and profile for the adequate bonding of the subsequent leveling product. Then, PRIMED with ECO2™ PRIMER (see respective technical data sheet for details).
- If concrete is dry and porous, it must be primed with ECO2™ PRIMER to prevent an uncontrolled absorption of water out of the self-leveling mix and also to avoid formation of air bubbles on the surface (see respective technical data sheet for details).
- Wood substrate must be primed with ECO2™ PRIMER and be solid and well-supported by joists spaced 16" (400 mm) apart and should consist of two superimposed plywood sheet layers, each 5/8" (16 mm) thick and set with a minimum of 1/8" (3 mm) gap spacing between panels and 1/4" (6 mm) gapping along the perimeter walls, around columns, posts, drains and pipe openings. The top underlayment plywood layer must be fastened with non-oxidizing floor screws at every 6" (15 cm) along panel edges and each way throughout the panel at 8" (20 cm) centers. Floor surfaces along adjacent edges of panels must not be more than 1/32" (0.75 mm) above or below each other.

  For ceramic and porcelain tiles up to 12" x 12" (30 x 30 cm), the structural design of the substrate must not allow a deflection greater than L/360 when tested to 300 lb (136 kg) concentrated loads in accordance with ASTM C627 Standard test method. For square and rectangular tiles with one edge dimension 15" (38 cm) and 18" (45 cm) up to 23" x 23" (58 x 58 cm) the maximum deflection should not exceed L/540 unless an effective CIM (crack isolation membrane) is used in the installation system. For tiles 24" x 24" (60 x 60 cm) or larger and for ALL dimension stone installation, the maximum deflection must not exceed L/720. (Refer to ANSI A108. 01 requirements for Plywood sub-floors)
- Existing Gypsum and light-weight concrete surfaces must be properly primed with ECO2™ PRIMER (see respective technical data sheet for details).
- Existing concrete slabs with old cutback adhesive or carpet adhesive residues must be scraped, roughened, cleaned, properly prepared and PRIMED prior to the application of the self-leveling underlayment. (Refer to the ECO2™ PRIMER technical data sheet for full details or contact our Technical Service Department for appropriate recommendations).
- Existing ceramic tile, VCT or hard to bond to surfaces should be PROPERLY PREPARED, CLEANED and PRIMED with ECO2™ PRIMER prior to the application of the self-leveling underlayment. (Refer to ECO2™ PRIMER technical data sheet for full details or contact our Technical Service Department for appropriate recommendations)

  NOTE: Scrape off as much as possible of the old cut-back adhesive.

  Do not use sweeping compounds. This could leave an oily film on the concrete surface that will prevent a proper bond.

Mixing

Mixing ratio: 3 parts powder to 1 part water (by volume)
ECO2 flowchart optimal result: 8 3/8"

1. Use clean mixing-tools and containers.
2. In a clean mixing container, measure and pour EXACTLY 6.3 quarts / 1.6 US gal (6 L) of cool clean water and gradually add 50 lb (22.7 kg) of ECO2™ LEVEL LP powder mix, while mixing slowly.
3. Using a low-speed mechanical mixer (150 - 300 rpm), mix until a homogeneous, smooth, lump-free, consistency is achieved.
4. The product is now ready for setting.
5. Use the product within the shortest possible delay (within a few minutes).

Application

ECO2™ offers expert jobsite inspections for all applications to help ensure every project is a complete success.
Contact ECO2™ Technical Services for complete details.

NOTE: Protect from any direct air ventilation or heat radiation source, such as direct sunlight, during and after the installation.

1. Pour the self-leveling mix on the substrate and help spread it in place with the appropriate self-leveling tools.
2. The mix will level itself out while leaving a smooth finish.

For more detailed information on ways to apply this product (especially when a pump process is being used), please contact our technical department for proper recommendations and job field assistance.

Expansion and Control Joints

- Install control joints where tiles abut restraining surfaces, around the perimeter of the work and at the base of columns and curbs.
- Install and space expansion and control joints in all directions in accordance with TCNA HANDBOOK FOR CERAMIC TILE INSTALLATION Detail #EJ-171 recommendations, or TTMAC Specification Guide 09 30 00 Detail #301-MJ recommendations.

  CAUTION: DO NOT cut EXPANSION JOINTS in after the tiles have been installed. Install tiles normally and stop when the control joint location is reached. Cut the tile if required and resume setting from the opposite side of the joint. Before proceeding further, rake the joint and leave the tile and joint space clean.
- DO NOT FILL EXPANSION JOINT SPACE UNTIL GROUTING IS COMPLETED on the remainder of the job.
- Install a suitable industry-approved compressible bead and flexible sealant to caulk expansion and control joints. Follow the sealant manufacturer's installation instructions.

Curing and Protection

- 3-4 hours at room temperature (foot traffic).
- **Important:** Once dried, ECO 2 LEVEL LP must be SEALED before any glue or mortar application. Seal surface using ECO 2 LEVEL PRIMER at a ratio of 1 part latex to 3 parts water (1:3).
- Time before installing floor covering 24 hrs per 1/8"
- Time before installing ceramic tile 24 hrs per 1/4"
- Material should be completely dry prior to applying the floor covering adhesive.

  NOTE: Drying time may vary depending on the temperature and humidity level. Do not attempt to accelerate drying and curing through forced ventilation, fans or heatblowers.
  *Please contact our Technical Service Department for further information.
- Protect from traffic and dust until floor covering is completely installed.

Cleaning

Clean tools and hands with water while the product is still fresh.

Health and Safety

Refer to the Safety Data Sheet (SDS) for complete details.

AVAILABILITY AND COST

Contact ECO2™ for availability and cost.

WARRANTY

ECO2™ warrants that this product is manufactured using quality raw materials and is of merchantable quality and suitable for the purpose for which it was intended. ECO2™ liability under this warranty shall be limited to the replacement of its product proven to be defective. Neither seller nor manufacturer shall be liable for any injury, loss or damage, direct or consequential, arising from the use of/or the inability to use this product.

FILING SYSTEM

Additional information is available upon request, or by visiting www.eco2level.com.

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