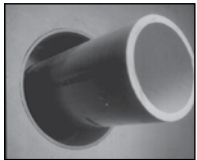
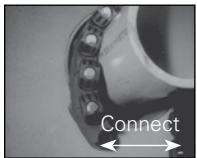


## LINK-SEAL® Modular Seals

### INSTALLATION INSTRUCTIONS



1. Center the pipe, cable or conduit in wall opening or casing. Make sure the pipe will be adequately supported on both ends. LINK-SEAL® modular seals are not intended to support the weight of the pipe.



2. Loosen rear pressure plate with nut just enough so links move freely. Connect both ends of belt around the pipe.



3. Check to be sure all bolt heads are facing the installer. Extra slack or sag is normal. Do not remove links if extra slack exists.

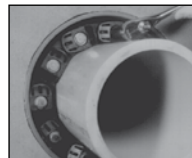
**NOTE:** On smaller diameter pipe, links may need to be stretched.



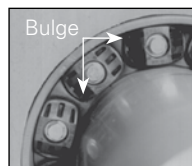
4. Slide belt assembly into annular space. For larger size belts, start inserting LINK-SEAL® modular seal assembly at the 6 o'clock position and work both sides up toward the 12 o'clock position in the annular space.



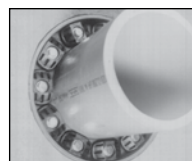
5. **LS-200 through LS-315:** Using a hand socket, allen head, or off-set wrench **ONLY**, start at 12 o'clock. Do not tighten any bolt more than 4 turns at a time. Continue clockwise until links have been uniformly compressed. (Approx. 2/3 rotations)



5a. **LS-325 through LS-650:** Using a hand socket or off-set wrench **ONLY**, start at 12 o'clock. Do not tighten any bolt more than 4 turns at a time. Continue in a clockwise manner until links have been uniformly compressed (Approx. 2 or 3 rotations).



6. Make 2 or 3 more passes at 4 turns per bolt **MAXIMUM**, tightening all bolts clockwise until all sealing elements "bulge" around all pressure plates. On type 316 stainless steel bolts, hand tighten **ONLY** without power tool.



7. If the seal doesn't appear to be correct using the instructions provided, call Garlock at 1-800-423-2410.

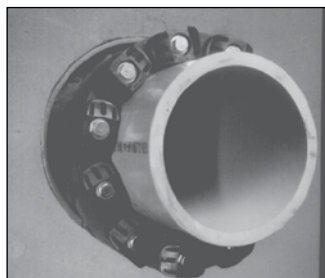
#### Installation Complete

**Installation Notes:** The LINK-SEAL® modular seal bolt heads are usually recessed below the wall opening or the edge of casing pipe and therefore a socket or offset wrench must be used.

#### LINK-SEAL® Modular Seal - Do's

1. Make sure pipe is centered.
2. Install the belt with the pressure plates evenly spaced.
3. Install the exact number of links indicated in sizing charts.
4. Check to make sure pipe is supported properly during backfill operations. **NOTE:** LINK-SEAL® modular seals are not intended to support the weight of the pipe.
5. Make sure seal assembly and pipe surfaces are free from dirt.
6. For tight fits, use non-polluting liquid detergent to assist installation.

#### CORRECT



#### INCORRECT



If the seal doesn't appear to be correct using the techniques provided, Call Garlock at 1-800-423-2410.

**ALWAYS WEAR PPE WHEN USING LINK-SEAL® MODULAR SEALS**

#### LINK-SEAL® Modular Seal - Don'ts

1. Don't Install the belt with the pressure plates aimed in irregular directions. (Staggered)
2. Don't Install LINK-SEAL® modular seals where weld-beads or other irregular surfaces exist without consideration of the sealing requirements.
3. Don't torque each bolt completely before moving on to the next.
4. Don't use high speed power tools (450 rpm or more)
5. Do not use power tools on LINK-SEAL® modular seal 316 stainless steel bolts.
6. Don't use grease installing LINK-SEAL® modular seals.

