



PLIDCO® CLAMP+SLEEVE INSTALLATION INSTRUCTIONS

LANGUAGES:

CLICK ON LANGUAGE DESIRED

ENGLISH

SPANISH

PLIDCO®

The Pipe Line Development Company
11792 Alameda Drive • Strongsville, Ohio 44149
Phone: (440) 871-5700 • Fax: (440) 871-9577
Toll Free: 1-800-848-3333
web: www.plidco.com • e-mail: pipeline@plidco.com

PLIDCO® CLAMP+SLEEVE INSTALLATION INSTRUCTIONS

!! WARNING!!

IMPROPER SELECTION OR USE OF THIS PRODUCT CAN RESULT IN EXPLOSION, FIRE, DEATH, PERSONAL INJURY, PROPERTY DAMAGE AND/OR HARM TO THE ENVIRONMENT.

Do not use or select a PLIDCO Clamp+Sleeve until all aspects of the application are thoroughly analyzed. Do not use the PLIDCO Clamp+Sleeve until you read and understand these installation instructions. If you have any questions, or encounter any difficulties using this product, please contact PLIDCO.

READ CAREFULLY

The person in charge of the repair must be familiar with these instructions and communicate them to all personnel involved in the repair crew.

Safety Check List

Pipeline repairs can be made with the pipeline in operation or shutdown.

- Read and follow these instructions carefully. Follow your company's safety policy and applicable codes and standards. If the PLIDCO Clamp+Sleeve is to be installed underwater, be sure to read the *Underwater Installation* section.
- Whenever a PLIDCO product is modified in any form including adding a vent or changing seals by anyone other than the Engineering and Manufacturing Departments of The Pipe Line Development Company or a PLIDCO certified repacking company, the product warranty is voided. Products that are field modified do not have the benefit of the material traceability, procedural documentation, quality inspection and experienced workmanship that are employed by The Pipe Line Development Company.
- Clamp+Sleeves are designed to fit size-on-size. Verification of the pipe outside diameter should be performed prior to installing a PLIDCO Clamp+Sleeve. The fitting may have difficulty properly fitting onto oversized piping and may have difficulty properly gripping undersized pipe.**
- A PLIDCO Clamp+Sleeve may be used as a structural clamp to couple pipe ends. Verify the end restraint is sufficient to resist hydrostatic and, if applicable, dynamic and external forces such as thermal induced forces.
- Observe the Maximum Allowable Operating Pressure (MAOP) and temperature on the label of the PLIDCO product. Do not exceed the MAOP or temperature as indicated on the unit.

- ❑ Be absolutely certain that the correct seal material has been selected for the intended use. Contact PLIDCO or an authorized PLIDCO distributor if there are any questions about the seal compatibility with the pipeline chemicals and temperatures.
- ❑ The PLIDCO Clamp+Sleeve may be operated at the full design pressure in its bolted (non-welded) state.
- ❑ When repairing an active leak, extreme care must be taken to guard personnel. Severe injury or death could result.
- ❑ During the *Pipe Preparation* and *Installation* procedures, those installing the PLIDCO Clamp+Sleeve must wear, at minimum, Z87+ safety eyewear and steel toe safety footwear.
- ❑ If the pipeline has been shut down, re-pressuring should be done with extreme caution. Re-pressuring should be accomplished slowly and steadily without surges that could vibrate the pipeline and fitting. Industry codes and standards are a good source of information on this subject. Do not exceed the design pressure of the PLIDCO Clamp+Sleeve. Personnel should not be allowed near the repair until the seal has been proven.

Pipe Preparation

1. Remove all coatings, rust and scale from the pipe surface where the circumferential seals and clamping sections of the PLIDCO Clamp+Sleeve will contact the pipe. A near-white finish, as noted in SSPC-SP10 / NACE No.2, is preferred at location where the seals contact the pipe. The cleaner the pipe surface, the more positive the seal.
2. Where the circumferential seals and clamping sections will contact any pipe welds, the welds in this vicinity must be ground flush with the outside diameter of the pipe.
3. Circumferential pipe welds within the circumferential seals do not need to be ground flush as long as the weld height does not exceed 3/16 inch (4.7 mm) (see Figure 1).

