

HDPE TECHNICAL INFORMATION

The following standard PowerSeal products have been evaluated and approved for use with high density polyethylene pipe based upon certain modifications and restrictions related to the unique properties of HDPE pipe compared with more commonly used rigid pipe materials.



Products shown in the HDPE section are the only products suitable for HDPE applications. Do not use products in other sections on HDPE pipe.

PRODUCT RESTRICTIONS WHEN USED WITH HDPE

- Maximum operating pressure: 150 PSI (150 Mpa)
- Temperatures ranges: 32° - 75°F (0° - 23.9° C)
- Manufacturing standard: AWWA/ANSI C906-90
- Underground service only
- Pipe Stiffeners must be placed in each pipe end when used on mechanical bolt on fittings
- Clamp and sleeve width must exceed pipe diameter
- Pipe SDR (wall thickness) no more than 17 (PN-10)
- Each bolt must have four spring washers

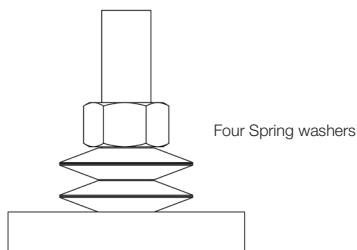
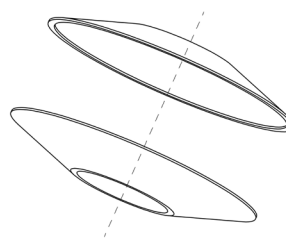
KEY PROPERTIES INHERENT WITH HDPE

- Toe in happens when HDPE is cut which can alter the ability of any sleeve or saddle to seal and affect the installation of stiffeners.
- The coefficient of thermal expansion is over 10 times that of ductile and steel pipe and 3 times as much as PVC. This equates to the possibility of shrinkage at these same levels versus these types of pipes when it gets cold. This raises the chances of a fitting loosening on it. It also has a tendency to shrink lengthwise 1 inch (25.4mm) per 100 feet (30.48m) of pipe with a 10°F (5.5° C) reduction temperature. This results in the pipe pulling out of fittings.
- A low coefficient of friction makes the exterior surface of the pipe very smooth or slick which results in gasket fittings being prone to rotation or movement on the pipe.
- Pipe systems must be engineered to allow for pipe movements so to limit fittings movement.



All bolts will be supplied with four spring washer.

