

Guideline Specifications Studded Penetrations**Guideline Specifications****Studded Penetration Fittings****About the Product**

Diversified's Studded Penetration Fittings consist of a studded plate and a receiving plate with holes to match the studs.

Studded and receiving plates are injection molded Acetal. Studded and Receiving plates shall remain flexible so as to allow conduit sized penetrations to seal to 24" diameter pipes or risers. Rigid metal plates shall not be acceptable.

Studs are molded into the studded plate and withstand up to 15 ft lbs of torque without damaging the stud or plate. Studs are series 300 stainless steel with ¼-20 threads of a length to match the application

Penetration fittings shall be available in all sizes used in the Petroleum Equipment Industry.

4 stud Series are available for ½", ¾" & 1" Rigid Conduits

8 stud Series are available for 1 ½" nominal through 3" FRP pipe

10 stud Series are available for 3" LCX through 4" LCX pipe

12 stud series are available for pipes up to 6" nominal.

Penetrations are available in all metric sizes from 32mm through 160mm pipes.

4 stud series are available with inserts to convert penetrations for 1" rigid conduits to ¾", ½" and other custom sizes.

10 stud series shall be available with step down sizes to accommodate 4' nominal corrugated ducting containing single or double wall liquid distribution pipes. These penetrations include a stainless steel "molded in" air test valves.

Studded penetrations are available in S, T, D, F, & M Series penetrations. All studded penetrations shall be secured to the pipes passing through the penetration with series 300 all stainless steel band clamps.

All boots are manufactured using injection molded UV resistant Alcryl. In specific examples a hydrolysis inhibited polyurethane is used.

Boots are molded with ribs and grooves creating multiple seals to a flat or round surface. Ribs and Grooves also accommodate any bonding agent applied to the penetration or mating surface and shall promote the even spreading of the sealing agent.

Single Sided Inverted Penetrations (PF-_S-x.x)**About this Product**

"S Series" - This configuration has the studded plate mounted on the inside of the sump. The receiving plate is Acetal without any over mold and is mounted on the exterior of the sump where the studs are secured with injection molded self tapping Acetal stud covers so that no portion of the stainless stud is exposed to the soils. In this configuration the studded interior plate only is over molded with a boot. The boot is molded to the sizes desired. The boot is secured to the pipe using series 300 all stainless steel clamps.

Single Sided Traditional Penetrations (PF-_T-x.x)

About this Product

“T Series” – This configuration has the studded plate mounted on the exterior of the sump. The studded plate is over molded, however, there is no boot component. The receiving plate is mounted on the interior of the sump where the studs are secured with ¼-40 chrome plated flange nuts. The receiving plate is over molded with a boot to fit the desired size. The boot is provided with a stud seal for each stud. The seal is to be installed between the receiving plate and the sump wall. The stud seal is designed to expand and seal against the stud and sump wall preventing any possible leak from tracking through the bolt holes in the sump wall. The boot is secured to the pipe using series 300 all stainless steel clamps.

Double Sided Penetrations (PF-*D-x.x*)**About this Product**

“D Series” – This configuration has the studded plate mounted on the exterior of the sump. The studded plate is over molded with a boot to fit the desired size. The receiving plate is mounted on the interior of the sump where the studs are secured with ¼-20 flange nuts. The receiving plate is over molded with a boot to fit the desired size. The “D Series” includes stud seals for each stud. Both boots are secured to the pipe using series 300 all stainless steel band clamps.

Double Sided Filled Penetrations (PF-*Fx.x*)**About this Product**

“F Series” – This configuration is similar to the “D Series” products except the studded plate (located on the sump exterior) is over molded with hydrolysis inhibited polyurethane. The polyurethane is “natural” in that it will retain a see through transparency. The studded boot includes fill and vent ports. The boot is to be filled with liquid polysulfide CH-DBF II. The fill process shall be easily visually monitored by the installing technician. Once the penetration is filled the fill and vent ports are plugged. Fill plug and vent plugs are provided with the penetration fitting. After the installation is complete the boot on the studded plate shall be painted with polysulfide paint. The receiving plate (inside the sump) is over molded with Alcryn and is not painted. The “F Series” includes stud seals for each stud. Both boots are secured to the pipe using series 300 all stainless steel band clamps.

Double Sided Monitored Penetrations (PF-*Mx.x*)**About this Product**

“M Series” - This penetration is specifically designed to be used on double wall sumps, double wall transition sumps and double wall under dispenser containment. The product starts with a “D Series” penetration. Both the interior receiving boot and the exterior studded boot are then encapsulated with an additional boot that seals to the perimeter of the respective “D Series” boots. The encapsulation boots are injection molded hydrolysis inhibited urethane. Each boot is equipped with a fill and vent port. Both boots shall be filled using liquid polysulfide. The fill and vent ports are plugged when the filling is complete. Upon completion of the filling of the boots, the boots are painted with the liquid polysulfide.

Guideline Specifications:

Provide studded penetrations fittings as shown on the drawings or as otherwise specified. Penetrations shall be (*select one*) S Series, T series, D series, F Series or M Series penetrations.

Penetrations shall be in sizes as required for the application. Install all penetrations on a flat smooth surface. Use the CH-DBC II cleaner to clean the penetration and sump prior to installation. Spread the bonding material CH-DBB V evenly across the grooves and ridges of the penetration fitting. Upon completion of the installation verify that a small amount of bonding agent has escaped the perimeter of the penetration. Pipe entering the penetration shall be perpendicular to the sump wall. Do not install pipes with greater than 15 degree variance from perpendicular.

Shipping, Restrictions & Data

There are unique installation instructions for each penetration. Follow all installation instructions for these products.

Studded Penetrations shall be third party approved and have been listed by UL to 1996 or later protocols.

Studded Series penetrations shall be manufactured in the USA.

Use the following recommended products when installing these penetrations – CH-DBC II Cleaner, CH-DBB V Bonder, CH-DBF II Polysulfide Liquid.