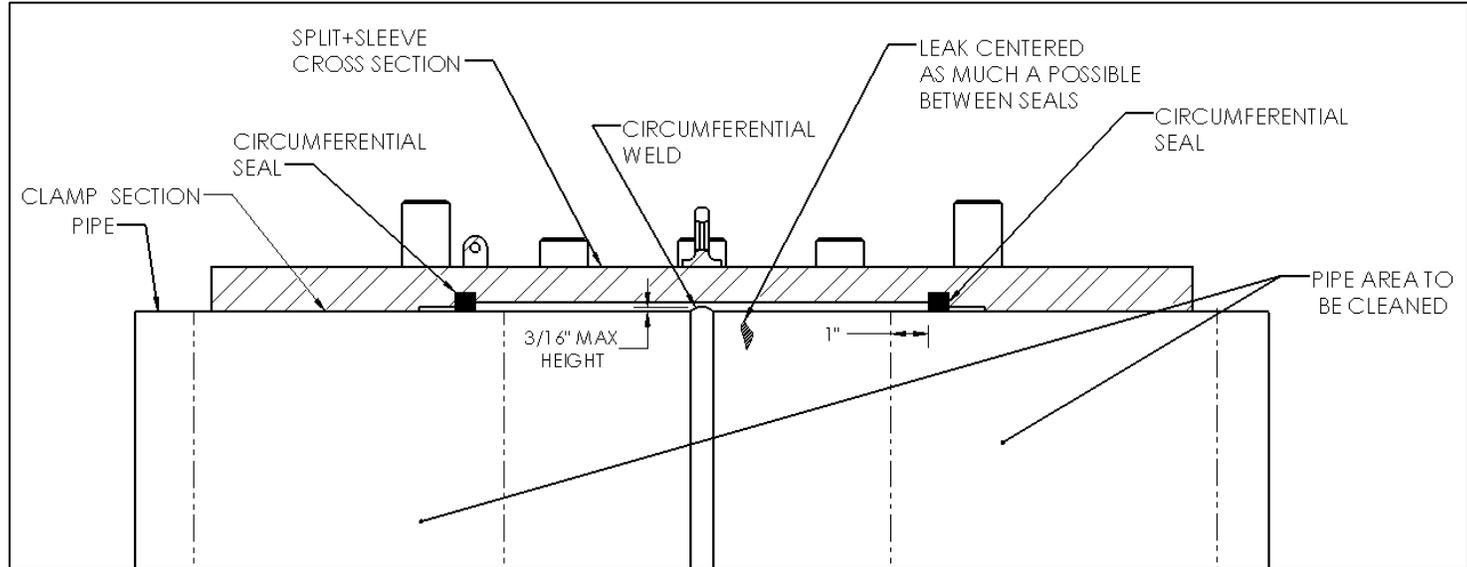


Figure 1

4. The seal can tolerate minor surface irregularities up to $\pm 1/32$ inch (0.8 mm). The defective surfaces can be rendered suitable for sealing by applying a suitable epoxy such as Belzona 1161 and sanding or filing the surface to match the required outer diameter.

Note: Epoxy may only be applied to the area where the seals will land. It is not intended to rebuild the pipe wall to the nominal OD or to repair large sections of exterior corrosion.

5. A PLIDCO Clamp+Sleeve is capable of sealing on out-of-round pipe up to approximately 5% ovality. This is based on the ability of the bolting to reshape the pipe. For very thick wall pipe the bolting may not be able to reshape the pipe. Badly out-of-round pipe may require a different length PLIDCO Clamp+Sleeve to ensure the circumferential seal are positioned on round pipe.
6. A PLIDCO Clamp+Sleeve is not capable of reshaping flattened or dented pipe.

Lifting & Handling

When not being moved or transported on a pallet, PLIDCO Clamp+Sleeves should always be lifted, transported, or installed using the installed lifting eyes as shown in Figures 2 & 3. All Clamp+Sleeves that exceed 50 lbs. per half or are too heavy to move and install by hand are provided with lifting eyes on each half. Longer fittings are provided with two lifting eyes as shown in Figure 3. If two lifting eyes per half are provided, both lifting eyes are required to lift the fitting. Chains, hooks, shackles, or straps suitable for the weight of the fitting(s) shall be used, and must be securely inserted through the lifting eyes.

The lifting eyes are designed to support the weight of a fully assembled Clamp+Sleeve. The lifting eyes are installed on both halves of the fitting, and should be used to maneuver or lower Clamp+Sleeve onto the pipeline.

Vertical installations or installations that require special rigging due to space, obstructions, or location may require additional lifting eyes to be added in locations other than shown in Figures 2 & 3. These can be added prior to ordering or sent back to a PLIDCO manufacturing facility to be added by PLIDCO personnel.

Note: Careless handling can damage the seals and GirderRings (seal retainers). Lifting devices such as chains, cables, or straps should never contact the seals or GirderRings. Never lift the fitting by inserting the forks from a fork lift inside of the fitting. Contact on the seals or GirderRings can result in the seals being pulled from their grooves. (See Figure 4)

