

SPECIFICATION FOR
CHIMNEY ADJUSTMENT LINER (POLYETHYLENE (PE)) 03/09

(With Optional GU ABS Grade Rings)

(A) SCOPE:

Furnish a multi-purpose liner for manhole (sanitary, storm, leachate, retrofit) chimneys installed above flat slab tops/cones to address the following criteria.

- 1.0 Provide a corrosion resistant barrier to protect precast concrete (brick/masonry etc.) grade rings.
- 1.1 Create an effective seal between multiples of concrete or ABS grade rings and their contact with flat slab tops/cones to prevent infiltration of surface water into the sewer system.
- 1.2 Provide both vertical and horizontal adjustment to suit grade and camber.
- 1.3 The chimney liner shall be resistant to the chemical environment normally found in wastewater transmission systems.

(B) POLYETHYLENE (PE) CHIMNEY ADJUSTMENT LINER:

- 1.0 The chimney adjustment liner shall be a one-piece rotationally molded polyethylene sleeve with a sealing flange (approx 2"/50mm wide) at right angles to the vertical.
- 1.1 Adjustment heights shall be variable between 4 inches (100mm) and 18 inches (450mm). To accurately conform to final grade as per drawings or as indicated by the engineer it may be necessary to trim the chimney adjustment liner to the required height.
- 1.2 Inside diameter of the access opening shall be 24 inches (610mm)

(C) MATERIALS:

- 1.0 POLYETHYLENE (PE) – Low density polyethylene (LDPE), suitable for potable water tanks, chemical storage tanks, and septic tanks.
- 1.1 Minimum thickness – 0.2"-0.25" (5mm-6mm)
- 1.2 Colour – dull mustard/goldenrod

(D) INSTALLATION:

- 1.0 Assemble and install the precast concrete manhole structure in the customary manner as prescribed by the manufacturer and the approved construction plans.
- 1.1 Inspect precast concrete flat slab top/cone for correct access opening diameter and any damage or irregularities which could compromise the installation and seal of the chimney adjustment liner. Repair/replace as necessary.
- 1.2 Clean dirt and/or excess concrete slurry from the mounting area. Apply a bead of approved, preformed flexible butyl joint sealant to the liner's sealing flange or to the top of the concrete mating surface. Bed the liner into the butyl sealant and apply sufficient pressure to home it to the concrete section creating a seal. It is recommended that the butyl joint sealant be ¼" to 3/8" thick and from ¾" to 1 ½" wide. The butyl joint sealant shall comply with the most current revision of Standard Specification ASTM C990, section 6.2-Butyl Rubber Sealant and Federal Specifications SS-S-210A type 1 and shall be applied as per the manufacturer's instructions. NOTE: Thicker butyl sealant strips typically used for precast concrete structure joints are too thick and will prevent accurate alignment of the chimney adjustment liner and cast iron frame at the correct grade.
- 1.3 Precast concrete grade rings (brick/masonry etc.) or ABS grade rings providing adjustment to align the cast iron frame with cover are lowered over top of the liner. Set precast grade rings (brick/masonry etc.) or ABS grade rings into a full bed of non-shrink grout ensuring that the space between each ring or brick course is completely filled. The annular space between the chimney liner and grade rings etc. must also be filled with grout leaving no voids. IMPORTANT NOTE: Precast concrete grade rings must have an inside diameter 1" – 1 ½" greater than the I.D. of the chimney liner being installed. (I.E. 24" I.D. access adjustable chimney liner requires a 25.5" I.D. precast concrete grade ring.)

1.4 Position and home manhole frame internal lip onto a strip of butyl joint sealant (1/4" to 3/8" thick and from 3/4" to 1 1/2" wide) applied to the top edge of the liner and grout face in the customary manner. The cast iron frame shall be anchored as prescribed by the utility specification or as directed by the engineer.

1.5 Mechanical anchoring attachments through liner surfaces must be sealed with an approved elastomeric sealant. (See approved source recommendations).

1.6 After assembly is complete, the interior surfaces of the liner shall be free of pinholes, cracks, pits or defects which are detrimental to the intended use of the liner. No liner shall have holes or openings which will permit the intrusion of liquids or gasses through the liner wall and into the concrete matrix. There shall be no exposed mortar on any inside liner surface at cast iron frame ring joint which will permit the passage of liquid or gasses through the liner wall to masonry adjustment or precast concrete sections.

