

SECTION 03 5400
CAST UNDERLAYMENT

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Liquid-applied self-leveling floor underlayment.
 - 1. Use Cementitious type at UZIN NC 157.

1.02 REFERENCE STANDARDS

- A. ASTM C109/C109M - Standard Test Method for Compressive Strength of Hydraulic Cement Mortars (Using 2-in. or (50-mm) Cube Specimens); 2013.
- B. ASTM C348 - Standard Test Method for Flexural Strength of Hydraulic-Cement Mortars; 2014.
- C. ASTM C472 - Standard Test Methods for Physical Testing of Gypsum, Gypsum Plasters and Gypsum Concrete; 1999 (Reapproved 2014).
- D. ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials; 2015a.

1.03 SUBMITTALS

- A. See Section 01 3000 - Administrative Requirements, for submittal procedures.
- B. Product Data: Provide manufacturer's data sheets documenting physical characteristics and product limitations of underlayment materials. Include information on surface preparation, environmental limitations, and installation instructions.

1.04 QUALITY ASSURANCE

- A. Applicator Qualifications: Company specializing in performing the work of this section, and approved by manufacturer.
- B. Installer Qualifications: An authorized representative or INSTALL® (International Standards and Training Alliance) certified installer or equal, who is trained and approved by manufacturer.

1.05 DELIVERY, STORAGE, AND HANDLING

- A. Store products in manufacturer's unopened packaging until ready for installation.
- B. Keep dry and protect from direct sun exposure, freezing, and ambient temperature greater than 105 degrees F (41 degrees C).

1.06 MOCK-UP

- A. Provide a mock-up for evaluation of surface preparation techniques and application workmanship.
 - 1. Prepare mock-up in location designated by Architect.
 - 2. Area: 6 ft by 6 ft (2 m by 2 m).
- B. Mock-up may remain as part of the Work.

1.07 FIELD CONDITIONS

- A. Do not install underlayment until floor penetrations and peripheral work are complete.
- B. Maintain minimum ambient temperatures of 50 degrees F (10 degrees C) 24 hours before, during and 72 hours after installation of underlayment.

PART 2 PRODUCTS

2.01 MANUFACTURER

- A. UZIN, a brand of Uzin Utz North America, Inc. NC 157 Cementitious Self-Leveling Compound. www.uzin-utz.com.

2.02 MATERIALS

- A. Cementitious Underlayment: Blended cement mix, that when mixed with water in accordance with manufacturer's directions will produce self-leveling underlayment with the following properties:
 - 1. Compressive Strength: Minimum 4100 psi (28.268512255779015 MPa) after 28 days, tested per ASTM C109/C109M.
 - 2. Flexural Strength: Minimum 800 psi (5.5158072694202955 MPa) after 28 days, tested per ASTM C348.
 - 3. Thickness: Capable of thicknesses from 1/8" to maximum 2 inch (50 mm).
- B. Water: Potable and not detrimental to underlayment mix materials.
- C. Primer:
 - 1. Gypsum Concrete: Two coat application of UZIN PE 260 Primer (diluted to absorbency requirement to seal substrate).
 - 2. Standard Absorbent Concrete: UZIN PE 260 Primer (diluted to absorbency requirement to seal substrate).
 - 3. Extremely Absorbent Concrete: Two coat application of UZIN PE 260 Primer (diluted to absorbency requirement to seal substrate).
 - 4. Wood: UZIN PE 260 Primer (undiluted).
 - 5. Metal: UZIN PE 280 Primer
 - 6. Other Non-Porous Substrates: UZIN PE 280 Primer

2.03 MIXING

- A. Site mix materials in accordance with manufacturer's instructions.
- B. Mix to self-leveling consistency without over-watering.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify that substrate surfaces are clean, dry, unfrozen, do not contain petroleum byproducts, or other compounds detrimental to underlayment material bond to substrate.

3.02 PREPARATION

- A. Remove substrate surface irregularities. Fill voids and deck joints with filler. Finish smooth.
- B. Vacuum clean surfaces.
- C. Prime substrate in accordance with manufacturer's instructions. Allow to dry.
- D. Close floor openings.

3.03 APPLICATION

- A. Install underlayment in accordance with manufacturer's instructions.
- B. Pump or pour material onto substrate. Do not re-temper or add water.
 - 1. Pump, move, and screed while the material is still highly flowable.
 - 2. Be careful not to create cold joints.
 - 3. Wear spiked shoes while working in the wet material to avoid leaving marks.
- C. Place to indicated thickness, with top surface level to 1/8 inch in 10 ft (1:1000).

3.04 CURING

- A. Once underlayment starts to set, prohibit foot traffic until final set has been reached.

3.05 PROTECTION

- A. Protect against direct sunlight, heat, and wind; prevent rapid drying to avoid shrinkage and cracking.

B. Do not permit traffic over unprotected floor underlayment surfaces.

END OF SECTION