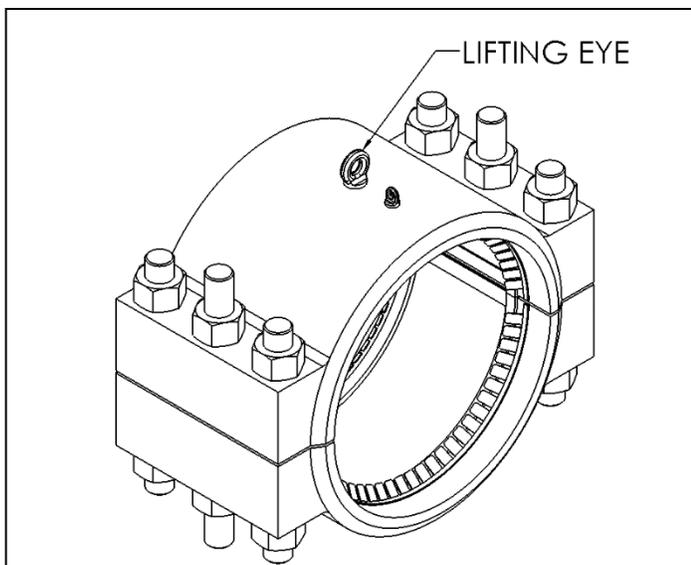


Figure 2

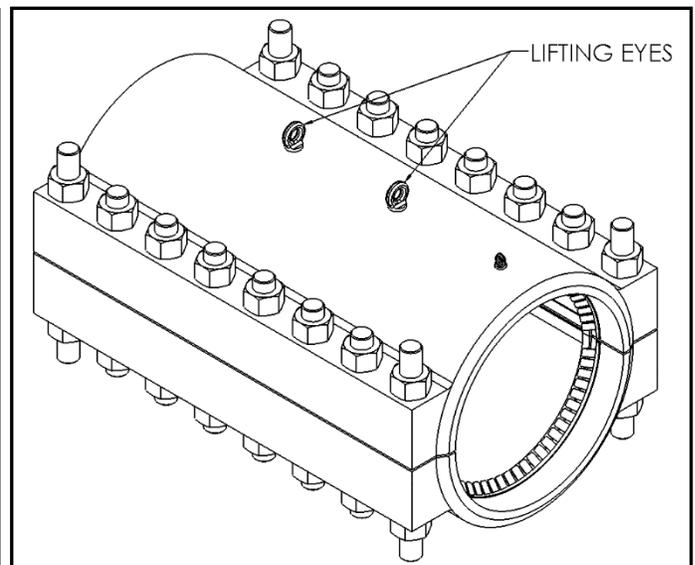


Figure 3

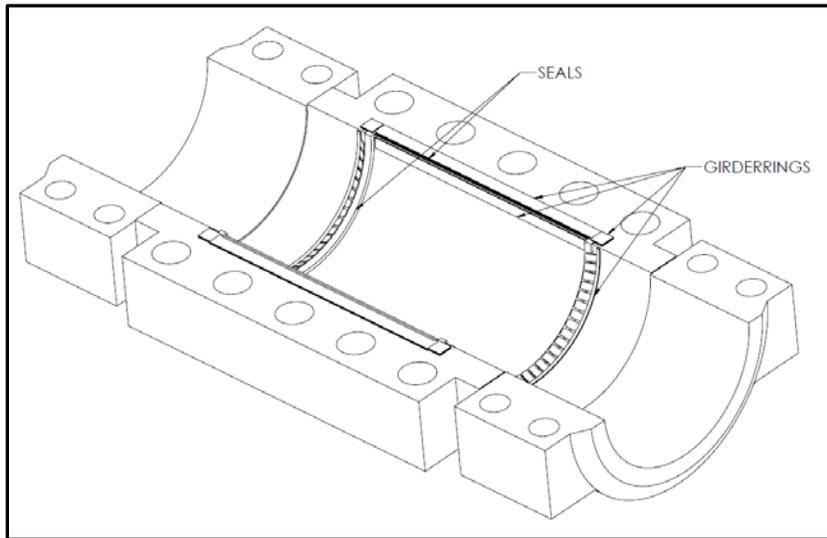


Figure 4

Installation

This section defines the general procedure for installation of a PLIDCO Clamp+Sleeve.

1. If the two sleeve halves were shipped as an assembled unit it would have been shipped with spacers between the two halves to prevent damage to the longitudinal seals and ends of the circumferential seals. Typically, small diameter nuts are used for the spacers. The spacers must be removed and discarded before installing the PLIDCO Clamp+Sleeve. Failure to remove the spacers will prevent proper compression of the seals and clamping sections.
2. Coat all exposed surfaces of the seals with a lubricant. Table 1 lists the lubricants that are recommended for the various seals. The customer must determine if the lubricant is compatible with the product in the pipeline. Lubricant is not recommended for underwater installations or for braided packing. Refer to the section on Underwater Installations.

Petroleum based lubricants	= A	
Silicone based lubricants	= B	
Glycerin based lubricants	= C	
Super Lube® Grease (1)	= D	
		Temperature (2)
Buna-N	A, B, C, D	225°F (107°C)
Viton	A, B, C, D	250°F (121°C)
Silicone	C, D	300°F (149°C)
Neoprene	B, C, D	250°F (121°C)
Aflas	A, B, C, D	225°F (107°C)
Hycar	A, B, C, D	180°F (82°C)
1) Super Lube® Grease is a product of Synco Chemical Corporation. (www.super-lube.com)		
2) Temperature limit is for the seal material only and does not imply the pressure rating is necessarily applicable at this limit.		

Table 1: Approved Lubricants

- Clean and lubricate all studs and nuts, and prove free and easy nut running prior to the installation. Lubricant is not recommended for underwater installations. Refer to the section on *Underwater Installations*.

Note: The type of lubricant will dictate the torque value per the PLIDCO torque chart on the last page.

- Assemble the PLIDCO Clamp+Sleeve around the pipe making sure the yellow painted ends are matched and that the fitting is centered over the leak and/or damaged area as much as possible. At no point should the leak/damaged area be closer than 1/2" from the circumferential seals. Try to avoid having any leak spraying directly onto the longitudinal seals.

Most Clamp+Sleeves will have two different stud lengths for the sealing area. The longer studs are used to help draw the sleeve together. For PLIDCO fittings with 3 holes per side in the seal area, insert the longer studs in the center holes. For PLIDCO fittings with more than 3 holes per side in the seal area, insert the longer studs in the four corner holes.

Sometimes it is helpful to loosely assemble the PLIDCO Clamp+Sleeve to one side of the leak then reposition it centered over the leak.

- Torque all of the studs and nuts on the PLIDCO Clamp+Sleeve uniformly, using the **Torque Values for Sealing Section** in the *PLIDCO Torque Chart for Clamp+Sleeve* located on the last page. The actual fitting may have more or less bolts. The best results are obtained by maintaining an equal gap all around between the sidebars while tightening the studs. Ensure there is full nut engagement by maintaining a minimum of 1/4 inch (6.4 mm) of stud extending beyond the nut. The sequence for torquing the studs and nuts will be similar to the numerical pattern of Figure 5, and will be executed repeatedly as follows:

- 1st time- Hand tight or 10% of the minimum torque value to bring the 2 halves together
- 2nd time - 50% torque.
- 3rd time- 100% torque.

