



ProSet Water Guard Penetrations

Firestopping ■ Water Resistant ■ Waterproof
Floors ■ Walls ■ Pass-Through ■ Fixtures ■ Drains



**Water
Guard
"C"**

**Highly
Water
Resistant
Penetration**



**Water
Guard
"CR"**

**100%
Waterproof
Penetration**

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"When it Must Be Waterproof"

ProSet Systems Inc ■ 1355 Capital Circle ■ Lawrenceville ■ Georgia ■ 30043-5866

770-339-1782 ■ 800-262-5355 ■ Fax: 770-339-1784

www.ProSetSystems.com ■ www.ProSetDesign.com ■ www.TrapGuard.com



Testing for Waterproof Penetrations

ProSet is constantly being asked by General Contractors, Developers and Architects to provide water and smoke proof pipe penetrations. Because of the massive use of sprinklers, it appears that the value of water proofing through floor and wall penetrations has become as important as firestopping. But, as of this writing, there are no code requirements for waterproof penetrations.

Besides the direct water damage, concealed water leakage in walls and drop ceilings is conducive to mold. Virtually everyone is aware of the mold claims that are causing insurance coverage to be prohibitively expensive or not available at all. This is a very serious problem for the building industry



Figure 1. Water Damage Can Greatly Exceed Fire Damage When Sprinklers are Activated

None of the current penetrations that are available to this point can be considered waterproof. They are all classified as water resistant. We have performed waterproof testing on many types of penetrations and none were 100% waterproof. Surprisingly, testing on schedule 40 steel sleeves, specified by most engineers, showed greater leakage than any other type of penetration. Figure 2 shows an example of this type of penetration that is fire-rated but not waterproof.



Figure 2.
Schedule 40
Steel Sleeve

Fire-Rated But
Not Waterproof

Protection and Productivity

ProSet has always been motivated to improve the protection of building inhabitants while using innovative approaches to increase productivity in the piping process.

In 1982, ProSet systems, Inc. was the first company to successfully fire-test a cast-in firestop sleeve device at Underwriters Laboratories in accordance with UL.. # 1479 and ASTM E-814 fire test standards. With over 25 years experience, ProSet is the innovation leader and most experienced provider of cast-in-place devices.

We have used our experience to design and produce a penetration that could truly be classified as waterproof and still be able to pass the ASTM E-814 fire tests.

ProSet Alternatives for Water Protection

ProSet provides penetrations with multiple levels of water resistance and waterproofing.

The regular ProSet sleeves that have been used for years can be made water tight. However, many people find it difficult to install the penetration joint so that it is waterproof. Human

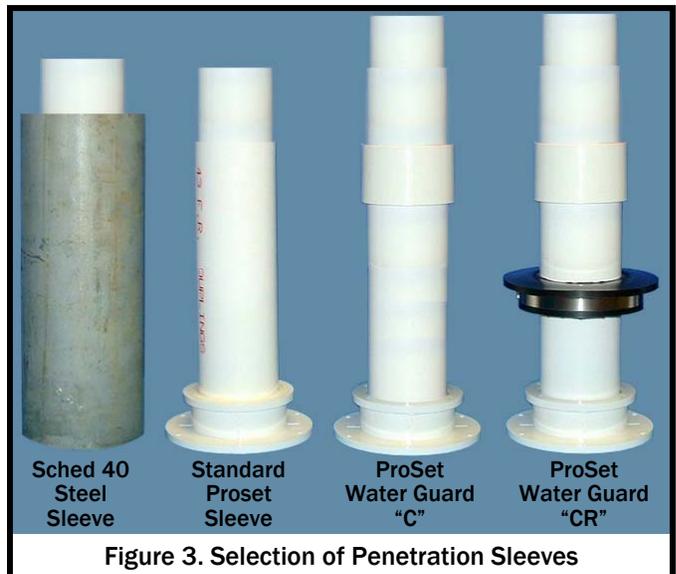


Figure 3. Selection of Penetration Sleeves

caulking error during installation can lead to leakage through the inside of the sleeve.

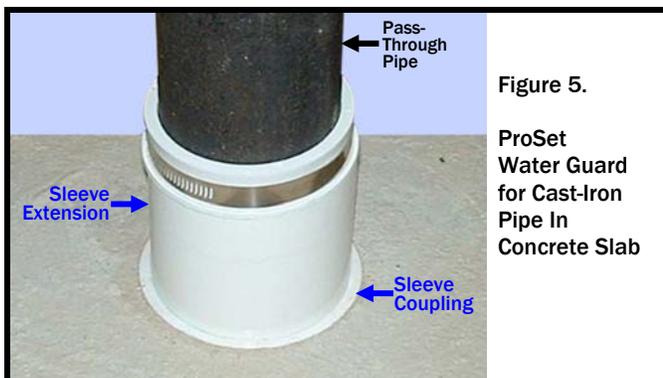
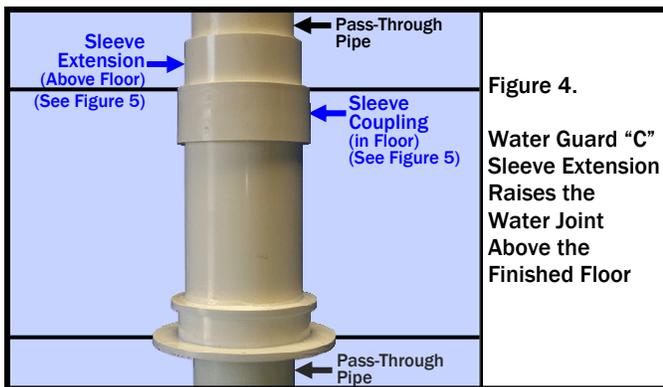
The other issue with the waterproofing of penetrations is associated with the expansion and contraction of rigid plastic water stops and the concrete that surrounds them. The sleeve will expand and contract, depending on the temperature at the time of the pour and the internal temperature of the uncured concrete. The concrete will always contract during the curing process. The combination of these forces can cause cracking around the water stop and the concrete. This leads to leakage on the outside of the sleeve through the concrete floor.

