INSIGNIA™ HYDROPHILIC O-RINGS

Q: Why is CIPP Rehabilitation Alone Not Sufficient for a Sealed System?

A: It is presumed that the resin in CIPP Liners bonds with host pipe, creating an effective water tight seal after cure. The truth is that resin shrinks due to polymerization leaving behind an annular space between liner and host pipe, allowing infiltration to migrate behind the new lining and re-enter into the collection system at lateral connections and manhole penetrations. The only way to totally seal a collection system is to use hydrophilic compression gasket sealing technology at manhole and lateral penetrations. The Insignia™™ O-Rings are for use at lateral penetrations and termination points of overlapping CIPP liners. LMK also offers other Insignia™ products (the Insignia™ Connection Hat and the Insignia™ End Seal Sleeve) which fulfill the purpose of sealing the lateral connections as well as overlapping CIPP Liners for a total sealed system.

Q: What are Insignia™ O-Rings?

A: The Insignia™ O-Rings are a hydrophilic compression gasket sealing technology designed for use with CIPP and folded plastic liners at lateral penetrations and at the termination points of overlapping CIPP liners to not only reduce Infiltration, but to eliminate it. With the inclusion of Insignia™ O-Rings, owners can be assured that CIPP rehabilitation in the mainline and lateral pipe with these seals is not only structural, but water tight. This is so significant because for years owners and municipal workers have been allocating funds to stop Infiltration but until now have not been successful in finding a product that is sufficient to do so.

Q. What Methods of CIPP Repair Can be used in Conjunction with Insignia™ O-Rings?

A: These Hydrophilic O-Rings are compatible all types of mainline liners including Inverted CIPP, Pull in-place CIPP, and folded plastic liners.

Q: How is Insignia™ O-Ring installed?

A: During the “wet-out” process (a process in which the liner is vacuum impregnated, resin saturated, and loaded into a launching device for air inversion) Insignia™ O-Rings are placed over the exposed portion of the mainline liner or lateral liner. Assuming a lateral liner is inverted, the O-Rings can be attached inside the liner before inversion. The CIPP repair is then performed embedding the O-Rings between the liner and host pipe. Upon contact with water, the Insignia™ O-Rings will begin to swell 3 to 5 times their original size creating a compression gasket seal preventing water from flowing through the repair and migrating back into the collection system.

Q: What Material is used to Make the Hydrophilic O-Rings and Why?

A: Insignia™ End Seal Sleeves are made of a specialty type of Neoprene Rubber. Neoprene is one of the most chemically inert and durable materials known to man. It is commonly known in water proofing

applications like in the manufacturing of diving suits and also as a base for adhesives. Insignia™ O-Rings are made of Neoprene specifically for its water-friendly properties. The swelling on contact with water is what allows the End Seal to stop the flow of infiltration back into the collection system.

Q: How are the Insignia™ O-Rings any Different than a Hydrophilic Grout or Rope Which have Been used for Years?

A: Sealing with a flat rope in the pipe or hydrophilic grout prior to lining will not produce the same results as the Insignia™ O-Rings because of certain design deficiencies in those products. Firstly, deficiencies in application have rendered the hydrophilic grouting process unacceptable because the grout itself, once installed, is not a molded gasket set in a controlled environment which possesses uniform volume and expansion properties. Secondly, the installation assumes that the grout can work against gravity which pulls it away from the crown of the pipe.

Hydrophilic ropes also are inadequate because any installation method where a rope is overlapped causes a weak point allowing separation and defeating the purpose of a full circle watertight repair. Even gluing the two ends of the rope is insufficient because it contains no structural element to secure the rope or ring in place and may disband after a period of time. Failure of these installations resulting in an attempt to fix a cured liner over a seal that has fallen on the pipe can be much more cumbersome than the original state the sewer was in prior to repair work.

Q: How Long do the O-Rings Last?

A: The chief material of these seals, Neoprene rubber, is a chemically inert and durable material which ensures that the Hydrophilic O-Rings have long life span of at least 50 years.

Q: Have the Hydrophilic End Seals Been Tested?

A: The Hydrophilic End Seals have been tested for both Physical and Chemical Properties by third party testing. This testing establishes the Hydrophilic End Seals as highly chemically resistant and extremely durable.