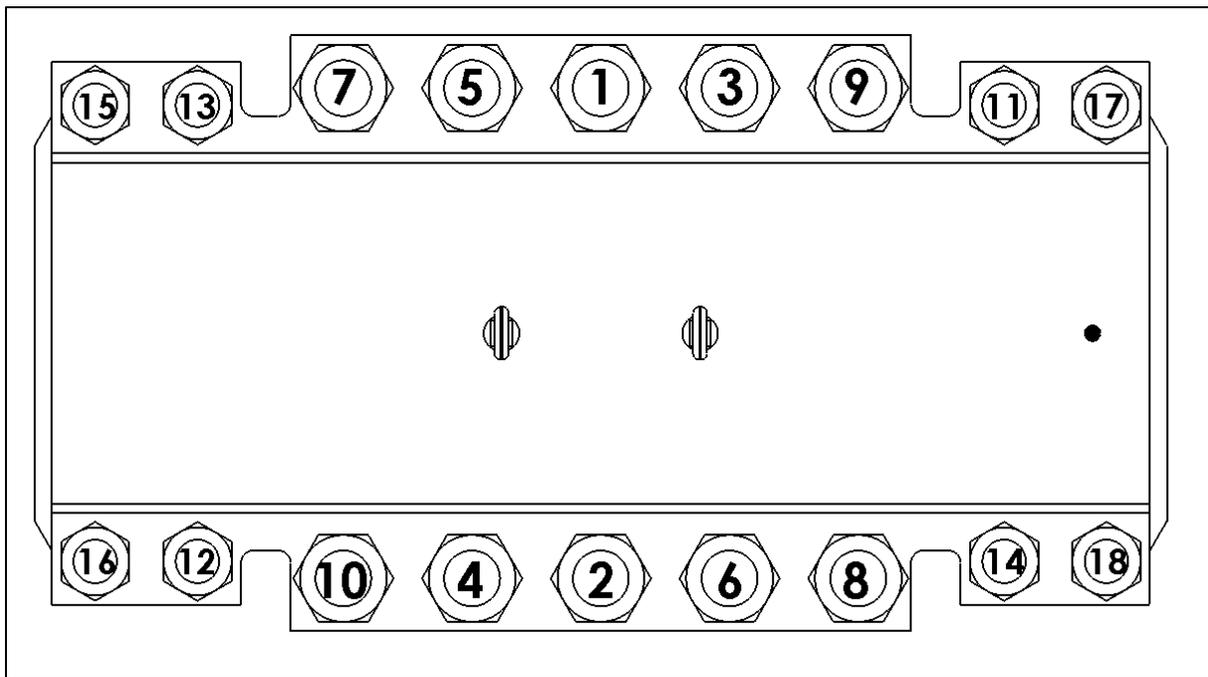


Figure 5

6. Note that the studs in the clamping section are tightened to a higher torque value than the studs in the sealing section.
7. Torque the studs and nuts of the clamping sections uniformly, as indicated by the **Torque Values for Clamping Section** in the *PLIDCO Torque Chart for Clamp+Sleeve* located on the last page. Note that the sidebars in the sealing section are gapped approximately 1/8 inch (3.2 mm) or less when the PLIDCO Clamp+Sleeve is fully tightened. The gap between the side bars in the clamping section is typically greater than the sealing section and is dependent on pipe size. The sequence for torquing the studs and nuts will be similar to the numerical pattern of Figure 6, and will be executed repeatedly as follows:
 - 1st time - 75% torque.
 - 2nd time- 100% torque.

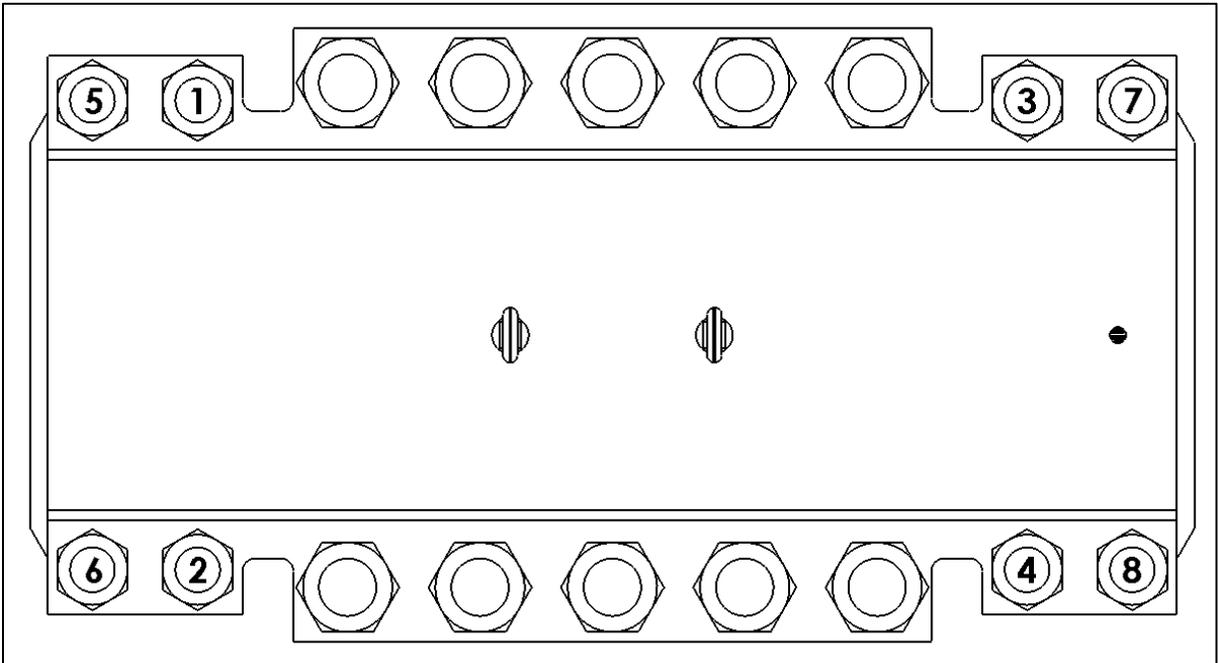


Figure 6

To complete assembly, **ALL** studs should be rechecked at the recommended torque. Torque all studs in a circular pattern at 100% torque all studs and nuts are unable to continue spinning. Keep in mind; an increase in torque on one stud can cause a decrease in torque on neighboring studs.

Note: The torque values listed on the PLIDCO Torque Chart represent residual torque. The initial torque value may need to be slightly higher due to bolt relaxation. Applicable industry methods should be used to verify bolt preload. Rechecking of torque is recommended at 4 and 24 hours after installation.

8. If the PLIDCO Clamp+Sleeve is being used to join pipe ends, the allowable gap between the pipe ends is dependent on the internal length between circumferential seals of the PLIDCO Clamp+Sleeve. The pipe ends must extend past the circumferential seals by approximately 1½ inches (38 mm) as shown in Figure 7. A standard PLIDCO Clamp+Sleeve has a straight bore which does not allow for angular misalignment of the two pipe ends.