Water Guard "C" Sleeve Protection

When The Penetration Must Be Water Resistant

ProSet's Water Guard C will provide a higher level of water resistance. The Extension Coupling will allow additional sleeving to be solvent cemented to the "C" Coupling so that it extends above any expected emergency water levels. This eliminates the most common human error: not properly caulking the pipe joint passing through the sleeve. Figure 4 shows a Water Guard "C". Figure 5 shows a Water Guard in a concrete slab. In figure 5, you can see the sleeve extension cemented into the sleeve coupling.

Testing shows that approximately 85% of Water Guard "C" penetrations will not leak, while the remainder will only leak minimally.



Water Guard "CR" Sleeve Protection

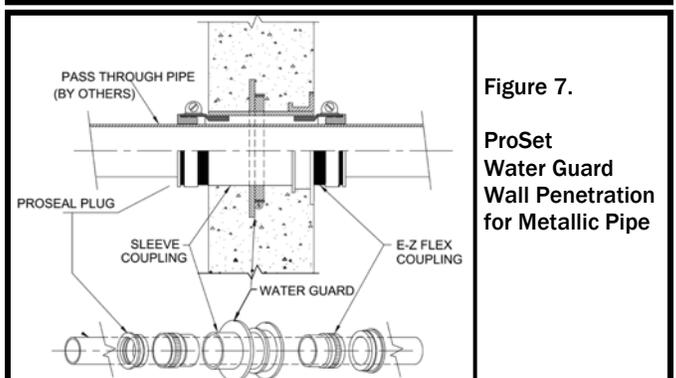
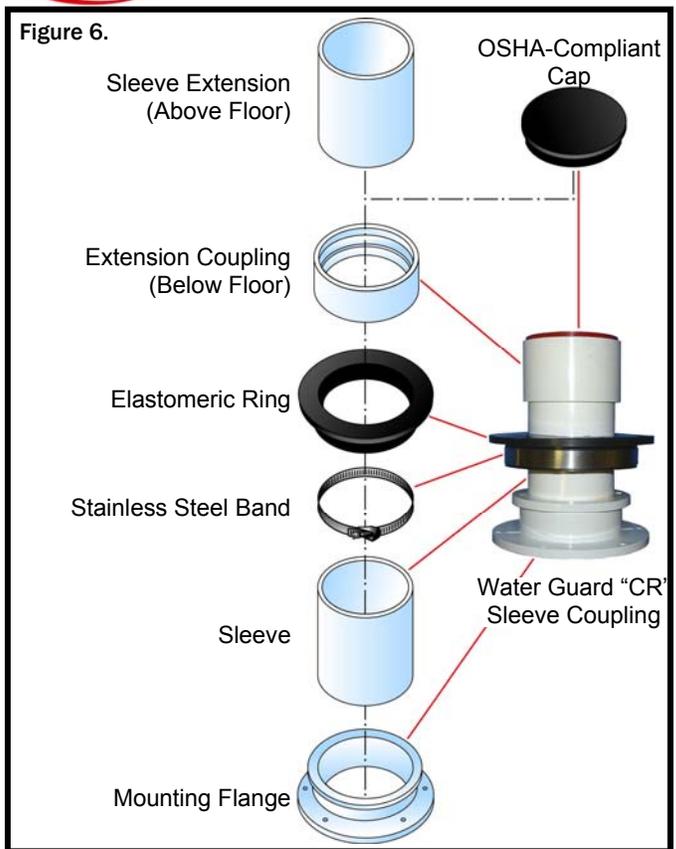
When The Penetration Must Be 100% Waterproof

ProSet has developed the new Water Guard "CR" penetration, which has been successfully water tested with a 36" head of water for 72 hours with no leaks.

In addition to the sleeve extension, the Water Guard "CR" has a large, flexible Elastomeric water stop ring around the middle of the sleeve that adjusts to the expansion and contraction of the sleeve and the contraction of the concrete. This prevents the cracking that can occur with a rigid water stop.

ProSet's new Water Guard complies with OSHA requirements for concrete protective plug caps that resist over two hundred pounds pressure and will provide a safe floor for tradesmen.

Exploded View of Water Guard "CR"



ProSet Water Guard

“When it Must Be Waterproof”



- 100% Waterproof Tested Sleeves
- ASTM E-814 Fire Tested up to 4 Hours
- Structurally Sound — Extra Heavy Schedule 40 Material
- Secures and Supports All Types of Pass-Through Pipe
- Complies with OSHA Floor Safety Requirements
- Eliminates Hangers and Riser Clamps
- Accommodates Pipe Expansion and Contraction
- Used As a Water Closet, Hub, Floor or Roof Drain
- Combustible or Non-Combustible DWV Piping
- Electrical, Water or HVAC Pressure Piping

IMPORTANT

Most Hi-Rise buildings require waterproofing or sealing off floors in order to proceed with construction on lower levels. This is normally done by sealing off the entire floor with a waterproof coating seal.

The new Water Guard Sleeve will give protection to all the piping penetrations without using the normal costly sealing methods.

The Water Guard sleeves embedded into a new concrete floor will provide the basic protection.

Certified Water Testing Report #25259