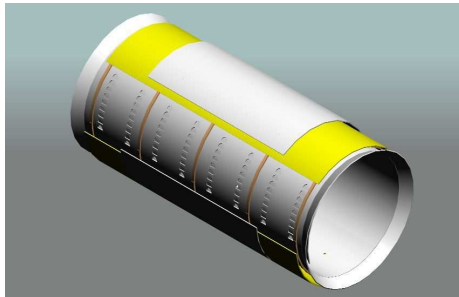




Installation Tips Link-Pipe Hydro-Seal™ (Jacketed Reinforced)

<p>Hydro-Seal™ (Jacketed Reinforced)</p>  <p>Product Series "HSJR"</p>	<p><u>Water Main</u></p> <p>Pipe Materials:</p> <ul style="list-style-type: none"> ➤ Concrete ➤ Reinforced Concrete ➤ Steel ➤ Cast Iron ➤ PVC ➤ HDPE <p>Pipe Diameter: Ø4 Inch to 36 Inch</p>	<p>Link-Pipe Hydro-Seal™ Jacketed Sleeve has two stainless steel cores. The inner perforated core is mechanically locked in place and does not depend on internal or external pressure changes. The outer core's diameter varies with the plastic host pipe or CIPP liner diameter which depends on operating pressure and temperature. A resilient jacket is applied between two SST cores. The sealing efficiency of the Sleeve increases with higher operation (internal) pressure.</p>
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Recommended Sealant:

Link-Pipe Inc. recommends the use of the **Link-Pipe Hydro-Seal™ jacketed sleeve** with **Sikaflex-221 Adhesive Sealant** for the repair of high pressure leaking joints. The **Sikaflex-221** together with the **Hydro-Seal™-jacket** forms a rubber-like structure, with excellent sealing capability.

Warnings:

1. The **Sikaflex-221** cures by reaction with atmospheric moisture. If water is sprayed on the applied **Sikaflex-221**, or otherwise the adhesive gets wet, the sleeve should be installed within 1 hour after which, if the adhesive begins to thicken, the sealing quality may be lost. Although the adhesive is slow acting, no time should be wasted after the **Sikaflex-221** comes into contact with moisture.
2. The installed Sleeve transfers pressure to the host pipe. For this reason, the host pipe should not be made from materials that can easily be damaged. Sleeves should be used for **sealing joints and circumferential cracks only**.
3. Once open, the cartridge should be used up without delay. To extend the open cartridge life up to few days we recommend sealing the open cartridge with moisture-proof adhesive tape. A more detailed description is available in the **Sikaflex-221** Product Data Sheet.

Preparation for the Sleeve Installation:

Warning:

Host pipe should be **clean, dry, and free from all traces of grease, oil and dust**. Metal pipe should be cleaned to the bare metal; cement coating if any should be removed.

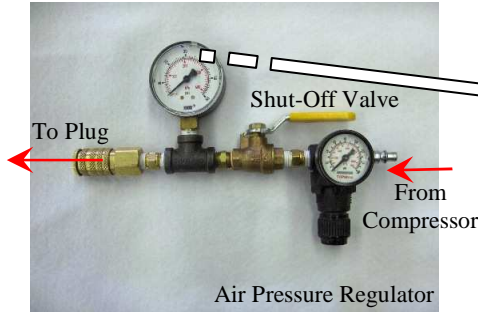
In preparation for the sleeve installation, the installation plug must be calibrated. **"Calibration Pressure"** is the pressure required to inflate the plug only to the diameter of the inside wall of the host pipe (See Pic.1). To inflate the Plug attach Air Hose to the Plug, and Air Pressure Regulator (Pic.2) to second end of the Air Hose. Connect Regulator with Air Compressor by another Air Hose. In the photos below, an example is provided. Here the Calibration Pressure equals 30psi (see Pic.2, a)



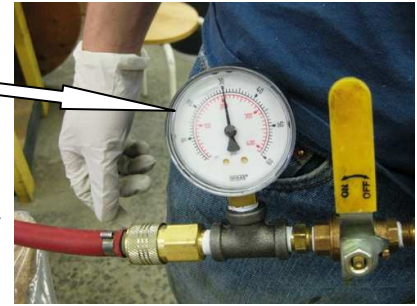
NOTE: Carefully read the Safety Instructions before using the plug;



