



## **DIVISION 7 - THERMAL AND MOISTURE PROTECTION**

### **Section 07900 - Joint Sealers Elastomeric and non-Elastomeric sealant**

#### **Part 1 - General 1.01 Summary**

A. This specification describes the sealing of joints and cracks subject to normal to very large movement with an epoxy resin adhesive sealing system.

#### **1.02 Quality Assurance**

- A. Contractor qualifications: Contractor shall be qualified in the field of concrete repair and protection with a successful track record of 5 years or more. Contractor shall maintain qualified personnel who have received product training by a manufacturer's representative.
- B. Install materials in accordance with all safety and weather conditions required by the manufacturer or as modified by applicable rules and regulations of local, state and federal authorities having jurisdiction. Consult Material Safety Data Sheets for complete handling recommendations.

#### **1.03 Delivery, Storage, and Handling**

- A. All materials must be delivered in original, unopened containers with the manufacturer's name, labels, product identification, and batch numbers. Damaged material must be removed from the site immediately.
- B. Store all materials off the ground and protect from rain, freezing or excessive heat until ready for use.
- C. Condition the specified product as recommended by the manufacturer.

#### **1.04 Job Conditions**

- A. Environmental Conditions: Do not apply material if it is raining or snowing or if such conditions appear to be imminent. Minimum application temperature 40°F (5°C) and rising.
- B. Protection: Precautions should be taken to avoid damage to any surface near the work zone due to mixing and handling of the specified coating.



#### 1.04 Submittals

- A. Submit two copies of manufacturer's literature, to include: Product Data Sheets, and appropriate Safety Data Sheets (SDS).

#### 1.06 Warranty

- A. Provide a written warranty from the manufacturer against defects of materials for a period of one (1) year, beginning with the date of substantial completion of the project.

### Part 2 - Products

#### 2.01 Manufacturers

- A. KOSTER Joint Tape 20/30 as manufactured by KOSTER AMERICAN Corp., 2584 Aviator Drive, Virginia Beach, VA 23453 is considered to conform to the requirements of this specification.

#### 2.02 Materials

- A. KOSTER KB Pox Adhesive:
  - 1. The adhesive shall be a 2-component epoxy-based resin. It shall not contain solvents.
  - 2. The material shall be thixotropic with 100% solid content.
  - 3. Must adhere to concrete, mortar, metal, wood, and many other building materials.
  - 4. The ratio of component A: Component B shall be 4:1 by weight.
  
- B. KOSTER Joint Tape 20/30:
  - 1. The Joint Tape 20/30 shall be composed of flexible thermoplastic tape and UV resistant.
  - 2. The Joint Tape 20 shall be supplied in 65.6 ft. rolls and 20 cm (7.87 in) wide.
  - 3. The Joint Tape 30 shall be supplied in 65.6 ft roll and 30 cm (11. In) wide.

#### 2.03 Performance Criteria

- A. Properties of the mixed uncured epoxy resin adhesive:
  - 1. Pot life: 65 minutes
  - 2. Consistency: non-sag (1/2 in. thick)
  - 3. Color: Gray
  - 4. Tack-Free Time to Touch: 2-3 hours (73F)
  - 5. Hardening time: 24hours (73F)
  
- B. Properties of the cured epoxy resin adhesive:
  - 1. Tensile Properties at 14 days
    - a. Tensile Bond Strength: 540 psi
    - b. Elongation at break: 0.75%
  - 2. Compressive Properties at 28 days



- a. Compressive strength: 5800 psi
  3. Flexural Properties at 14 days
    - a. Flexural strength: 3770 psi
  4. Water Absorption (ASTM D-570),
    - a. 7 day, (24 hr. immersion): 0.07%
  5. Application temperature: 40F to 95F
  6. Density: 15.02 lb./gal
- C. Properties of the Joint Tape:
1. Tear Resistance:
    - a. Tensile Strength:
      1. lengthwise: >1,300 psi
      2. crosswise: >870 psi
    - b. Elongation at Break: >400%
  2. Resistance to water pressure: >116psi
  3. Resistance to UV radiation: >7500 hours
  4. Low Temperature of Performance: Maintained to -22F to +176 F.
  5. Chemical Resistance:
    - a. Water and bitumen based waterproofing products, water, sea water, wastewater, sunlight, hydrolysis, micro-organisms.
  6. pH resistance: pH = 2 to 10 (below 86°F) pH = 5 to 10 (below 104°F) pH = 6 to 8 (below 140 °F)

### Part 3 - Execution

#### 3.01 Surface Preparation

- A. The concrete or steel substrate must be clean, dry, sound and free of surface contaminants. Remove dust, laitance, grease, oils, curing compounds, form release agents and foreign particles by mechanical means, i.e. – sandblasting, etc., as approved by the engineer.

#### 1.02 Application

- A. System:
  1. Apply KOSTER KB-Pox Adhesive to the prepared substrate on both sides of the joint so both sides of the KOSTER Joint Tape are embedded into the adhesive at least 1 1/2-in. The KOSTER KB-Pox Adhesive should be approx. 80 mils (0.08 in) thick.
  2. Immediately embed KOSTER Joint Tape into the fresh adhesive and press onto the adhesive using a hand roller or a similar suitable tool. Ensure the tape has complete contact with the adhesive.



3. Apply a second layer of KOSTER KB-Pox Adhesive on top of the KOSTER Joint Tape so that the edges of the KOSTER Joint Tape are overcoated by at least 1 1/2-in. Apply KOSTER KB-Pox Adhesive so that it covers the substrate next to the tape by at least 3/4-in. Do not stress the system for at least 24 – 48 hours after application. Protect the freshly applied system from water, rain and frost until it is fully cured. As a structural adhesive: Apply the adhesive on both (prepared) substrates and press them together. Apply pressure until fully cured. Do not move or stress until fully cured. Protect from exposure to water and frost until fully cured. Do not apply thicker than 1/8-in.
4. Adhere to all limitations and cautions for the epoxy resin adhesive as stated in the manufacturers printed literatures.

### 1.03 Cleaning

- A. The uncured epoxy resin adhesive can be cleaned with KOSTER KB-POX Cleaner or approved equal. The cured epoxy resin adhesive can only be removed mechanically.
- B. Leave finished work and work area in a neat, clean condition without evidence of spillovers onto adjacent areas.

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