



Iowa Department of Transportation

SPECIAL PROVISIONS FOR MANHOLE SEALING

Pottawattamie County
IMN-029-3(126)48--0E-78

Effective Date
May 15, 2012

THE STANDARD SPECIFICATIONS, SERIES 2009, ARE AMENDED BY THE FOLLOWING MODIFICATIONS AND ADDITIONS. THESE ARE SPECIAL PROVISIONS AND THEY SHALL PREVAIL OVER THOSE PUBLISHED IN THE STANDARD SPECIFICATIONS.

090205.01 DESCRIPTION.

Install a chimney seal, manhole lid insert and sandbags to prevent surface water infiltration into an existing sanitary sewer manhole.

090205.02 MATERIALS.

A. Chimney Seal.

1. External Rubber Seal.

- a. Rubber Sleeve and Extension.
 - 1) Corrugated; minimum thickness of 3/16 inches, according to ASTM C 923/C 923M.
 - 2) Minimum allowable vertical expansion of at least 2 inches.
- b. Compression Bands.
 - 1) One-piece band assembly to compress sleeve or extension against manhole and casting surfaces.
 - 2) 16 gage ASTM A 240/A 240M, Type 304 stainless steel, minimum 1 inch width, minimum adjustment range of 4 inches more than the manhole outside diameter.
 - 3) For standard two piece castings, shape top band to lock sleeve to manhole frame's base flange. For three piece adjustable castings, shape top band to lock sleeve to upper piece of adjustable frame.
 - 4) Stainless steel fasteners complying with ASTM F 593 and ASTM F 594, Type 304.

2. Internal Rubber Seal.

- a. Rubber Sleeve and Extension.
 - 1) Double pleated, minimum thickness 3/16 inch thick, according to ASTM C 923/C 923M.
 - 2) Minimum allowable vertical expansion of at least 2 inches.
 - 3) Integrally formed expansion band recess top and bottom with multiple sealing fins.

b. Expansion Bands.

- 1) One-piece band assembly to compress sleeve or extension against manhole and casting surfaces
- 2) 16 gage ASTM A 240/A 240M, Type 304 stainless steel, minimum 1 3/4 inch width, minimum adjustment range of 2 inches more than the manhole inside diameter. Stainless steel locking mechanism of studs and nuts complying with ASTM F 593 and ASTM F 594, Type 304.

B. Manhole Lid Insert.

1. Ultra high density polyethylene that meets the requirements of ASTM D-1428, Class A, Category 5.
2. Factory installed lift strap.

090205.03 Construction.

A. Chimney Seal.

1. Extend seal 3 inches below the lowest adjustment ring.
2. Extend seal to 2 inches above the flange of the casting for a standard two piece casting, or 2 inches above the top of the base section of the casting for an adjustable three piece casting.
3. Use multiple seals, if necessary.
4. Install compression bands (external chimney seal) or expansion bands (internal chimney seal) to lock the rubber sleeve or extension into place and to provide a positive watertight seal. Once tightened, lock bands into place. Use only manufacturer recommended installation tools and sealants.

B. Manhole Lid Insert.

1. Remove the existing manhole cover and clean the rim of the frame.
2. Place the manhole insert on the manhole frame rim and replace the manhole cover.

C. Sandbagging.

1. Install sandbags over the manhole cover and frame after the chimney seal and manhole lid insert have been installed.
2. Remove sandbags at the completion of the project.

D. Delivery, Storage, Handling

Prevent damage to the materials during delivery, storage, and construction. Prior to delivery to the project site, review the manufacturer's care and handling recommendations. Any damage to the materials resulting from the contractor's vehicles, equipment, or operations, shall be replaced.

090205.04 METHOD OF MEASUREMENT.

By count for the number of manholes sealed.

090205.05 BASIS OF PAYMENT.

- A. Payment will be the contract unit price per each manhole sealed.
- B. Payment will be full compensation for furnishing all material, equipment, and labor and for performance of all work necessary for installation of chimney seal and manhole lid insert and installation and removal of sandbags at the completion of the project.