SPRING WASHERS

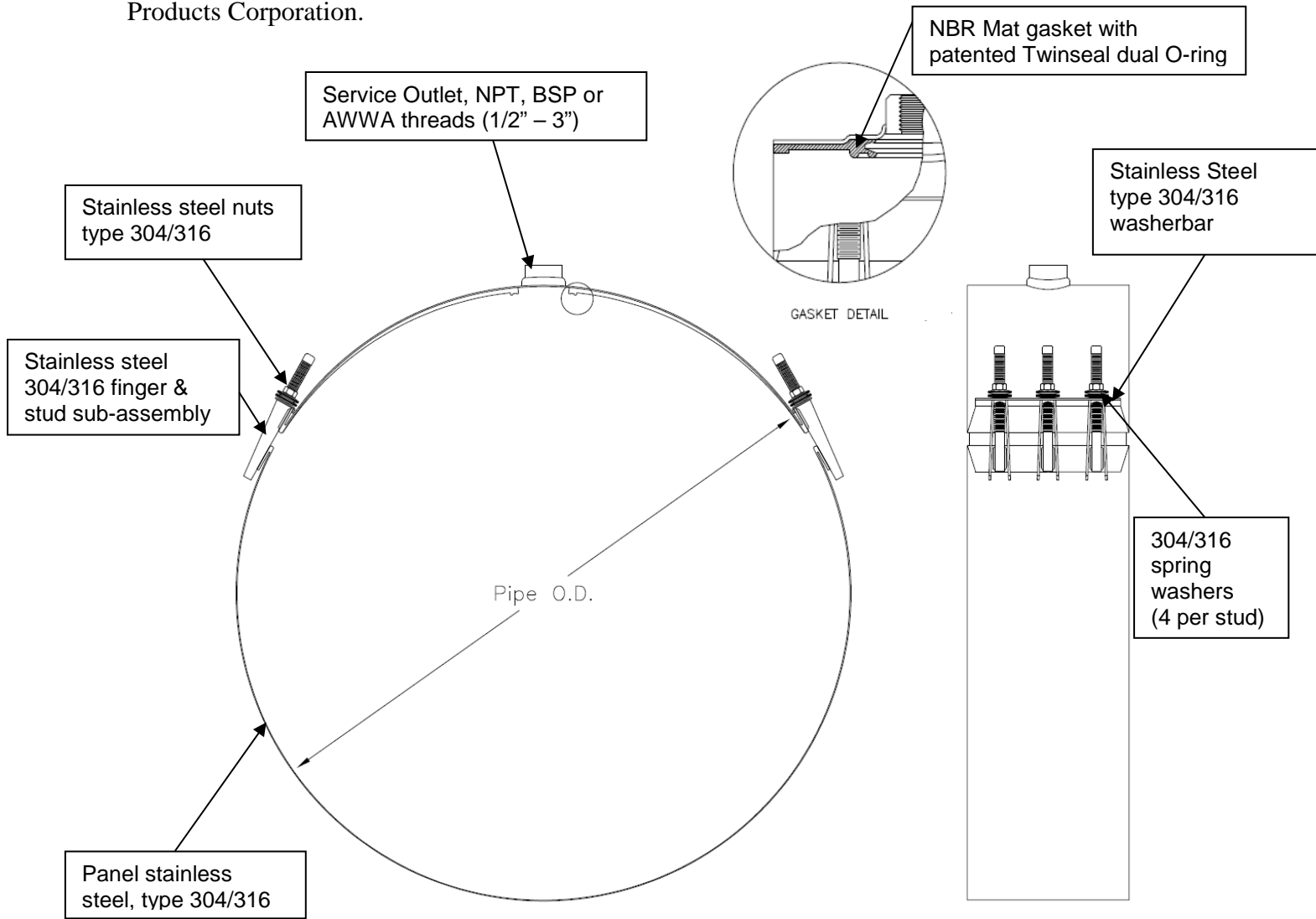


NOTICE!!

PowerSeal does not warrant products used when the installation does not conform to any of the restrictions listed above. Contact our engineering department if you have questions about using our products on HDPE.

Scope

The intent of the specification is to receive a 14"- 20" diameter stainless steel saddle. The saddle furnished shall be equivalent to model 3416AS-PE as manufactured by PowerSeal Pipeline Products Corporation.



3416AS-PE			
Pipe Size		Pipe OD Range	
in.	mm.	in.	mm.
14A	350	14.00 - 15.20	356 - 386
14B	350	15.30 - 16.50	389 - 419
16A	400	16.60 - 17.80	422 - 452
18A	450	18.00 - 19.20	457 - 488
18B	450	19.50 - 20.70	495 - 526
20A	500	21.60 - 22.80	549 - 579



Features and Benefits

1. Materials do not compromise the integrity of the pipeline.
2. Captive finger stud sub-assembly design makes installation easy and eliminates loose pieces in the field.
3. Due to stainless steel panel construction saddles can be manufactured to fit any pipe diameter.
4. Saddles are available with NPT, BSP or AWWA (CC) tapped outlets ½” -3”
5. Patented NBR tapered end O-ring mat gasket design ensures a watertight seal to all classes of pipe.
6. Stainless steel finger stud sub-assembly fitted with stainless steel washerbar to support nuts, and special delrin washers for extra lubrication.
7. Tapered end of gasket prevents potential rolling of o-ring during install.
8. Stainless steel spring washers allowed the saddle to compress and expand to accommodate the change in diameter of HDPE pipe.

Design and Material Specification

The stainless steel saddle shall meet or exceed all material specifications as listed below:

1. The exterior band of the saddle shall be Type 304/316 (18-8) stainless steel.
2. The saddle shall have an O-ring mat gasket with tapered ends permanently attached to the panel at the factory.

The O-ring mat gasket shall be our patented design in NBR. It shall be free from porous areas, foreign material, and visible defects, all made from 100% new rubber. The NBR resists temperatures of -25 to +248°F.

3. Finger stud sub-assembly shall be permanently attached by way of welding during manufacture at the factory. The weld shall be fully passivated.
4. The stainless steel female outlet shall be permanently attached to the saddle via a fully passivated weld during manufacture at the factory.
5. The spring washers shall be type 304 stainless steel per MIL-A50424
6. There shall be no paper or plastic adhesive labels attached to the saddle, any information appearing on the saddle shall be stenciled.
7. Fully complies with AWWA C800 and NSF 61.

Material Specifications		
Part Name	Material	Mat. specs
Panel	Stainless Steel type 304	ASTM A240
Base Plates	Stainless Steel type 304	ASTM A240
Bolts	Stainless Steel type 304	ASTM A193
Nuts	Stainless Steel type 304	ASTM A194
TwinSeal Matt	SBR	ASTM D2000
Washerbar	Stainless Steel type 304	ASTM A240
Spring washers	Stainless Steel type 304	MIL-A50424

