

**SECTION 03 15 16  
CONCRETE CONSTRUCTION JOINTS**

**PART 1 – GENERAL**

**1.01 SUMMARY**

- A. Section Includes:
  - 1. Installation of concrete control and construction joint filler material to interior, exposed industrial concrete slabs.
- B. Related Requirements:
  - 1. Section 01 33 00 – Submittal Procedures.
  - 2. Section 01 60 00 – Product Requirements.
  - 3. Section 03 30 00 – Cast-In-Place Concrete.
  - 4. Section 03 35 43 – Polished Concrete Finishing.

**1.02 REFERENCES**

- A. Reference Standards:
  - 1. The date of the standard is that in effect as the date of receipt of bids for the project.
  - 2. ACI 302.1R – Guide to Concrete Floor and Slab Construction.
  - 3. ASTM International (ASTM):
    - a. D412-Standard Test Methods for Vulcanized Rubber and Thermoplastic Elastomers—Tension.
    - b. D624-Standard Test Method for Tear Strength of Conventional Vulcanized Rubber and Thermoplastic Elastomers.
    - c. D1308-Standard Test Method for Effect of Household Chemicals on Clear and Pigmented Organic Finishes.
    - d. D2240-Standard Test Method for Rubber Property—Durometer Hardness.

**1.03 SUBMITTALS**

- A. Product Data: Submit product data sheets for each type of product specified.
- B. VOC Certification: Submit certification that products furnished comply with regulations controlling use of volatile organic compounds (VOC).
- C. Certificates:
  - 1. Certificates by manufacturer stating that installer is an approved installer and has completed the necessary training.

**1.04 QUALITY ASSURANCE**

- A. Installer Qualifications:
  - 1. Installer to be certified by the manufacturer in the installation of semi-rigid fillers on exposed concrete floors.
  - 2. Installer should have successfully performed a minimum of 5 projects of similar scope and complexity.
  - 3. Installer must use proper equipment to perform work within scope of this project, as recommended by the manufacturer.

**1.05 DELIVERY, STORAGE, AND HANDLING**

- A. Comply with manufacturer's written instructions for minimum and maximum temperature requirements and other conditions for storage.

- B. Deliver materials in original containers, with seals unbroken, bearing manufacturer labels indicating brand name and directions for storage.

## 1.06 FIELD CONDITIONS

- A. Environmental Limitations: Do not apply when air and substrate temperatures are outside limits permitted by manufacturer's written instructions.
- B. Do not apply joint filler material to concrete that does not comply with manufacturer's published instructions and ACI 302.1R.
  - 1. Do not apply to wet concrete.
  - 2. Allow adequate time for concrete to cure before application of joint filler material.
- C. Close areas to traffic during and after application for time period as recommended in writing by manufacturer.

## PART 2 – PRODUCTS

### 2.01 MANUFACTURER

- A. HI-TECH Systems: 1190 N Del Rio Place, Ontario, CA, (800) 454-5530, [www.hitechpolyurea.com](http://www.hitechpolyurea.com).
- B. Substitutions: Refer to Section 01 60 00 - Product Requirements.

### 2.02 MATERIALS

- A. Industrial concrete floor joint filler: Self-leveling, 100 percent solids, two-component polyurea elastomer joint filler material shall be:
  - 1. HT-PE85MI Polyurea Elastomer Joint Filler, manufactured by HI-TECH Systems, Ontario, CA, (800) 454-5530, [www.hitechpolyurea.com](http://www.hitechpolyurea.com).
  - 2. Subject to compliance with the following requirements:
    - a. Comply with national, state and district AIM VOC regulations.
    - b. Type A shore hardness of at least 85 when tested in accordance to ASTM D2240.
    - c. Elongation: Minimum 150 percent when tested in accordance with ASTM D412.
    - d. Tensile strength: Minimum 1100 psi when tested in accordance with ASTM D412.
    - e. Tear Strength, Die B: Minimum 148 pli when tested in accordance with ASTM D624.
    - f. Stain Resistance: Achieve limited or no discoloration when tested in accordance with ASTM D1308.
- B. Interior concrete floor joint filler: Self-leveling, 100 percent solids, two-component polyurea elastomer joint filler material in [freezer][ ] shall be:
  - 1. HT-PE85 FB Polyurea Elastomer Joint Filler, manufactured by HI-TECH Systems, Ontario, CA, (800) 454-5530, [www.hitechpolyurea.com](http://www.hitechpolyurea.com).
  - 2. Subject to compliance with the following requirements:
    - a. Comply with national, state and district AIM VOC regulations.
    - b. Type A shore hardness of at least 85 when tested in accordance to ASTM D2240.
    - c. Elongation: Minimum 150 percent when tested in accordance with ASTM D412.
    - d. Tensile strength: Minimum 1100 psi when tested in accordance with ASTM D412.
    - e. Tear Strength, Die B: Minimum 148 pli when tested in accordance with ASTM D624.
    - f. Stain Resistance: Achieve limited or no discoloration when tested in accordance with ASTM D1308.

## PART 3 – EXECUTION

### 3.01 EXAMINATION

- A. Verification of Conditions:

1. Examine the slab and joint conditions and notify the [Architect][Owner] in writing of any deficiencies.
2. Concrete must be sound, clean and free of dust, grease, curing compounds, waxes and other contaminants that would adversely affect the quality or durability of the joint filler material.
3. Work area must be free of obstructions and other trades.
4. Work shall commence upon acceptance of the project conditions.

### **3.02 PREPARATION**

- A. Surface Preparation:
1. Run dry-cut, vacuum-equipped saw full depth of joint.
  2. Vacuum the joint thoroughly and ensure the joints are dry and free of debris.
  3. Do not proceed until unsatisfactory conditions have been corrected.

### **3.03 JOINT FILLER INSTALLATION**

- A. General: Comply with manufacturer's written instructions for mixing, dispensing and installation of the of joint filler material.
- B. Apply joint filler material in joints with a width of one inch or less, slightly overfilling joint filler material.
- C. Allow product to cure before shaving excess joint filler material. Ensure the joint filler material is flush with finished floor.

### **3.04 PROTECTION**

- A. Protect installed joint filler material for 1 hour prior to opening area to construction foot traffic and vehicles.

**END OF SECTION**