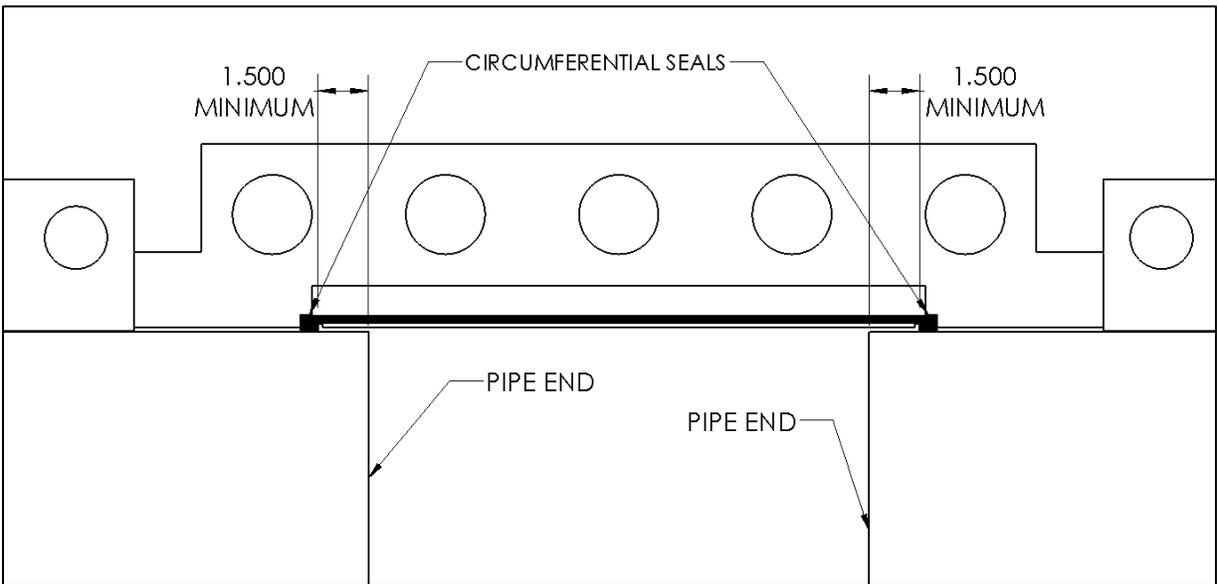


Figure 7

Hinged Clamp+Sleeve Installation

This section defines the general procedure for Clamp+Sleeve Installation on a horizontal pipe. Vertical or angled pipe installations may require additional lifting devices, and/or a different hinge design and operation.

1. Orient the Clamp+Sleeve and remove all studs and nuts as shown in Figures 8 & 9.
2. Attach shackles to the lifting eyes. Smaller fittings typically only have lifting eyes in the center of the shell as shown in Figure 8. Larger diameter fittings have additional lifting eyes on an angle as shown in Figure 9. For larger diameter fittings, the angled lifting eyes are to be used during installation with hinges.

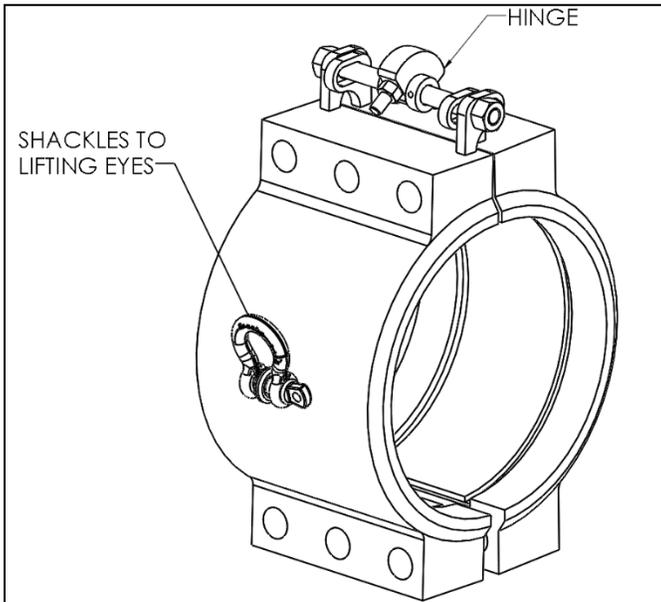


Figure 8

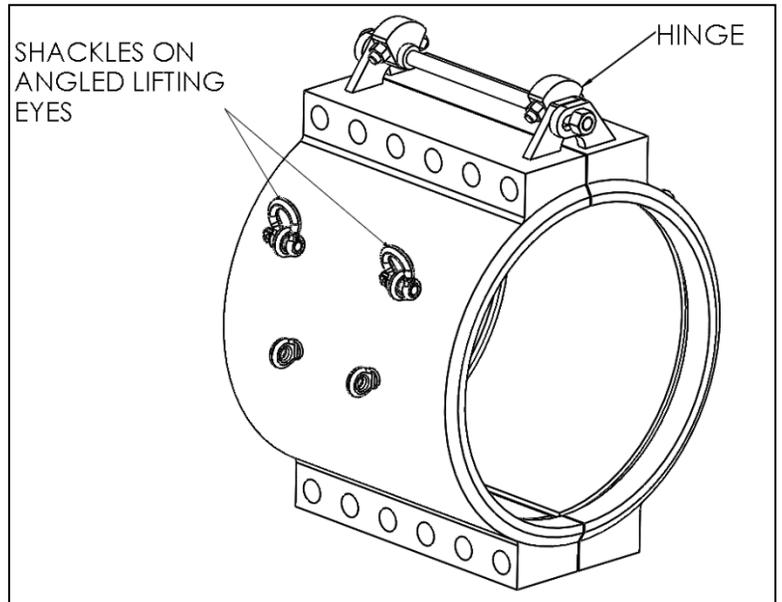


Figure 9

3. Attach properly sized rigging such as chains, cables, or straps to a single point crane attachment. The rigging should be sufficiently long enough that the rigging doesn't interfere with opening and closing of the fitting as shown in Figure 10.

4. Lift the fitting up from the single point crane attachment. The Clamp+Sleeve will open up as shown in Figure 10.
5. Position the fitting over the pipeline and slowly lower the fitting onto the pipeline as shown in Figure 10. The inside of the fitting should come in contact with the pipeline, and the fitting will start to close as it is lowered. Some fittings may require some additional side force to close the fitting around the pipe. Keep all body parts clear of the inside of the fitting at all times as the fitting is being lowered onto the pipe. This is to ensure safety in the event that the fitting slams closed rapidly.
6. Once the fitting is wrapped around the pipe, insert the studs through the bolt holes and thread on the nuts as shown in Figure 11. Proceed to tighten the studs and nuts per these installation instructions.

