



SPECIAL SERVICES FOR PIPELINES

*... when the quality matters!*

**PLIDCO®**

# PLIDCO® PRODUCTS FOR REPAIR AND MAINTENANCE OF PIPELINES AND PIPING SYSTEMS WITHOUT SHUTDOWN



# PRODUCTS FOR ONLINE LEAK SEALING AND REPAIRS ON PIPELINES AND PIPING SYSTEMS

PLIDCO® is the leading supplier of quality pipeline repair and maintenance fittings in the world and is proud to have a proven records over seven decades. PLIDCO® fittings are used for on-shore and offshore repairs and **in hazardous non-weld areas**.

Pipelines need to be maintained and eventually repaired to prevent or stop leaks caused by corrosion, cracks, holes, third party damage and by other factors.

PLIDCO® can solve those maintenance and repair needs by supplying high quality fittings that can be installed safely by the end user maintenance personnel. Bolt on fittings can be installed and welded, if required, while the line is in use, **preventing thus downtime and saving costs**. When downtime is unavoidable, PLIDCO® couplings allow replacement of damaged sections in a safe, easy and timely manner.



## PRODUCTS FOR ONLINE LEAK SEALING

On pipelines



On flange joints



## OTHER PRODUCTS FOR REPAIR AND MAINTENANCE OF PIPELINES AND PIPING SYSTEMS



Other custom products offered to meet specific customer requirements:

- Components for pipe connection enabling to join pipes or flanges quickly **to keep downtime to a minimum**
- Hot-tapping and plugging saddles allowing **pipe tapping** into a pressurised line **or pipeline plugging without welding**
- Fittings to **cover illegal tapping** equipment and others



## BASIC CONDITIONS FOR USE

All products are designed and manufactured for specific conditions of use with regard to the chemical composition of the product in the pipeline, the temperature and its operating pressure.

**The sealant material is always adapted to the particular chemical composition and temperature of the product flowing through the pipeline.** PLIDCO® offers a wide variety of seal material to ensure that we are fully capable to aid your emergency pipeline needs quickly, safely and with minimal or no downtime.

We offer a variety of sealants for various applications. Our program includes testing a variety of sealants in different applications so that we will be able to recommend the proper one for a specific use. Please, contact us for further information.

**All products** can be **designed and manufactured upon request** to suit specific dimensions, pipeline pressure, temperature and special requirements such as using double sealing rows for very dangerous products, sealant injection ports, hinges and other options.

## PRODUCT INSTALLATION TRAINING

Due to the safe and easy installation of all PLIDCO® products under pressure, **each product can be installed using your own personnel.** In such cases we offer a training for your personnel in our workshop or directly in your facility.



Flange+Repair Ring



Split+Sleeve



Smith+Clamp



Weld+Ends

If you are interested in Operator Qualification Training for your personnel, please contact us.

## RECONDITIONING OF USED PRODUCTS

Fittings can be used again, if they were not welded. If the sleeve or clamp was used for a temporary repair without welding on the pipe, it can be removed during the pipeline temporary shutdown. Then we can **recondition it in our service centre, so it can be used again at any time in the future.**

Through the repeated use, costs can be spread over multiple uses and then the product remains in inventory for emergency use in the future. This leads to **savings in financial costs.**



# PIPELINE LEAK REPAIR

## PLIDCO® SPLIT+SLEEVE

The PLIDCO® steel Split+Sleeves are used to **repair leaks due to corrosion**, or due to a third-party damage, or to reinforce a damaged pipe on-shore and off-shore. The sleeves are easy to install, with **no piping shutdown needed**.

The sleeves are designed for the working pressures 69bar (1000 psig), 103bar (1500 psig), 151bar (2200psig) and 206bar (3000psig) and are manufactured for pipe sizes from DN50 to DN1200.

Please contact us if you need a sleeve for higher operating pressure, longer length or a larger size.