SUPPLY SOURCES OF RECOMMENDED GROUTS, ELASTOMERIC BUTYL SEALANTS AND ADHESIVES FOR INSTALLATION OF THE GU POLYETHYLENE (PE) CHIMNEY ADJUSTMENT LINER (03/09)

FLOWABLE/PUMPABLE GROUTS

SULPHATE RESISTANT GROUTS

PRODUCT: MASTERFLOW 928
BASF BUILDING SYSTEMS
889 Valley Park Dr
Shakopee, MN 55379
TEL: 800 / 433-9517
FAX: 800 / 496-6067
www.buildingsystems.basf.com

**PRODUCT: PORTLAND EXPANDING
NON-SHRINK GROUT**
TARGET PRODUCTS LTD.
8535 East Lake Drive
Burnaby, BC
Canada V5A 2T7
TEL: 604/444-3620 or 800/575-7700
FAX: 604/420-3616
www.targetproducts.com

PRODUCT: FIVE STAR SPECIAL GROUT 150
FIVE STAR PRODUCTS, INC
750 Commerce Drive
Fairfield , CT 06825
TEL: 203/336-7900
FAX: 203/336-7930
www.fivestarproducts.com

NON-SULPHATE RESISTANT GROUTS

PRODUCT: 1107 ADVANTAGE GROUT
DAYTON SUPERIOR
777 Washington Village Dr, Suite 130
Dayton, OH 45459
TEL: 877/632-9866
FAX: 937/428-9560
www.daytonsuperior.com

PRODUCT: NC GROUT
THE EUCLID CHEMICAL COMPANY
19218 Redwood Rd
Cleveland, OH 44110
TEL: 216/531-9222 or 800/321-7628
FAX: 216/531-9596
www.euclidchemical.com

PRODUCT: NON-SHRINK PRECISION GROUT
QUIKRETE CEMENT & CEMENT PRODUCTS
One Securities Center
3490 Piedmont Road, Suite 1300

Atlanta, GA 30305
TEL: 404/634-9100 or 800/282-5828
FAX: 404/842-1424
www.quikrete.com

BUTYL RUBBER PREFORMED FLEXIBLE JOINT SEALANT

(PRECAST CONCRETE TOP SECTION JOINT ONLY - CONE / FLAT TOP / CAST IRON FRAME)
(SPECIFICATION - ASTM C-990, Section 6.2 Butyl Rubber Sealant)

PRODUCT: RU106-RUB' R-NEK "LTM"
HENRY COMPANY, SEALANTS DIVISION
1277 Boyles St.
Houston, TX 77020
TEL: 713 /671-2494 - 800 / 231-4549
FAX: 713 / 673-7714
www.henry.com

PRODUCT: PRO-STIK
PRESS-SEAL GASKET CORPORATION
2424 W. State Blvd.
Fort Wayne, IN 46804
TEL: 219 / 436-0521 - 800 / 348-7325
FAX: 219 / 436-1908
www.press-seal.com

ELASTOMERIC SEALANTS - RESILIENT CURING NON SHRINK CAULK TYPE

(MECHANICAL ANCHOR PENETRATIONS AND REMEDIAL "CAULK" SEAL OF MISCELLANEOUS JOINTS OR SEAMS - 1" WIDTH OR LESS)

NOTE: The sealant manufacturer's application and surface preparation procedures (including primer) must be followed. This includes recommended maximum joint depth of 1/2" (1/4" minimum thickness) and the use of bond-breaker polyethylene closed cell foam backer rod or polyethylene bond breaker tape.

PRODUCT: SIKAFLEX 1a
Polyurethane sealant;
Use SIKAFLEX 449-203 PRIMER
SIKA CORPORATION
201 Polito Ave.
Lyndhurst, NJ 07071
TEL: 800 / 933-7452
www.sikaconstruction.com

PRODUCT: SCS 1003
Silicone sealant;
Use GE SS4179 PRIMER
GENERAL ELECTRIC COMPANY
260 Hudson River Road
Waterford, NY 12188
TEL: 800 / 255-8886
www.gesilicones.com

PRODUCT: VULKEM 921
Polyurethane Sealant;
Tremco 171 PRIMER (porous substrates)
TREMprime NON-POROUS PRIMER (metal substrates)
TREMCO, INCORPORATED
3735 Green Road
Beachwood, OH 44122
TEL: 800 / 852-8173
www.tremcosealants.com