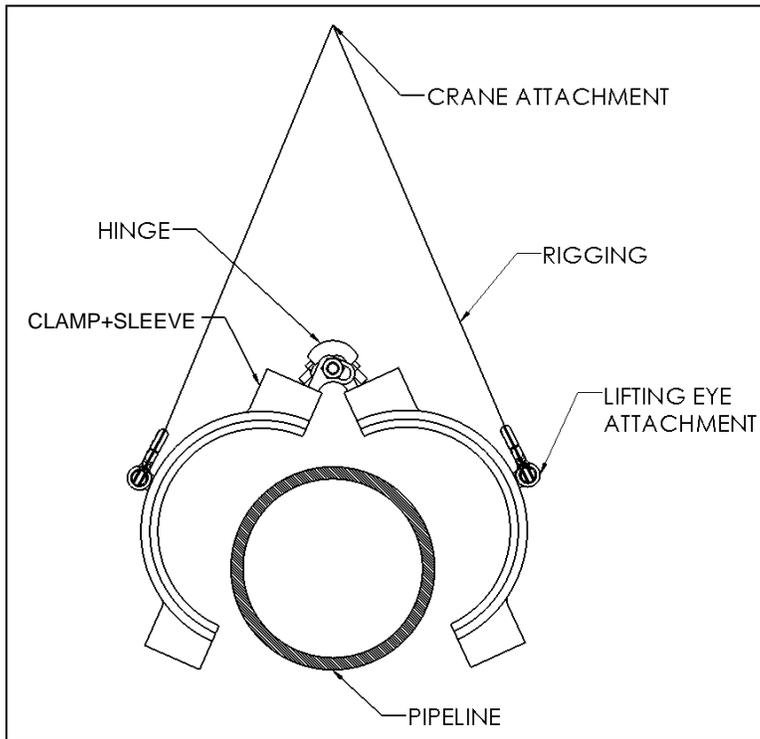


Figure 10

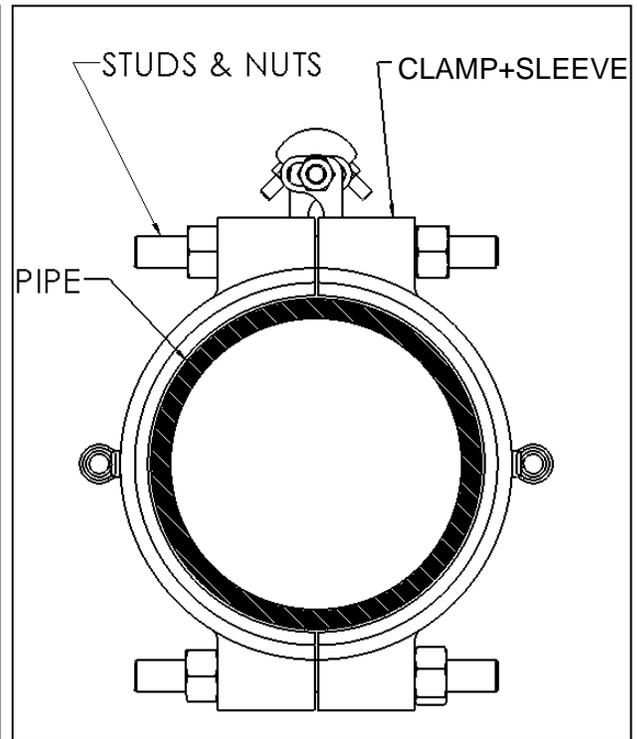


Figure 11

Sealant Injection

Sealant Injection is not required for a PLIDCO Clamp+Sleeve to achieve a leak tight seal provided the sleeve was installed with elastomer seals, was installed per this installation instructions, and the temperature and pressure of the pipeline are within the design limitations of the PLIDCO Clamp+Sleeve. However, PLIDCO Clamp+Sleeves are capable of being injected with sealant, grout, hardenable epoxy, or similar substance. Please note: *Clamp+Sleeves Installed with braiding style packing such as Kevlar, Graphite, or Teflon require sealant injection in order to seal.*

In-order for standard Clamp+Sleeves to be injected with sealant, the fitting must come from the factory with a minimum of one vent in each half. For fittings without vents, please contact PLIDCO or an authorized representative for options to add vents on existing fittings.

The Clamp+Sleeve must be installed and fully tightened prior to injecting sealant.

Please see IP-033, *PLIDCO Sealant Injection Instructions*, for additional information for injecting sealant.

Re-pressuring and Field Testing

If the pipeline has been shut down, re-pressuring should be done with extreme caution. Re-pressuring should be accomplished slowly and steadily without surges that could vibrate the pipeline or produce a sudden impact load. Industry codes and standards are a good source of information on this subject.

Except for testing purposes, do not exceed the design pressure of the PLIDCO fitting. The PLIDCO fitting is designed to be tested up to 1½ times its design pressure. However, PLIDCO recommends following API Recommended Practice 2201, Procedures for Welding or Hot Tapping on Equipment in Service, Section 6.5. The test pressure should be at least equal to operating pressure of the line or vessel, but not to exceed internal pressure by 10%. This is meant to avoid possible internal collapse of the pipe or vessel wall. However, if prevailing conditions could cause collapse of the pipe or pressure walls, the test pressure may be reduced. (See API Standard 510 Section 5.8 for pressure testing precautions.) Personnel should not be allowed near the repair until the seal has been proven.

Field Welding Instructions

Welding is not a requirement for the pressure sealing ability of the PLIDCO Clamp+Sleeves. The issue of welding is dependent on your company's requirements, applicable codes, and if longitudinal loads need to be carried by the PLIDCO Clamp+Sleeves

!! WARNING!!

Failure to follow field welding instructions could result in explosion, fire, death, personal injury, property damage and/or harm to the environment.

All of the aspects for in-service welding of PLIDCO Clamp+Sleeves are not addressed by this document. ASME PCC-2, API 1104 Appendix B, ASME Section IX, PRCI L52047, PRCI Hot Tap® Model, and other industry information pertaining to in-service welding must be considered when planning in-service welding. Refer to IP-019, Welding Considerations for additional information.

It is recommended that the pipeline should be full and under flow.

Welders and weld procedures should be qualified in accordance with API Standard 1104, *Welding of Pipelines and Related Facilities*, Appendix B, *In-Service Welding*. We strongly recommend the use of a low hydrogen welding process such as GMAW or SMAW using low hydrogen electrodes (E-XX18) because of their high resistance to moisture pick-up and hydrogen cracking. These are also the preferred welding processes for seal welding the studs and nuts. SMAW electrodes must be absolutely dry.

