Compression Wall Seal

This section illustrates the various Wall Seal installation applications. Typical examples show procedures for use. Applications vary depending on installation design requirements.

Tools Required

Tools and components needed for this installation include the following.

- Compression Wall Seal and included hardware (nuts, bolts, etc.)
- Epoxy resin
- Wall Sleeve (optional)
- Protective End Caps or plastic covering
- Pipe clamp (optional)
- Cutting tools
- Drill (optional)

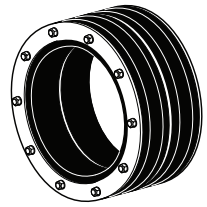


Figure 4-73: Wall Seal, pressure waterproof up to 7.0 psi (0.5 bar)

Use the Uponor Wall Seal to provide sealing against high-pressure water. The installer inserts the Wall Seal into the core hole or casing pipe on the outside wall. When installing, insert Wall Seal with nuts of the seal facing towards the inside wall or basement side.

You can use the Compression Wall Seal with the Wall Sleeve or alone in applications where a field core drill is preferred. Refer to **Table 4-3 on the following page** for the required core drill size.

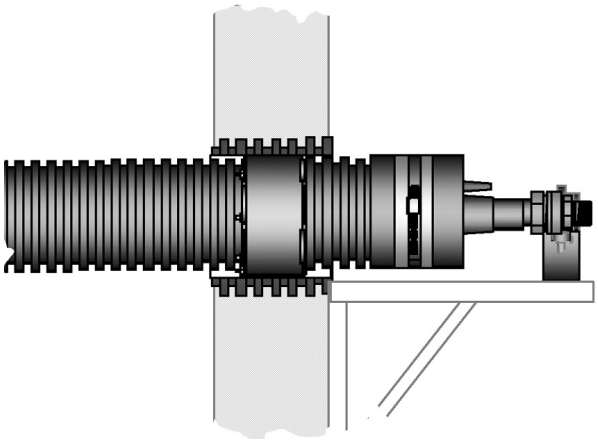


Figure 4-74: Wall Sleeve, pressure waterproof up to 7.0 psi (0.5 bar)

For new concrete walls, use the Wall Sleeve with the Compression Wall Seal to simplify the installation process. It is easy to cut for proper fit within concrete forms. The Wall Sleeve offers an extra convenience for the installer. The Wall Sleeve provides a tight seal under pressurized water — easy to cast when pouring new cement walls.

Wall Sleeve Installation Example

If you are installing piping without bends so that it lies straight, all you need is the Wall Seal. Tension-free installations do not require a supplementary set.

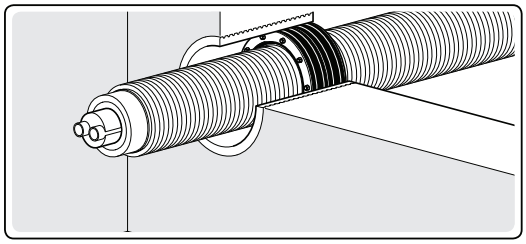


Figure 4-75: Tension-free installation

Core Holes in Water-impermeable Concrete

At the designated area, bore through the wall with an appropriate cement drill.

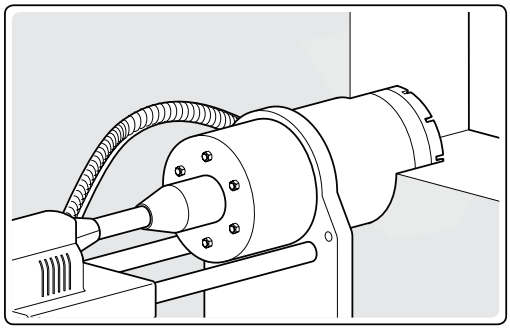


Figure 4-76: Drilling the core hole

After drilling, protect the bore wall with Epoxy Resin. Wearing protective gloves, cover the inside cut of the core hole according to the directions on the resin container.

