

## **SPECIAL SPECIFICATION**

### **SECTION 07910S**

#### **POP-OUT SEALING IN WAFFLE SLAB**

##### **PART 1 - GENERAL**

###### **1.01 WORK INCLUDED**

- A. This Section specifies the requirements necessary to furnish and install pop-out seals, including:
  - 1. Removing pop-out covers and preparing surfaces.
  - 2. Installing collars, backing, and sealants.
  - 3. Installing penetrating items.
  - 4. Abandoning and resealing openings.

###### **1.02 RELATED WORK AND CRITERIA**

- A. Drawings and general provisions of Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.
- B. Requirements of the following Project Specification Sections apply to this section:
  - 1. Section 01111S – Cleanroom Construction And Cleaning Procedures
  - 2. Section 01112S – Cleanroom Certification And Acceptance
  - 3. Section 13037S– Cleanroom Access Flooring
  - 4. Section 13036S – Cleanroom Wall System
  - 5. Section 13020S– Cleanroom Ceiling System
  - 6. Section 07900S – Joint Sealants
  - 7. Section 07270 – Firestop and Smokestop Systems
  - 8. Section 09670S – Fluid-Applied Flooring

- C. In the event of conflict regarding pop-out sealing requirements between this Section and any other section, the provisions of this Section shall govern.

#### 1.03 WARRANTY

- A. Provide 1-year warranty.
- B. Warranty: Include coverage of installed sealants and accessories which fail to achieve airtight and watertight seal, exhibit loss of adhesion or cohesion, or do not cure.

#### 1.04 QUALITY ASSURANCE

- A. Manufacturer: Company specializing in manufacturing the products specified in this Section with minimum 5 years' documented experience.
- B. Subcontractor: Company specializing in applying the work of this Section with minimum 5 years' documented experience and approved by sealant manufacturer.
- C. Conform to Sealant and Waterproofers Institute Requirements for materials and installation and the requirements in Section 07900S.
- D. Pre-installation Meeting: Meet at the project site before start of pop-out sealing work with the Subcontractor, SNL, Contractor, and pop-out installer to review required work and project conditions. Review proposed materials for use and substrate conditions. Document items discussed and actions required to complete work in accordance with Contract Documents.

#### 1.05 DELIVERY, STORAGE, AND HANDLING

- A. Deliver and store packaged materials in manufacturer's original unopened containers with seals unbroken and labels intact until time of use. Store materials off ground and under cover to prevent damage or contamination to materials by water, freezing, foreign matter or other causes. Promptly remove from site any materials which show evidence of damage and immediately make all replacements necessary.

#### 1.06 SUBMITTALS

- A. Provide the following in addition to the standard requirements with the Bid:
  - 1. MSDS and product data indicating sealant chemical characteristics, performance criteria, limitations, and priming requirements.
  - 2. Certificate of compliance for sealants used in locations exposed to cleanroom air supply.

## 1.07 FIELD SAMPLES

- A. Construct one field sample pop-out sealing installation.
- B. Locate where directed.
- C. Keep sample intact as the standard for evaluating the completed work.
- D. Accepted sample may remain as part of the Work.

## PART 2 - PRODUCTS

### 2.01 SEALANTS

- A. Popout Sealant:
  - 1. Product: Penetron 3003.
    - a. Type: Rapid set, flexible 1:1 polyurea system, self-leveling, 100% solids.
    - b. Manufacturer: ASTC Polymers, Inc., 1677 Superior Ave Unit F, Costa Mesa, CA 92627 (714)646-1207.
    - c. Color: Light gray.
  - 2. Ure FAST PF-60: Sole US Distributor - Sullivan Supply, 952 Industry Drive, Tukwila, WA, 98188, 1-800-201-9300.
  - 3. Use only one type of popout sealant per popout. Note:- PF-60 is the preferred sealant for virgin popouts.
- B. Sealant Type: See Section 07900, Joint Sealers, silicone RTV, one-component, approved for clean room use.

### 2.02 ACCESSORIES

- A. Primer: none.
- B. Cleaner: See Section 01111S, Cleanroom Construction and Cleaning Requirements.
- C. Backing: Foam insert:
  - 1. Type: 2-inch- thick rigid polyethylene plastic foam.
  - 2. Acceptable Products:

- a. Ethafoam 220 Plank Brand, Dow Chemical Co. 800-258-2436.
  - b. Polyplank, Tenneco Packaging, 1900 West Field Court, Lake Forest, IL 60045 USA, 888-828-2850.
- D. Collar: PVC pipe, inside diameter to match or slightly larger than the pop-out opening, Schedule 40. Contractor shall verify proper size for site conditions. Using cleanroom-approved pen, mark inside of collar at ¾-inch height from bottom end, as guide line for pouring sealant to proper height.
- E. Tooling Agents: approved by sealant manufacturer; non staining to sealant and substrate.