**Hand Tools:** Review provided chart below. (Tools not provided.) Tools can be purchased from hardware store, auto parts store, or home improvement store.

LINK-SEAL® Model	Tool Size/ Type Req.	Bolt Head Type
LS-200, LS-275	4mm, Allen	
LS-300, LS-315	6mm, Allen	
LS-325, LS-340, LS-360	13mm, Hex	
LS-400, LS-410, LS-425, LS-475	17mm, Hex	
LS-500, LS-525, LS-575	19mm, Hex	
LS-615	30mm, Hex	
LS-650	19mm, Hex	

# CENTURY-LINE® INSTALLATION INSTRUCTIONS

CENTURY-LINE® Sleeves are thermoplastic wall or floor pipe penetration sleeves. One person working alone can usually install a CENTURY-LINE® Sleeve regardless of the size.



1. Measure the center line to position CENTURY-LINE® Sleeve end cap.



2. Nail one of the end caps at the marked center line. A 2" minimum clearance is suggested when nesting sleeves.



3. Place the CENTURY-LINE® Sleeve on the end cap. When field cutting non standard CS sleeve lengths, the sleeve and end caps total length should be 1/4" longer than the thickness of the wall. Cut with a hand or power saw.

**NOTE:** To insure minimum water migration, center the water stop in wall by cutting equal lengths from each end of the sleeve, except as noted below.



4. Place second end cap on sleeve. Check to determine that the cap is properly inserted.



5. For additional stability, it's necessary to secure the sleeve with wire to the rebar. Insert the other end cap firmly, check that second end cap is positioned correctly, confirm sleeve length and close the form.



6. After the concrete is poured and cured, remove end caps with screw driver or crow bar. End caps may be replaced to protect sleeve until pipe penetration is made.

## ALTERNATIVE TECHNIQUES USING THREADED ROD



After nailing end cap to form, drive (threaded rod\*) through the end plate and form and (thread nut\*) on other side.

**NOTE:** Remember to measure the (threaded rod\*) to match the length of the sleeve.



Place the sleeve over the end cap nailed to the form.

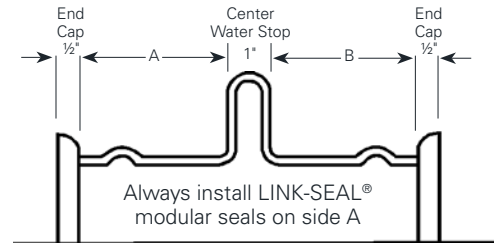
\* = Not Provided by Garlock



Place second cap on the sleeve and use a (block of wood\*) and (wing nut\*) to tighten unit in place. Make certain sleeve is plumb.

**ALWAYS WEAR APPROPRIATE PPE**

Wall Thickness	Cut From Left End	Dimension A	Cut From Right End	Dimension B
16"	0.0"	7.125"	0.0"	7.125"
14"	.875"	6.125"	.875"	6.125"
12"	1.875"	5.125"	1.875"	5.125"
10"	2.375"	4.625"	3.375"	3.625"
8"	2.375"	4.625"	5.375"	1.625"



## NOTES:

- Example: To convert 16" to 12", cut 1.875" off each end.
- Endcaps leave 1/2" depression in face of concrete.
- On sleeves under 12" length, install LINK-SEAL® modular seal on the "long side" of the waterstop. (a) For LINK-SEAL® modular seals models LS-200, LS-275, LS-300, LS-315, LS-340 and LS-360 - install with pressure plates flush with outer edge of the sleeve. (b) For LINK-SEAL® modular seals models LS-325, LS-400, LS-410, LS-425 and LS-475 - install with pressure plates partially inserted into the sleeve. When tightened, the pressure plates will "pull" into the sleeve. (c) For LINK-SEAL® modular seals models LS-500, LS-525, LS-575, LS-615 and LS-650 - the minimum sleeve length is 10". Follow the instructions in 3 above.

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