Compression Wall Seal Installation Guide
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Components and Assemblies

Tools Required

Tools and components needed for this installation may include the following:

- Compression Wall Seal — pressure waterproof and included hardware (nuts, bolts, etc.)
- Epoxy Resin
- Wall Sleeve (optional)
- Protective End Caps or plastic covering
- Pipe Clamp (optional)
- Cutting tools
- Drill (optional)

![Wall Seal, Pressure Waterproof up to 7.0 psi (0.5 bar)](image)

Use the Uponor Wall Seal to provide sealing against high-pressure water.

**Important:** The Wall Seal must be inserted into the core hole or casing pipe on the outside wall.* When installing, insert the Wall Seal with the nuts of the seal facing 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 1: Installation Parameters (Core Hole)** on page 3 for the required core drill size.

*For outside of buildings, where moisture can accumulate. See Figure 15.*
**Figure 2:** Wall Sleeve, Pressure 
*Waterproof up to 7.0 psi (0.5 bar)*
For new concrete walls, you can 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.

**Figure 3:** Wall Sleeve — Pressure 
*Waterproof up to 7.0 psi (0.5 bar)*
The Wall Sleeve provides a tight seal under pressurized water — easy to cast when pouring new cement walls.

**Installation Example**

**Figure 4:** Tension Free Installation
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.

**Core Holes in Water-impermeable Concrete**

**Figure 5:** Drilling the Core Hole
At the designated area, bore through the wall with an appropriate cement drill.

**Figure 6:** Protect the Bore Wall with Epoxy Resin
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 7: Protect the Bore During Installation
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 customer) onto both sides of the core hole as shown.

<table>
<thead>
<tr>
<th>Uponor Ecoflex Jacket Pipe</th>
<th>Core Hole</th>
</tr>
</thead>
<tbody>
<tr>
<td>5.5&quot;</td>
<td>8.0&quot;</td>
</tr>
<tr>
<td>6.9&quot;</td>
<td>10.0&quot;</td>
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<tr>
<td>7.9&quot;</td>
<td>12.1&quot;</td>
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Table 1: Installation Parameters (Core Hole)

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

You can install the Wall Sleeve either flush with the casing, or projected out from the wall casing. See Figures 8 and 9 as illustrations for these methods.

Figure 8: Flush with Casing

Figure 9: Projected from Casing

Figure 10: Fasten in Steel Framework
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 customer). See example at right.
Figure 11: Built into a Wall
You can even build the Wall Sleeve directly into walls or install them into floors and ceilings, as shown in Figures 11 and 12.

Figure 12: Installing into a Floor or Ceiling

Figure 13: Compacting the Cement
When installing Wall Sleeves, ensure that you compact the cement around the seams of the pipe casing thoroughly, as shown at left.

Figure 14: Protect Core Openings
Ensure that you 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.

The following table shows the required size of the Wall Sleeve used for specific sizes of Uponor Ecoflex® Jacket Pipe.

<table>
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Table 2: Wall Sleeve Installation Parameters
Installing Wall Seal into the Core Hole or Wall Sleeve

Note: The following illustrations show the basement on the left.

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

**Figure 15: Install Wall Seal Flush with Outside Wall Opening**

**Figure 16: Correct vs. Incorrect Wall Seal Installations**

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

**Figure 17: Install Wall Seal at Right Angles to Pipe**
Install Uponor Wall Seal at right angles to the pipe as shown.

**Figure 18: Tighten to Maximum Torque**
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 \( M_{\text{max}} \) is reached:
  \[
  M_{\text{max}} = \begin{cases} 
  5 \text{ Nm (M6)/3.7 lbf\cdot ft} & \text{for M6} \\
  8 \text{ Nm (M8)/5.9 lbf\cdot ft} & \text{for M8}
  \end{cases}
  \]
- Tighten the nuts several times.
- Repeat this procedure after two hours.
To ensure the Ecoflex jacket is not damaged, tighten the nuts of the Wall Seal until the rubber seal is wrapped around the Ecoflex jacket pipe and the core hole, or if used, the Wall Sleeve. The figures above show the incorrect way versus the correct 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 Uponor Ecoflex jacket pipes.
- The installer can gently turn the Uponor Ecoflex jacket pipes in an axial motion.
- Before filling in the pipe trench, place compressed, stone-free sand under the Uponor Ecoflex pipe so that no additional stress can affect the seal.