



Installation Techniques - Century-Line® Sleeves

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 endcaps total length should be one-fourth (1/4") longer than the thickness of the wall. Cut with a hand or power saw.*



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

Always Wear Safety Equipment When Using Century-Line Sleeves & Link-Seal Modular Seals!

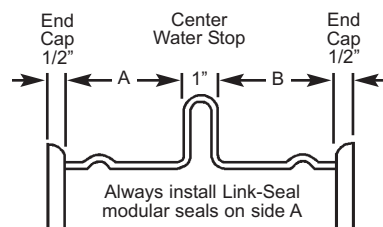


5. For additional stability, it's necessary to secure the sleeve with wire to the rebar. Insert the other end cap firmly, check that second end cap is positioned correctly, confirm sleeve length and close the form.

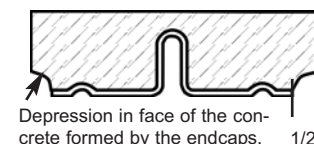


6. After the concrete is poured and cured, remove end caps with screw driver or crow bar. End caps may be replaced to protect sleeve until pipe penetration is made.

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.



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"



Depression in face of the concrete formed by the endcaps. 1/2"

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.
 - 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.
 - 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.
 - For Link-Seal® modular seals models LS-500, LS-525, LS-575, LS-600 and LS-650 - the minimum sleeve length is 10". Follow the instructions in 3 above.

Alternative Technique 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 PSI.



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.

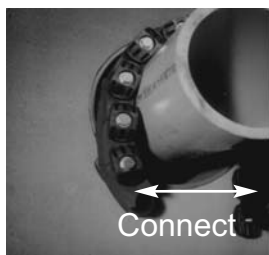
If you should have questions using the techniques provided, Call CEE at 979-627-7272



Installation Techniques - Link-Seal® Modular Seals



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.



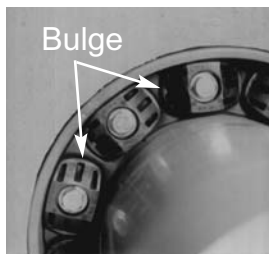
4. Slide belt assembly into annular space. For larger size belts, start inserting Link-Seal modular seal assembly at the 6 O'Clock position and work both sides up toward the 12 O'Clock position in the annular space.



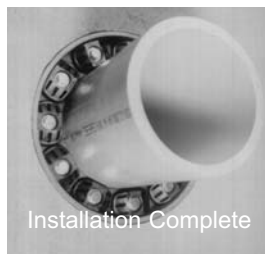
5. **LS-200 thru. LS-315** Using a hand socket allen head or off-set wrench **ONLY**, start at 12 O' Clock. Do not tighten any bolt more than 4 turns at a time. Continue in a clockwise manner until links have been uniformly compressed. (Approx. 2 or 3 rotations)



5a. **LS-325 thru. 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 CEE at 979-627-7272.**

Link-Seal® Model

Tool Size/ Type Req.

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-600	30mm, Hex
LS-650	19mm, Hex

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

Always Wear Safety Equipment When Using Link-Seal® Modular Seals!

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.

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-beds 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.



If the seal doesn't appear to be correct using the techniques provided, **Call CEE at 979-627-7272.**



Installation Techniques - Cell-Cast® Disks



1. Locate center line where the hole is desired. This location will be used as a guide for the threaded centering assist rod.



2. A 2x4 wood nailer is included. Fasten it along with the threaded rod directly to the concrete form. This provides support and helps center the complete Cell-Cast® disk assembly.



3. Slide the first Cell-Cast® disk over the *threaded rod. **Note:** Use only 1 threaded rod for equal distribution. More than one rod could take disks out of shape.



4. Secure the edges of the cell to the form using the provided steel spikes.



5. Additional disks are interlocked to accommodate finished wall thickness. Verify thickness is the same as wall.



6. Guide the 1" wood block over the threaded rod and secure the assembly with the wing nut provided.



7. Wrap each seam with one wrap of 2" wide tape to bridge any possible gaps. **Note:** Tape not included. Finish installing concrete forms and pour concrete.



8. After wall cures, wall forms are removed. The Cell-Cast® disk assembly is now ready for removal.



9. Chip excess concrete from the edge of the Cell-Cast® disk assembly and wall.



10. Remove disks by breaking out the entire assembly.



11. Inspect the installation. A smooth opening is important for a proper Link-Seal® modular seal installation. Repair voids and grind smooth any ridges.

If you should have questions using the techniques provided, **Call CEE at 979-627-7272.** **Note:** For walls greater than 16", please contact CEE. ***Note:** Threaded rod must be requested when ordered. Make sure TRA is added to the end of the ordering code.

Effective 8/1/2011

Always Wear Safety Equipment When Using Cell-Cast® Disks!