



Building with conscience.

Sto Corp.  
3800 Camp Creek  
Parkway  
Building 1400, Suite 120  
Atlanta, GA 30331

Tel: 404 346 3666  
Toll free: 800 221 2397  
Fax: 404 346 3119

**STO GUIDE SPECIFICATION**  
**80244 Sto Leveler & Skim Coat**  
**Polymer-Modified, Cement-Based, Horizontal and Vertical, Structural Surface Leveler**  
**SECTION 09 97 26**  
**CONCRETE AND MASONRY COATINGS**

**PART 1 - GENERAL**

**1.01 SUMMARY**

- A. Provide polymer-modified, cement-based horizontal and vertical surface leveling of existing concrete, stucco, or concrete masonry substrates.
- B. Related Sections: Other specification sections which relate directly to the work of this section include the following:
  - 1. Section 03 30 00, Cast-In-Place Concrete
  - 2. Section 09 24 00, Portland Cement Plastering (Stucco)
  - 3. Section 04 22 00, Concrete Unit Masonry

**1.02 SUBMITTALS**

- A. Product Data: Submit manufacturer's product data and installation instructions for each material and product used. Include manufacturer's Safety Data Sheets (SDS).

**1.03 REFERENCES**

- 1. ASTM C109, Compressive Strength
- 2. ASTM C1583, Direct Tensile Bond Strength
- 3. ASTM C348, Flexural Strength
- 4. ASTM C672, Salt Scaling Resistance
- 5. ASTM C309, Specification for Curing Compounds
- 6. ICRI Technical Guideline No. 03732 Specifying Concrete Surface Preparation for Sealers, Coatings, and Polymer Overlays
- 7. ACI 305R, Guide to Hot Weather Concreting
- 8. ACI 306R, Guide to Cold Weather Concreting

**1.04 QUALITY ASSURANCE**

- A. Manufacturer's Qualifications: The manufacturer shall be a company with at least five years experience and regularly engaged in the manufacture and marketing of products specified herein. The manufacturer shall have an ISO 9001 certified quality system and ISO 14001 certified environmental management system.

- B. Installer's Qualifications: The contractor shall be qualified to perform the work specified by reason of experience.
- C. Job Site: Verify bond to properly prepared substrates as specified by design professional.

#### 1.05 DELIVERY, STORAGE AND HANDLING

- A. Deliver products in original packaging, labeled with product identification, manufacturer, batch number and shelf life.
- B. Store products in a dry area, off of the ground, with temperature maintained between 50 and 85 degrees F (10 and 29 degrees C). Protect from direct sunlight and extreme heat (90 degrees F (32 degrees C)) and freezing.
- C. Handle products in accordance with manufacturer's printed recommendations.

### PART 2 - PRODUCTS

#### 2.01 MATERIALS

- A. Cement-based structural surface leveling: Single component, polymer-modified, cement-based repair mortar, containing portland cement, graded specialty aggregates, dry acrylic polymer and admixtures. Comply with the following:
  1. Product: 80244 Sto Leveler & Skim Coat as manufactured by Sto Corp., 3800 Camp Creek Parkway, Building 1400, Suite 120, Atlanta, Georgia 30331; telephone 800-221-2397.
  2. Performance and Physical Properties: Meet or exceed the following values for material cured at 73 degrees F (23 degrees C) and 50 percent relative humidity:
    - a. Application: Trowel.
    - b. Working Time: 25-45 minutes
    - c. Compressive Strength per ASTM C109: 3,600 psi (24.8 MPa) at 7 days, 4,300 psi (29.6 MPa) at 28 days
    - d. Direct Tensile Bond Strength per ASTM C1583: 225 psi (1.6 MPa) at 28 days
    - e. Flexural Strength per ASTM C348: 800 psi (5.5 MPa) at 7 days, 980 psi (6.8 MPa) at 28 days
    - f. Salt Scaling Resistance per ASTM C672: 0 rating and 0 scaled material at 50 cycles
    - g. Trowel-application consistency
    - h. Color: Concrete Gray.