Use weld material with equal or greater tensile strength than the pipe. Carefully control the size and shape of the circumferential fillet welds. The size of the fillet weld should be at least 1.4 times the wall thickness of the pipe. This assumes a 1.0 joint efficiency. You may need to select a different joint efficiency based on your level of inspection. Strive for a concave faced fillet weld, with streamlined blending into both members; avoid notches and undercuts. The smoother and more streamlined the weld, the greater the resistance to fatigue failure. The worst possible shape would be a heavy reinforced convex weld with an undercut. Improper weld shape can lead to rapid fatigue failure, which can cause leakage, rupture or an explosion with attendant serious consequences.

It is very important that the field welding procedure closely follow the essential variables of the qualified procedure so that the quality of the field weld is represented by the mechanical tests performed for the procedure qualification.

We do not recommend the use of thermal blankets for pre-heating. Thermal blankets can generate hot spots and reduce the ability of the PLIDCO Clamp+Sleeve to dissipate welding heat in the vicinity of the seals. We recommend a small torch, such as a cutting torch, being careful not to aim the flame directly

into the gap between the PLIDCO Clamp+Sleeve and the pipe towards the seals. The flame from a preheat torch is helpful in burning off oils and other contaminants. Do not use a large torch, commonly called a rosebud, because of the difficulty controlling the size of the area being preheated.

Monitor the heat generated by welding or preheating, particularly near the area of the seals, by using temperature crayons or probe thermometers. If the heat generated approaches the temperature limit of the seal material, which is indicated on the label, welding should be discontinued or sequenced to another part of the fitting so that the affected area has a chance to cool.

Seal welding the grade B-7 studs of the PLIDCO Clamp+Sleeve is the most difficult phase of field welding. They are made of AISI 4140 steel with a high carbon equivalence. By using a low hydrogen welding process with preheat, the problem of hydrogen cracking and pinholes can be reduced. The preheat will dry out any moisture, oil dampness or thread lubricant that may be present in the weld area. If the stud lengths need to be cut back, allow at least 1/4 inch (6.4 mm) of stud beyond the nut for the fillet weld. Preheat the stud and nut, and then weld the nut to the stud. Check the preheat and then weld the nut to the sidebar.

WELDING AFTER A CONSIDERABLE TIME LAPSE AFTER THE INITIAL INTALLATION

PLIDCO recommends that if the PLIDCO Clamp+Sleeve is to be welded, the welding be completed as soon as possible after the installation; as conditions permit. Welding at a significantly later date relies heavily on whether proper installation procedures were followed and the compatibility of the elastomeric gaskets with the product in the pipeline.

After the installation of the PLIDCO Clamp+Sleeve there is no meaningful test that can be performed to determine the condition of the gaskets or the remaining service life the gaskets. There are many variables that can affect the condition of the gaskets over which PLIDCO has no control.

If the PLIDCO Clamp+Sleeve is to be welded at a significant time lapse from the installation, the follow precautions should be followed:

1. The PLIDCO Clamp+Sleeve must be closely inspected for any leakage that may have developed.
2. The studs and nuts should be retightened per the recommended torque value.
3. If possible, the pressure in the line should be reduced.
4. Some flow in the line is still required to dissipate the welding heat to prevent damage to the elastomeric seals.
5. Following the recommended welding practices as listed under Field Welding Instructions.

Welding Sequence

Caution should be observed so that welding does not overheat the seals. Sequence the welding so that the heat is not concentrated in one area. It will be necessary to re-torque the studs and nuts periodically during field welding because weld contraction causes them to loosen.

1. Fillet weld ends to pipe. (See Figure 12)
2. Seal Weld side openings.
3. Re-torque studs and nuts.
4. Seal weld nuts to studs.
5. Seal weld nuts to sidebars.
6. Seal weld vent plugs, if applicable.

