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## INSIGNIA™ END SEAL SLEEVE FOR MAINLINE CIPP

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The INSIGNIA Hydrophilic End Seal Sleeve is a seamlessly molded seal that provides a large sealing surface guaranteeing a uniform watertight seal. Designed for use in conjunction with CIPP mainline lining at the manhole termination ends.

- Five times more sealing surface than other sealing systems
- Swells seven to ten times original size when exposed to water in 36 to 48 hours
- Elongated cylindrical shape is more secure and stable once positioned within the pipe
- Seamlessly molded seal without any joints
- The metal retainer band secures the sleeve in place
- Compatible with all types of inverted liners and pull-in-place liners
- Seals maintain their flexibility and expansion properties while undergoing continuous hydration and dehydration cycles

| Physical Properties             | Test        | Result               |
|---------------------------------|-------------|----------------------|
| Material Composition            |             | Hydrophilic Neoprene |
| Width of Seal (Dry)             |             | 3.5" (88.9mm)        |
| Shore A Hardness                | ASTM D 2240 | 50 + 5 Point         |
| Tensile Strength                | ASTM D 412  | 1177 psi ( 8.1 MPa)  |
| Elongation at Break             | ASTM D 412  | 523%                 |
| Specific Gravity                | ASTM D297   | 1.2                  |
| Swell Capacity in Water Contact | GRSC        | 200 %                |

**Availability:**

The End Seal is available in the following sizes. Custom Sizes can be accommodated by modifying standard sizes. Contact LMK Technologies for information on custom sizes.

| Pipe Inside Diameter | Pipe ID Circumference * | End Seal Thickness |
|----------------------|-------------------------|--------------------|
| 6"                   | 18.85"                  | .059 mm            |
| 8"                   | 25.13"                  | .098 mm            |
| 10"                  | 31.42"                  | .12 mm             |
| 12"                  | 37.70"                  | .12 mm             |
| 15"                  | 47.12"                  | .12 mm             |
| 18"                  | 56.55"                  | .12 mm             |
| 21"                  | 66.06"                  | .12 mm             |
| 24"                  | 75.40"                  | .12 mm             |
| 27"                  | 84.82"                  | .177 mm            |
| 30"                  | 94.25"                  | .177 mm            |
| 33"                  | 103.67"                 | .177 mm            |
| 36"                  | 113.10"                 | .177 mm            |
| 42"                  | 131.95"                 | .236 mm            |
| 48"                  | 150.80"                 | .236 mm            |
| 54"                  | 169.65"                 | .236 mm            |

\* The actual sleeve circumference will be slightly less than stated so as to fit inside the host pipe.

| End Seal Sleeve Kit Components |  |  |
|--------------------------------|--|--|
| Pipe Diameter                  | 6", 8", 10", 12", 15"  | 18", 21", 24", 27", 30", 33", 36", 42", 48", 54"   |
| Kit Contents                   | End Seal Rubber Sleeve<br>Spring Loaded Metal Retaining Band | End Seal Rubber Sleeve<br>Spring Loaded Metal Retaining Band<br>Anchor Screws for Clay and Concrete Pipe |

**INSTALLATION:**

The End Seal Sleeve is manually positioned within the host pipe, from the manhole, prior to lining. The spring loaded metal retaining band is installed to prevent the sleeve from folding in. On large diameter sleeves, anchor screws are installed. The full length CIPP lining is then installed, thus embedding the end seal between the liner and the host pipe. Please see [Installation Guidelines](#) for full details.

**STORAGE AND HANDLING:**

Until use, store all End Seal Sleeves inside, in a dry, humidity controlled environment. The end seal sleeves will swell when exposed to moisture either direct or indirect. Shelf life is ten (10) years from date of manufacture. As with any elastomeric product, shelf life is greatly affected by the environmental conditions at which it is stored. Please see [Safety Data Sheet](#) for handling and safety information.