

# **SUGGESTED CONDENSED MANHOLE FRAME SEAL SPECIFICATION**

## **(New Construction w/External Seal)**

### **PART 1 GENERAL**

#### **1.01 WORK REQUIRED**

The Contractor shall install a frame seal and extensions if needed in all new sanitary manholes included in this project. The frame seal and extension shall span the entire adjustment area of the manhole by connecting to the bottom base flange of the frame casting and to the top of the manhole cone.

#### **1.02 SUBMITTALS**

The manufacturers of all manhole frame seals shall submit a notarized certification to the Engineer stating that their product meets the design life, performance and applicable material requirements of this specification.

### **PART 2 PRODUCTS**

#### **2.01 FRAME SEAL**

Frame seals shall remain flexible throughout a 50 year design life, allowing repeated vertical movement of the frame of not less than 2 inches and/or repeated horizontal movement of not less than one half 1/2 inch.

The sleeve portion of the seal shall be corrugated with a minimum unexpanded vertical height of either 6 inches or 9 inches and shall be capable of being mechanically locked to the base flange of the manhole frame casting. The sleeve and extension shall have a minimum thickness of 3/16 inches and shall be made from a high quality rubber compound conforming to the applicable material requirements of ASTM C-923, with a minimum 1500 psi tensile strength, a maximum 18% compression set and hardness (durometer) of 48+5. The area of the seal that compresses against the base flange of the manhole frame casting and the chimney/cone shall have a series of sealing fins to facilitate a watertight seal.

The compression bands shall be integrally formed from 16 gauge stainless steel conforming to the applicable material requirements of ASTM C-923, Type 304, with no welded attachments and shall have a minimum adjustment range of 2 diameter inches. Any screws, bolts or nuts used on this band shall be stainless steel conforming to ASTM F-593 and 594, Type 304.

- A. Acceptable Manufacturers
  - 1. Cretex Specialty Products
  - 2. Pre-Approved Equal

### **PART 3 EXECUTION**

#### **3.01 SURFACE PREPARATION AND SEAL INSTALLATION**

The surface preparation required to install the frame seal and the installation of the seal and extensions shall be in accordance with the manufacturer's instructions.

### **PART 4 MEASUREMENT AND PAYMENT**

#### **4.01 FRAME SEAL AND EXTENSIONS**

All costs for furnishing and installing an external frame seal and where necessary, a extension or extensions, shall be included in the unit price bid for sanitary manholes.