Pic.1



Pic.2



Pic.2,a

Installation:

1. Remove sleeve from the package (Pic.3)



Pic.3



Pic.4



Pic.5

2. Apply **Sikaflex-221** evenly to cover the Rubber Jacket in the area of the protruding O-Rings (Pic.4). The thickness of the applied adhesive bands is approximately 1 to 3mm. **No gaps in the applied grout are allowed.** To distribute adhesive evenly a paint roller is recommended.
3. To shorten the curing time a slight water spray can be applied (Pic.5)
4. Insert the plug into the sleeve and center the sleeve on the plug. For the plug/sleeve assembly traveling, carefully inflate the plug a little bit just to snug the sleeve in place. If too much pressure is applied, the sleeve may prematurely open and then control may be lost when the assembly is being transported in the sewer (Pic.6).
 - **Note: To repair small diameter pipes the plug can be equipped with centering cones (Pic.7). To place the sleeve on the plug, one of the cones could be temporary removed.**
5. Pull the plug/sleeve assembly to the repair site. For the purpose of keeping good control over the installation process, the installer must monitor the accuracy of positioning the plug/sleeve assembly over the intended repair site. It is always helpful to accurately predetermine the distance from pipe entrance at the Manhole to the damage, and then marking the camera cable for easy reference.
 - Note: Use Cable Tie to locate of the SLEEVE accurately. See Pic.8. The Cable Tie should touch leaking joint, or whatever is the target point. Then pull the Plug / Sleeve assembly so the Cable Tie touches the target location: Center



Manufacturer of No-Dig Pipe Repair Products

of a hole, edge of a joint, end point of cracked area of the pipe. Then pull the distance on the transport cable so the sleeve will cover the target. In case of a leaking joint, pull the distance from Cable Tie to center of the sleeve.



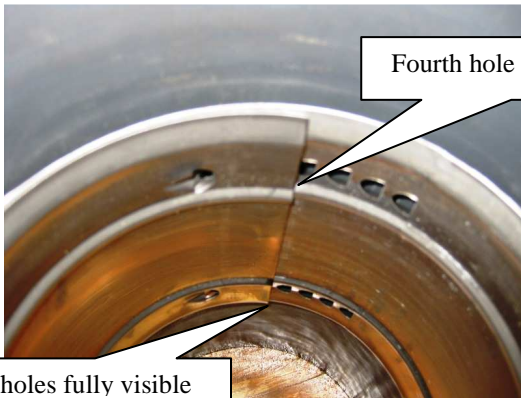
Pic.6



Pic.7

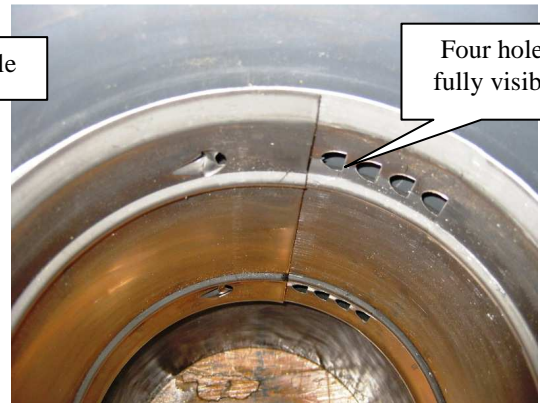


Pic.8



Four holes fully visible

Pic.9 (Holes quantity shown just for reference)



Four holes fully visible

Pic.10 (Holes quantity shown just for reference)

6. To install the sleeve, bring the air pressure to 33 to 37-psi above the calibration pressure. Check the air pressure in the hose. When it is as high as planned, release it slowly.
7. When air pressure is released, check with the camera that all locks are engaged along a single row; if locks are not engaged along a single row (Pic.9), insert the plug again, move the plug to the sleeve end with smaller diameter and apply 5psi more pressure. Check again (Pic.10).
8. Wait for 24 hours before putting the host pipe into service.

For more information, please call Lembit (Lem) Maimets or Danny Gan at 1-800-265-5696.