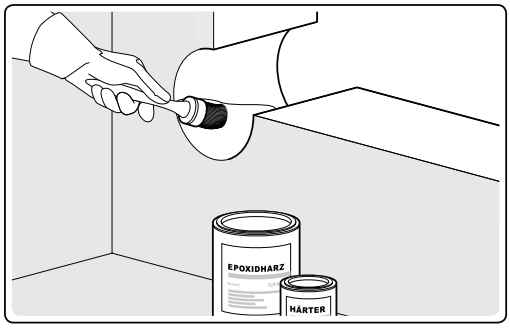


Figure 4-77: Protect the bore wall with epoxy resin

Protect the bore from contamination and moisture during the unfinished phase of the installation. Tape plastic over the core hole on both sides of the wall, or insert protective end caps (supplied by installer) onto both sides of the core hole as shown in **Figure 4-78**.

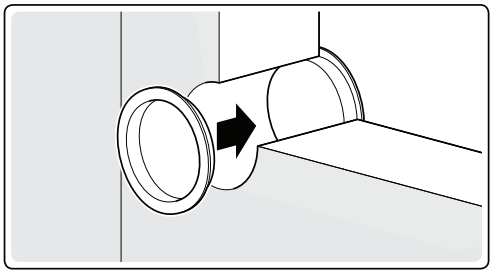


Figure 4-78: Protect the bore during installation

Uponor Ecoflex Jacket Pipe	Core Hole
2.7"	4.75"
5.5"	8"
6.9"	10"
7.9"	10"

Table 4-3: Installation parameters (core hole)

Wall Sleeve

If pouring new walls, you can cast the Uponor Wall Sleeve at the same time. The special pipe casing in combination with the Wall Seal ensures a tight seal under pressurized water.

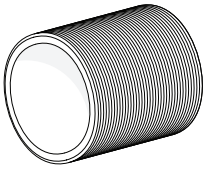


Figure 4-79: Wall Sleeve

You can install the Wall Sleeve either flush with the casing or projected out from the wall casing (see **Figures 4-80**).

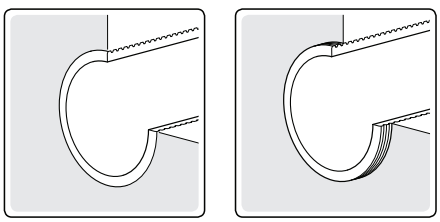


Figure 4-80: Flush with casing and projected from casing

You can fasten a steel framework to the Wall Sleeve so that it is either flush with or protruding from welded joints or with a pipe clamp (supplied by the installer).

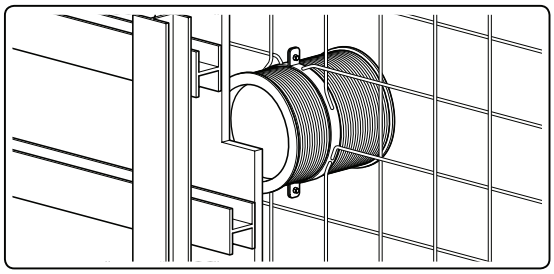
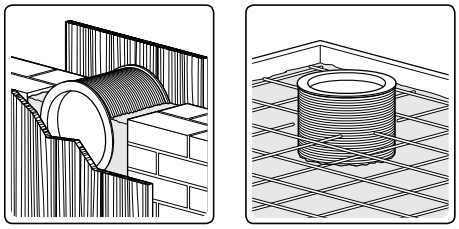


Figure 4-81: Fasten in steel framework

You can also build the Wall Sleeve directly into walls or install them into floors and ceilings as shown in **Figure 4-82**.



Figures 4-82: Built into a wall and installed into a floor or ceiling

When installing Wall Sleeves, be sure to compact the cement around the seams of the pipe casing thoroughly as shown.

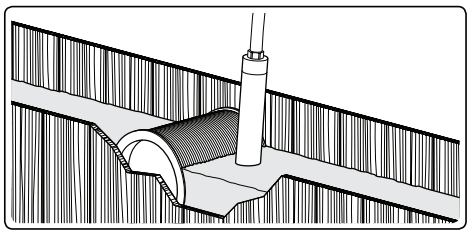


Figure 4-83: Compacting the cement

Protect the bore openings from contamination and moisture during the unfinished phase by inserting protective end caps or securely covering (taping) the bore with plastic.