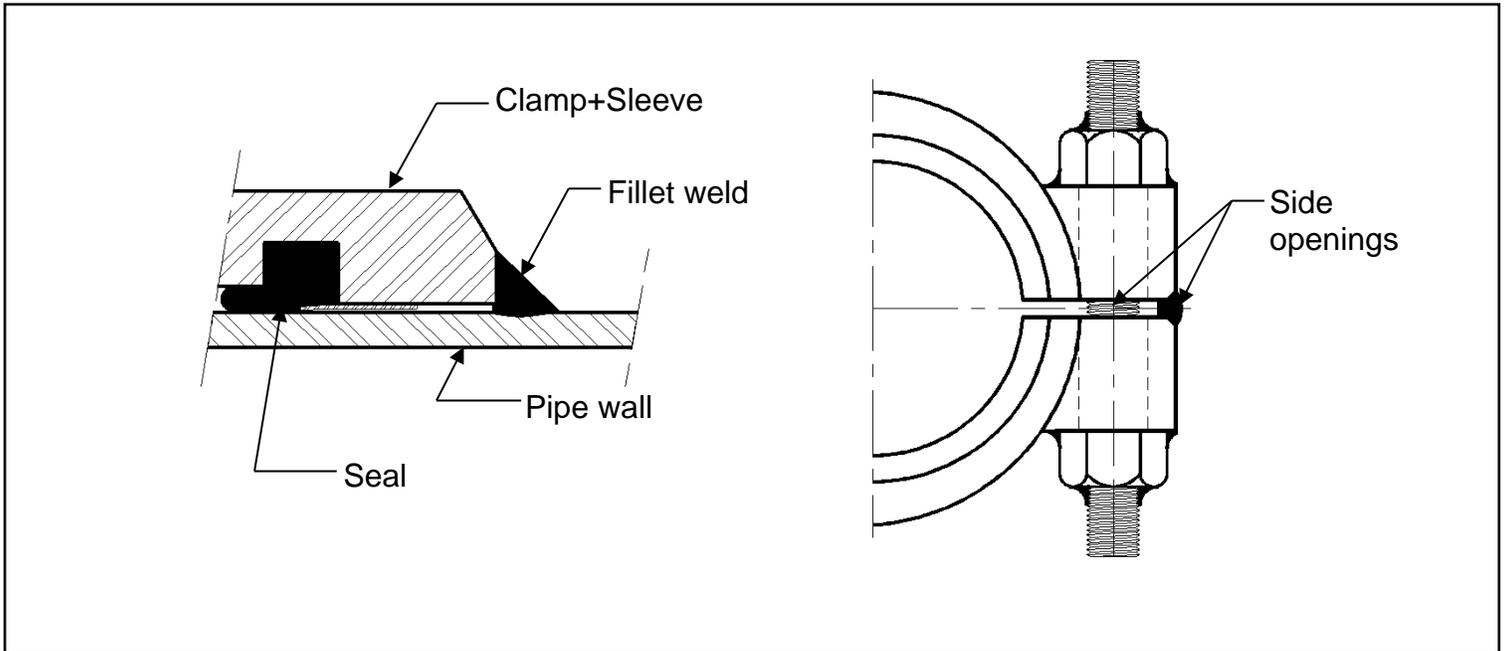


Figure 12

Storage Instructions

PLIDCO Clamp+Sleeves should be stored in a dry environment to prevent the unpainted surfaces from rusting. Storage temperatures should not exceed 120°F (49°C). Cover with dark polyethylene to keep the direct sunlight from the seals. It is best to exclude contamination, light, ozone, and radiation. Improperly stored PLIDCO Clamp+Sleeves can cause the seal material to become cracked and brittle and lose its ability to seal.

Traceability

PLIDCO Clamp+Sleeves have a unique serial number by which the fitting is fully traceable. Additionally, all elastomer seals have a unique batch number by which the seal material is traceable.

Recommended Inspection Schedule

1. After the pipeline is re-pressurized and field tested (see *Re-pressuring and Field Testing* for precautions) the torque values should be checked again 4 hours after installation. Then, the torque values should be checked again 24 hours after that.
2. It is recommended that if the product is not being welded, that torque striping be applied from the nuts to the sidebar of the PLIDCO Clamp+Sleeve so any loosening of the bolts can be visually seen during an inspection.
3. 6 months after installation it is recommended that a visual inspection occurs that checks for visible signs of leakage, bolt/nut loosening, and general wear or corrosion.
4. After the 6-month inspection occurs, a yearly visual inspection is recommended that checks for visible signs of leakage, bolt/nut loosening, and general wear or corrosion.

Underwater Installation

WARNING!

When assembling a PLIDCO Clamp+Sleeve product under water (or submerged in any liquid) it is possible to build up thousands of pounds of pressure in the annulus between the fitting and the pipe. The pressure is caused by compressing the fluid trapped in the annulus as the two fitting halves are closed and tightened. The pressure trapped in the annulus may have the following effects:

The pressure rating of the split product is exceeded causing leakage or damage to the fitting.

The pipe on which the fitting is installed is damaged.

Personal injury or death due to subsequent removal of a vent plug.

RECOMMENDATIONS

The Pipe Line Development Company strongly recommends the following for all underwater installations:

1. Order or procure fittings with vents.
2. Leave the vents open during installation.

Additionally, the Pipe Line Development Company does not recommend using a lubricant on the seals or on the stud and nut threads. This is to prevent sand, gravel, or debris from sticking to the lubricant and possibly interfering with sealing and/or obtaining accurate torque reading on the stud bolts.

PLIDCO Torque Chart for Clamp+Sleeve

Nominal Diameter of Stud (inches) (see Note 2)	Wrench Opening Across Flats (inches)	Torque Values for Sealing Section (Note 1)		Torque Values for Clamping Section (Note 1)	
		0.15 C _f		0.15 C _f	
		ft-lbs	Nm	ft-lbs	Nm
		25,000 psi pre-stress		52,500 psi pre-stress	
5/8	1-1/16	56	76	118	160
3/4	1-1/4	98	133	206	280
7/8	1-7/16	156	212	328	446
1	1-5/8	233	316	490	664
1-1/8	1-13/16	342	464	719	975
1-1/4	2	480	651	1000	1370
1-3/8	2-3/16	651	883	1400	1860
1-1/2	2-3/8	857	1160	1800	2440
1-5/8	2-9/16	1110	1490	2300	3120
1-3/4	2-3/4	1390	1890	2900	3970
1-7/8	2-15/16	1730	2350	3600	4930
2	3-1/8	2120	2870	4400	6030
2-1/4	3-1/2	3050	4140	6400	8700
2-1/2	3-7/8	4230	5740	8900	12000
		23,000 psi pre-stress		47,500 psi pre-stress	
2-3/4	4-1/4	5220	7080	10800	14600
3	4-5/8	6890	9340	14200	19300
3-1/4	5	8800	11900	18200	24600
3-1/2	5-3/8	11000	15000	22800	30900
3-3/4	5-3/4	13600	18500	28100	38200
4	6-1/8	16600	22500	34300	46500
		18,800 psi pre-stress		37,500 psi pre-stress	
4-1/4	6-1/2	16300	22100	32500	44100
4-1/2	6-7/8	19400	26300	38700	52500
4-3/4	7-1/4	22900	31000	45600	61900
5	7-5/8	26700	36300	53300	72300
5-1/4	8	31000	42100	61900	83900
5-1/2	8-3/8	35700	48400	71200	96600
5-3/4	8-3/4	40900	55400	81500	110600
6	9-1/8	46500	63000	92800	125800

Studs: ASTM A193 Grade B7 - Nuts: ASTM A194 Grade 2H

- Note 1: The torque values listed are residual torque value. This is the torque value and residual stress after bolt relaxation. The studs and nuts must be clean, free running, free of obvious flaws. The values listed assume that the nuts are properly lubricated with a lubricant having an approximate coefficient of friction (μ) 0.15 or k factor of 0.19 such as light weight machine oil. If a lower coefficient of friction lubricant is used, such as graphite, please contact PLIDCO's Engineering department for appropriate torque values.
- Note 2: The second number is the pitch, which is shown in number of threads per inch.
- Note 3: Use the pre-stress value shown for the applicable stud size if bolt tensioners are to be used and follow the bolt tensioner manufacturer's instructions.
- Note 4: This chart is also to be used for all PTFE (Teflon) coated studs.

PLIDCO[®]

SPANISH INSTRUCTIONS
COMING SOON