### PART 3 - EXECUTION

#### 3.01 INSTALLATION OF STRUCTURAL SURFACE LEVELER

- A. Examine substrates and conditions under which materials will be installed. Do not proceed with installation until all unsatisfactory conditions are corrected.
- B. Coordinate installation with adjacent work to ensure proper sequence of construction. Protect adjacent areas and landscaping from contact due to mixing and handling of materials.
- C. Surface Preparation: Comply with manufacturer's printed instructions and the following.

1. Remove loose and deteriorated materials from surfaces to be leveled using high pressure (>300 psi (20.7 MPa)) water-blasting, sand blasting, or mechanical wire brushing. Achieve an ICRI Concrete Surface Profile CSP 1 to 3.
  2. Provide right-angle cuts at perimeter of repair by saw-cutting or chipping where application thickness will meet or exceed 1/8 inch (3mm) in depth.
  3. Clean surfaces of bond-inhibiting materials including oil, dust and dirt, laitance, and standing water.
- D. Mixing: Comply with manufacturer's printed instructions and the following.
1. Precondition components to temperature of 70 plus or minus 5 degrees F (21 plus or minus 2.5 degrees C) prior to mixing
  2. Drill and Paddle:
    - a. Mix with 2.9 to 4.2 quarts (2.75 to 4.00 L) of clean, potable water per 50-pound (22.7 kg) bag.
    - b. Mix with a slow-speed drill (<300 rpm), adding the dry material slowly, approximately 1/3 bag at a time.
    - c. Do not exceed the maximum water content.
    - d. Mix up to 3 minutes or to achieve a uniform, lump-free consistency. Avoid over-mixing.
  3. Mortar Mixer:
    - a. Predampen the inside of a clean mortar mixer, and then remove any excess water.
    - b. Pour the required amount of water into the mortar mixer, start the mixing blades, and slowly add all of the powder.
    - c. If more water is needed, add up to 0.5 pints (0.24L) per bag.
    - d. Do not exceed maximum water content.
    - e. Mix to a uniform, lump-free consistency. Avoid over-mixing.
- E. Application: Comply with manufacturer's printed instructions and the following.
1. Remove loose, deteriorated concrete and all other bond-inhibiting materials from the area to be repaired.
  2. Apply when ambient and surface temperatures are 45 degrees F (7.5 degrees C) and rising.
  3. Do not apply in freezing conditions or during precipitation.
  4. Comply with applicable sections of ACI 305R and ACI 306R and applicable published product limitations for hot and cold weather application.
  5. Dampen substrate to fill concrete pores with water. Remove ponding, glistening, or surface water (saturated surface dry).
  6. Apply scrub coat of repair mortar into substrate to ensure intimate contact and establish bond.
  7. Apply mortar while scrub coat is wet. Consolidate and trowel to the desired finish, with a minimum thickness of 1/8 inch.
  8. Maximum thickness per lift is 1/2-inch.
  9. If application is thicker than 1/2-inch are required, score the first lift and allow to harden sufficiently to support the next lift (about 30 minutes at 75 degrees F (23 degrees C)). Apply a scrub coat and complete the next lift while the scrub coat is wet. Trowel the final lift to the desired finish.
- F. Curing
1. Keep surface damp for 48 hours with continuous light water-fogging, or cover with damp burlap or burlene curing blankets.

2. If no coating or sealer is to be applied, a water-based curing compound meeting ASTM C309 may be used.
  3. Do not use solvent-based curing compounds.
  4. Horizontal applications: do not open to foot traffic until sufficient cure and strength development has taken place
  5. Comply with applicable sections of ACI 305R and ACI306R for hot and cold weather curing.
- G. Cleaning: Remove excess material before material cures. If material has cured, remove using mechanical methods that will not damage substrate.

#### END OF SECTION

#### ATTENTION

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