### PART 3 - EXECUTION

#### 3.01 LOCATE AND OPEN POP-OUT

- A. Locate the correct pop-out using maps and column numbers; (cleanroom and subfab) as shown on the Drawings.
- B. Mark the center of the pop-out (cleanroom and subfab).
  - 1. In subfab push up on pop-out cover to aid in locating edge of opening in cleanroom.
- C. Cut through coated floorings use a knife to cut the coating from the cleanroom side to cut a circle the diameter of the pop-out opening.
- D. Remove the lid and wipe down the cleanroom area.
  - 1. Either tap on lid with blunt tool handle to loosen lid, or push up lid from below.
  - 2. Place lid in plastic bag for salvage to SNL.
  - 3. Vacuum and wipe down area and inside of pop-out.
  - 4. Chip away loose concrete and ensure that area is dust free.

#### 3.02 INSTALL COLLAR AND FOAM INSERT

- A. Set protective collar:
  - 1. Place around pop-out.
  - 2. Seal outside perimeter of the collar using silicone sealing.

- B. Prepare foam insert:
  - 1. Precut insert to diameter of opening. Size to wedge tightly into final position.
  - 2. Scribe outline of services onto insert for cutting prior to placement.
  - 3. Services shall be as shown on Drawings.
  - 4. Cut insert to fit around lines using heated knife blade or “cookie cutters” made from pipe. Core diameter of pipe or slightly undersized for snug fit.
- C. Install foam insert. (Note that utilities may be installed prior to foam placement.)
  - 1. Push insert into place  $\frac{1}{4}$  inch below the top of the waffle slab.
  - 2. Ensure that insert is level and wedged tightly to prevent displacement.
  - 3. Use double-stick foam tape if necessary to hold firmly in place.

### 3.03 INSTALL UTILITIES

- A. Wipe down the utility lines.
- B. Pass lines through opening.
- C. Position lines in final configuration.

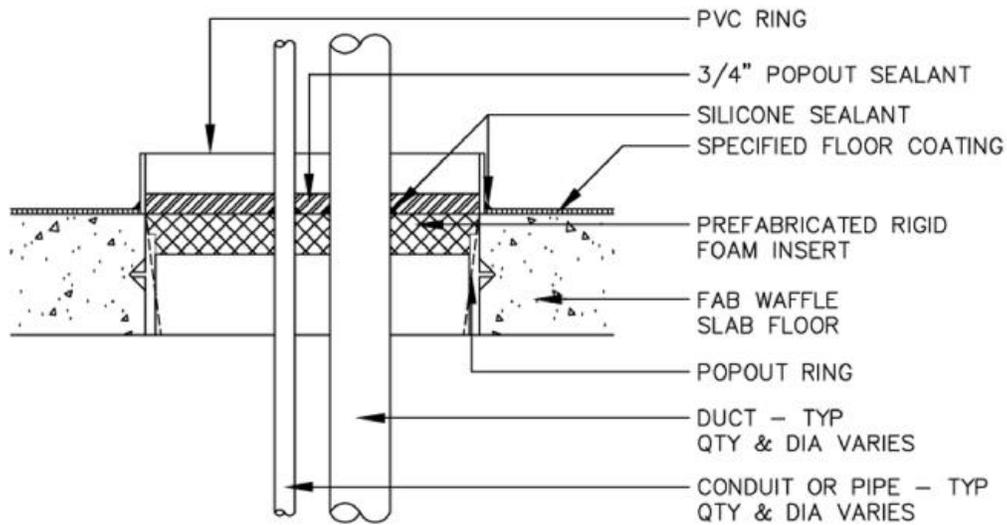
### 3.04 SEAL THE POP-OUT

- A. Seal perimeter of the insert, utility penetrations, and cuts in the insert using silicone sealant. Let sealant set as directed by manufacturer before proceeding.
- B. Alert personnel working in the area that an odor will be present when installing the sealer. Follow local site permit process.
- C. Mix popout sealant and transport sealant in covered container.
  - 1. Mix in accordance with manufacturer’s instructions.
  - 2. Do not allow mixed product to stand. Install immediately.
- D. Pour sealant to  $\frac{3}{4}$  inch thickness. Install sealant free of air pockets and foreign embedded matter.
- E. Protect the opening while curing.

3.05 CLOSING AN UNUSED POP-OUT

- A. Remove existing pop-out seal, foam insert and utilities.
- B. Follow same procedure as for a typical pop-out seal, using an unpenetrated foam insert.

3.06 POP-OUT DETAIL



POPOUT DETAIL - DRY & WET AREAS

END OF SECTION