

## SECTION 03 54 00

### Formatted Specification for ENDURIT LEVELEX 250 SELF-LEVELING UNDERLAYMENT CONCRETE

#### PART I – GENERAL

##### 1.01 SUMMARY

- A. This is the recommended specification for **LEVELEX 250** Self-Leveling Calcium Aluminate Cement Based Underlayment for use over specified interior only substrates.
- B. **Complete installation details are provided in the ENDURIT LEVELEX 250 Technical Data Sheet available at [www.bessern.com](http://www.bessern.com)**

##### 1.02 SECTION INCLUDES

- A. LEVELEX 250 Self-Leveling Underlayment Concrete
- B. LEVELEX- Primer
- C. ENDURIT MVC Moisture Vapor Control Systems

##### 1.03 QUALITY ASSURANCE

- A. Installation of ENDURIT LEVELEX 250 must be by a trained applicator, with at least five (5) years of installation experience.
- B. Underlayment shall be able to be installed from 1/8" to 1 1/2" in one pour. It may also be feathered to match existing elevations.
- C. Underlayment to be applied to a minimum thickness of 1/8" over highest point in the subfloor, with an average typical thickness of 1/4".
- D. Underlayment compressive strength shall be > 5000 psi after 28 days per ASTM C109/mod (air cure only).
- E. Underlayment shall be walkable after 2 hours and allow floor covering to be installed after 24 hours at 75°F. Ceramic tile and natural stone can be installed within 3-4 hours.
- F. Manufacturer's certification that the product is calcium aluminate cement based.

##### 1.04 DELIVERY, STORAGE AND HANDLING

- A. Deliver materials in their unopened packages and protect from extreme temperatures and moisture. Protect liquids from freezing.

##### 1.05 SITE CONDITIONS

- A. LEVELEX 250 is a cementitious material. Observe the basic rules of concrete work. Do not install below 50°F or above 95°F surface temperature.

#### PART 2 – PRODUCTS

## **2.01 MATERIALS**

- A. The calcium aluminate cement-based self-leveling underlayment shall be LEVELEX 250 Self-Leveling Calcium Aluminate Cement Based Underlayment.
- B. Primer for standard absorbent concrete shall be LEVELEX-Primer A or B.
- C. Water shall be clean, potable, and sufficiently cool (not warmer than 70°F).
- H. Moisture vapor suppression: BESSERN recommends the use of a moisture control system over existing concrete where the level of moisture emissions from the slab exceeds the maximum permitted by the manufacturer of the finished coating or sealer as tested in accordance with Relative Humidity Method (ASTM F2170) or Calcium Chloride Method (ASTM F1869). If moisture problems exist, BESSERN recommends the Vapor Control System (ENDURIT MVC-8, MVC-2 or MVC2LT). For complete installation instructions, please refer to the appropriate ENDURIT MVC Moisture Vapor Control Technical Data Sheet.

## **2.02 MIX DESIGN**

- A. Standard mixing ratio: Mix each bag of LEVELEX 250 (50 lb.) with 6 quarts of water. Product shall be mixed in an Mixing Drum using a Mixing Paddle and a 1/2" heavy-duty drill (min.650 rpm). Mix thoroughly for approximately 2-3 minutes to obtain a lump-free mixture.  
Follow written instructions per the LEVELEX 250 bag label.
- B. ENDURIT LEVELEX 250 can be mixed and applied using an Automatic Mixing Pump. Consult the pump manufacturer's user's guide to determine the proper settings.  
**DO NOT OVERWATER!** Check the consistency of the product on the floor to ensure a uniform distribution of the sand aggregate at both the top surface and bottom of the pour.

## **PART 3 – EXECUTION**

### **3.01 PREPARATION**

- A. All subfloors must be sound, solid, cleaned, and primed:
  - 1. All concrete subfloors must be of adequate strength, clean, and free of all oil, grease, dirt, curing compounds and any substance that might act as a bondbreaker before priming. Mechanically clean if necessary using shot blasting or other. Acid etching and the use of sweeping compounds and solvents are not acceptable.
  - 2. Wood subfloors must be clean and free of all foreign matter. Sand to bare wood then vacuum to remove all dust. Re-nail any loose boards exhibiting movement.
  - 3. Metal subfloors must be clean and free of all rust and foreign matter. Where required, a corrosive resistant coating should be applied and allowed to dry before priming.
  - 4. Cutback and other non-water soluble adhesive residues must be wet scraped to a thin, well-bonded layer.
  - 5. Non-porous subfloors such as ceramic and quarry tile as well as terrazzo should be clean and free of all waxes and sealers. If necessary, have the surface professionally cleaned.

6. All cracks in the subfloor shall be repaired to minimize telegraphing through the underlayment.
7. Substrates shall be inspected and corrected for moisture or any other conditions that could affect the performance of the underlayment or the finished floor covering. BESSERN recommends the use of an ENDURIT Moisture Vapor Control System (ENDURIT MVC-8, MVC-2, MVC-2LT). For complete installation instructions, please refer to the appropriate ENDURIT MVC Moisture Vapor Control Technical Data Sheet.

**B. JOINT PREPARATION**

1. Moving Joints – honor all expansion and isolation joints up through the underlayment or ENDURIT Moisture Vapor Control System.
2. Saw Cuts and Control Joints – fill all non-moving joints with ENDURIT Quick-Fix 100 as required. Refer to the ENDURIT Quick-Fix 100 Technical Data Sheet for more detailed information.
3. When using an ENDURIT MVC Moisture Vapor Control System, follow instructions provided in the ENDURIT MVC Moisture Vapor Control Technical Data Sheet for the treatment of Saw Cuts, Control Joints and Cracks.

**C. PRIMING**

1. Primer for concrete subfloors: Use LEVELEX-Primer A or B (consult LEVELEX Primer Technical Data Sheets for detailed application instructions).  
Apply evenly with a short-nap roller the use of a broom or mop may be used to help disperse material. Do not leave any bare spots. Remove all puddles and excess primer. Allow to dry to a clear, thin film (min. 1 hour, max. 24 hours).  
Underlayment shall not be applied until the primer is dry. Primer coverage is approximately 400 to 500 sq. ft. per gallon.

**3.02 APPLICATION OF UNDERLAYMENT**

**A. INSTALLATION**

1. Pour or pump the liquid ENDURIT LEVELEX 250 and spread smooth in place with a gauge rake and spiked roller. Wear spiked shoes to avoid leaving marks in the liquid LEVELEX 250. Underlayment can be walked on in 2 hours at 75° F.

**3.03 PREPARATION FOR FLOORING INSTALLATION**

- A. Underlayment can accept finish floor covering materials, to include Carpet, after 24 hours at 75°F and 50% relative humidity.
- B. Due to the wide range of adhesives that are used to install floor coverings, some adhesives may dry more quickly over LEVELEX underlayments than over other substrates. It is recommended that a test installation be performed to determine conditions.

**3.04 FIELD QUALITY CONTROL**

- A. Where specified, field sampling of the LEVELEX 250 underlayment is to be done by taking an entire unopened bag of the product being installed to an independent testing facility to perform compressive strength testing in accordance with ASTM C 109/modified: air-cure only. There are no in situ test procedures for the evaluation of compressive strength.

**3.05 PROTECTION**

- A. Prior to the installation of the finish flooring, the surface of the underlayment should be protected from abuse by other trades by the use of plywood, Masonite or other suitable protection course.

END OF SECTION