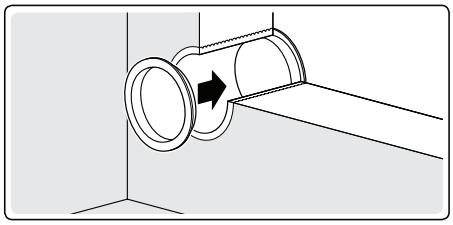


Figure 4-84: Protect core openings

Table 4-4 shows the required Wall Sleeve with Heat Shrink Seal Kit for specific sizes of Uponor Ecoflex pipe.

Uponor Ecoflex Jacket Pipe	Wall Sleeve with Heat Shrink Seal Kit Part Number
2.7"	1018266
5.5"	1018269
6.9"	1018268
7.9"	1018268

Table 4-4: Wall Sleeve with Heat Shrink Seal Kits

Installing the Wall Seal into the Core Hole or Wall Sleeve

Note: The following illustrations show the basement on the left side of the wall.

Insert the Wall Seal flush with the end of the core hole on the side of the outside wall (the water side) — nuts face toward the inside walls (the basement).

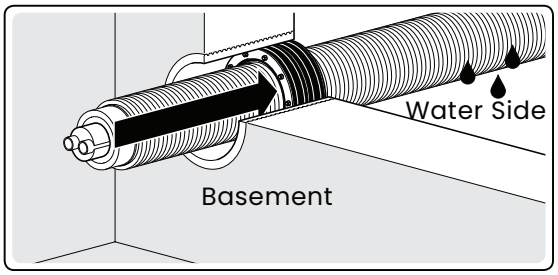


Figure 4-85: Wall Seal installed flush with outside wall opening

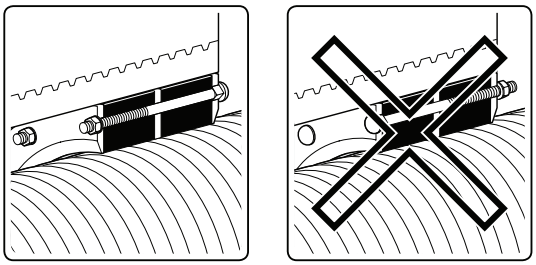


Figure 4-86: Correct vs. incorrect Wall Seal installations

Caution: Make sure the nuts are facing toward the basement when inserting the Wall Seal.

Install the Wall Seal pipe at right angles to the pipe as shown.

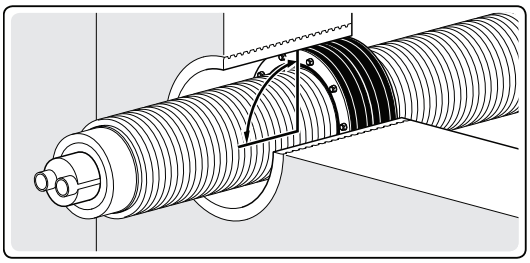


Figure 4-87: Install Wall Seal pipe at right angles to pipe

When tightening to the maximum torque, keep the following in mind.

- During final assembly, successively tighten each nut with a torque-wrench clockwise until the maximum torque M_{max} is reached (M_{max} = 5 Nm (M6)/3.7 lbf·ft; M_{max} = 8 Nm (M8)/5.9 lbf·ft).
- Tighten the nuts several times.
- Repeat this procedure after two hours.
- To ensure no damage to the Ecoflex jacket, tighten the nuts of the Uponor Wall Seal until the rubber seal wraps around the Ecoflex jacket pipe and the core hole, or if used, the Wall Sleeve. **Figure 4-86** illustrates the correct way versus the incorrect way of installing the Wall Seal.
- The house lead-ins are neither fixed points nor supports and serve solely to provide an elastic seal for the jacket pipes of Ecoflex.
- The installer can gently turn the Ecoflex jacket pipes in an axial motion.
- Before filling in the pipe trench, place compressed, stoneless sand under the Ecoflex piping so that no additional stress can affect the seal.

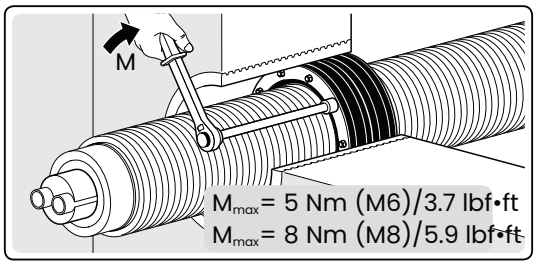


Figure 4-88: Tighten to maximum torque