

## SECTION 03930

### CONCRETE FLOOR CRACK/JOINT/SMALL HOLE/SPALL FILLERS: FREEZER/COOLER/AMBIENT ENVIRONMENT FILLING PRIOR TO COATING/SEALING and/or POLISHING

#### PART 1 – GENERAL

- 1.01 GENERAL DESCRIPTION OF WORK
- A. Provide all labor, products and equipment required to properly install polyurea filler in joints, cracks and small holes in the interior concrete floor slabs.
- 1.02 SCOPE OF WORK
- A. Areas of work include freezers, coolers and ambient temperature areas.  
B. Fill all contraction (control) and construction (formed) joints in the interior concrete floor slab where the joints will be exposed to material handling vehicle wheels. (not for EXPANSION JOINTS)  
C. Refer to drawings for additional joints, cracks, holes possibly requiring filler, such as joints under racks, joints at column diamonds and pads, etc.  
D. Fill all holes or deformations (smaller than 6" in diameter) in concrete slab  
E. Fill all cracks in concrete slab
- 1.03 RELATED WORK
- A. Division 3, Section 03300 – “Cast-In-Place Concrete”  
B. Division 3, Section 03317 – “Floor Joint Filling, Freezer/Cooler/Ambient”  
C. Division 3, Section 03930 – “Concrete Floor Crack and Joint Repair”  
D. Division 7, Section 07900 – “Joint Sealants”  
E. Division 3, Section 03500 – “Polished Concrete Finishing”  
F. Division 9, Section 09600 – “Finishes Walls, Ceilings & Floors”
- 1.04 APPLICABLE STANDARDS
- A. Products and installation shall be in compliance or exceed the joint filling criteria established in the latest ACI 302 and ACI 360 Committee published documents.
- 1.05 CONTRACTOR QUALIFICATIONS
- A. Installer shall have a minimum of three (3) years experience in the installation of polyurea fillers/industrial floor coatings on industrial floors.  
B. Applicator shall use tools and equipment specifically designed for the preparation and placement of industrial joint fillers.

1.06 SUBMITTALS

- A. Joint Filler Materials: Submit Manufacturer’s tech-data describing joint filler proposed for use on the project.

**PART 2 – PRODUCTS**

2.01 CONTROL JOINT FILLER:

- A. Provide two-part, low viscosity, 100% solids content polyurea control and construction joint fillers intended for each condition listed.
- B. Utilize products with physical properties meeting the following minimum values.

PROPERTY	TEST METHOD	PROPERTY VALUE
Shore A Hardness.....	ASTM D2240.....	.85 or greater
Tensile Strength.....	ASTM D638.....	500 psi “
Adhesion to Concrete .....	ASTM D4541.....	350 psi “
Solids Content.....		100%
Meeting USDA Guidelines, post cure		

Products: Subject to compliance with requirements, utilize products manufactured by **Legacy Industrial Corp**, 12386 State Rd. 535 #450, Orlando, FL 32836, 888-652-0333, [www.legacyindustrial.net](http://www.legacyindustrial.net)

- C. .
  - 1. Joint filler for all areas with operating temperatures of 45°F or lower, including freezers to -20°F, shall be **“XTREME-SET100 Polyurea Joint Filler”**.
- D. No joint filler substitutions will be allowed.

2.02 ACCESSORIES

- A. Silica sand should be used to pre-fill shrinkage cracks/joints/holes. Silica must be dry, bagged, of 20 to 40 grit.
- B. The use of compressible foam backer rod is strictly prohibited in ALL saw-cut control joints.
- C. Joint Cleanout and preparation should be done utilizing dust-free, diamond blade equipped cleanout saws.

**PART 3 – EXECUTION**

3.01 PROJECT CONDITIONS

- A. Work area should be free of obstructions and other trades.
- B. Slab should be visibly dry and all floor scrubbing/washing activities should be suspended at least 48 hours prior to filler installation.

3.02 TIMING OF INSTALLATION

- A. The American Concrete Institute (ACI) recommends that filling be deferred as long as possible to allow for maximum slab shrinkage and joint widening. Deferring filler installation as long as possible will help to minimize the

occurrence of joint filler separation due to excessive joint widening during concrete cure (and shrinkage).

- B. For ambient temperatures a 90-120 day slab cure is advisable. Deferring filling until after facility is under permanent temperature control is best, if possible.
- C. Refrigerated areas (coolers, freezers) should be filled after area is stabilized at final operating temperature for a minimum of five (5) days, fourteen (14) days preferred for cooler environments (33°F - 45°F).

### 3.03 EXAMINATION OF CONDITIONS

- A. It is the responsibility of the installer to inspect project and joint conditions and notify on-site management in writing of any deficiencies that might adversely affect the quality or durability of the work performed or his contract price.
- B. Start of work by the installer implies acceptance of conditions.

### 3.04 PRE-INSTALLATION SAMPLE

- A. Before start of actual work the applicator shall install samples to demonstrate his intended procedures and finished product. Sample shall include at least 25' each of both contraction, construction joints, cracks and be performed in the presence of on-site management.
- B. If procedures and finished product are approved they will be considered a standard for the entire project.

### 3.05 JOINT PREPARATION

- A. Prior to installation of joint fillers, all saw-cut joints shall be thoroughly cleaned to their full original depth. Typically 1 ¼ - 1 ½" in a 6" slab, 2" in an 8" slab. Where the original saw-cut depth exceeds 2", joint preparation and filling must be performed to a minimum depth of 2".
- B. All cracks should be routed to angle all crack edges, 45 deg.
- C. Construction (formed, through slab) joints that are not saw-cut shall be cleaned to a minimum depth of 2".
- D. Preparation shall be performed using a vacuum-equipped saw that will reach the base of the saw-cut joint or to a depth of 2" in the case of through slab construction joints, and shall be used in a manner that takes both joint walls back to bare concrete, removing all saw laitance, curing compounds, sealers, debris, etc. Joint cleaning may be performed using two cleaning passes, one along each side of the joint. Or, if only one cleaning pass is performed, the diamond blade width must be slightly wider than the joint to be cleaned.
- E. Where joints have minor edge chips, said chips shall be "squared off" and filled along with the joint itself.
- F. Keep prepared joints free of dust, moisture, and jobsite debris prior to filling.

### 3.06 POLYUREA FILLER INSTALLATION

#### A. Installation of Legacy Industrial's XtremeSet-100 Polyurea Filler, Joints/Cracks/Small Holes/Spalls:

1. Pre-mix Part "A" and Part "B" components separately
2. Fill joint/crack or hole level with silica sand
3. Small hairline cracks can be filled NEAT (without sand)
4. Because of extremely short pot life, XtremeSet-100 must be dispensed using dual-component power dispensing equipment or through 16 oz squeeze bottles. Pump, reservoir tanks and dispensing wand should be heated for all freezer work. Squeeze bottles are only good for 2-3 treatments and should be replaced if ineffective.
  
5. Fill joint/crack or small hole in one pass, slightly overfilling the joint or crack. The sand will allow the material to run to the bottom of joint/crack/hole
6. After XtremeSet-100 has fully cured, grind the repair flush using an angle grinder/diamond cup wheel or preferred method of planetary, walk behind diamond grinder/polisher.
7. If low spots exist or if the finish profile is not flush, abrade the filler surface with a wire brush, wire wheel, or other means and apply an additional application of XtremeSet-100 filler.
8. Shallow holes/spalls (less than 1/4" ) can be wetted with polyurea filler first, then broadcast sand into repair, grind flush/smooth, post cure.

## **PART 4 -QUALITY ASSURANCE**

### 4.01 JOINT FILLER DEFICIENCIES:

- #### A.
- Installer is advised that significant deficiencies in workmanship, including: less than proper filler depth, inadequate joint cleaning, concave filler profile, etc., shall be removed and properly replaced.

END OF SECTION