### Benefits:

- The sleeve can be used **for both temporary and permanent repair**
- **Fast, easy and safe to install**
- In the case of permanent repair the sleeve can be welded while the line is in service
- The steel GirderRing holds seals in a place and protects them from displacement and damage during installation
- The sleeves are designed to **withstand bending stresses**
- If they were not welded they can be reconditioned and **used again**

## PLIDCO® SPLIT+REPAIR ELL/TEE/CROSS

The PLIDCO® steel split sleeves Split+Repair ELLs, TEEs and CROSSes are used to repair piping leaks in bends, branches, or other fittings. The sleeves are suitable for elbows and bends of various sizes (screwed or socket welded), alternatively **for any angle, pipe size and operating pressure**.

The sleeves are easy to install, with no piping shutdown needed.

### Benefits:

- The sleeves can be used **for both temporary and permanent repair**
- **Fast, easy and safe to install**
- The steel GirderRing holds seals in place and protects them from displacement and damage during installation
- They can be reconditioned and **used again**, increasing thus their cost effectiveness



## PLIDCO® SPLIT+REPAIR TEE

When a leak or defect is detected on a branch connection, it is possible to manufacture a special sleeve to repair the leaking point. When a peripheral welded joint breaks on a connected pipe, the sleeve is designed to **withstand any potential bending stress on the branch**.

### Benefits:

- The sleeve can be used for **both temporary and permanent repair**
- In the case of permanent repair the sleeve can be welded while the line is in service
- The steel GirderRing holds seals in place and protects them from displacement and damage during installation
- The sleeves are designed to withstand bending stresses on the branch



## PLIDCO® SMITH+CLAMP

The PLIDCO® Smith+Clamp is used to locate and seal pit-hole leaks in high pressure pipelines. It is used mostly to seal leaks **at points with pit-hole corrosion**.

### Benefits:

- **Directly stops leaking** of a product to the environment
- Lightweight, cost-effective
- Safe and easy installation
- Cost-effectiveness thanks to **reusability**
- Can find leaks in pipelines that may not be visible
- The cones' direct pressure on the leak reduces the danger of caving in badly corroded pipe
- The cone material delivered according to the product specification (chemical composition and temperature)



## PLIDCO® WELD+CAP

If it is necessary to use the PLIDCO® Smith+Clamp **for a permanent repair**, after sealing the leak the whole area including the sealing cone is covered with a protective Weld+Cap, which is welded on the pipe while the pipe is in operation.

There are cut-outs prepared in the cap's bottom part for safe installation on the clamp's mounting strips.



# FLANGE LEAK REPAIR

## PLIDCO® FLANGE+REPAIR RING

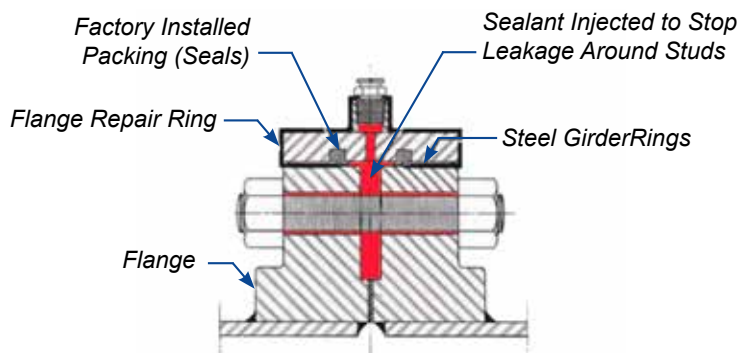
The PLIDCO® Flange+Repair Ring is used for **sealing leaks on flange joints**. The Repair Ring features the steel GirderRing system which holds the circumferential seals in place, **sealing thus the flange joint perfectly all around its circumference**.

The standard PLIDCO® Flange+Repair Rings are manufactured for flanges from 2" (DN50) to 26" (DN650) and for pressure classes from ANSI 150 to ANSI 600.

The standard operating temperature is up to +371°C. Larger ring sizes or seals for higher pressure or higher temperature are available upon special request.

A wide range of seals and sealants is available. The sealant is injected to the Ring to prevent leakage at flange bolts.

Once the Ring is fitted over the flange joint, the sealant is pumped by the sealant gun through the fittings (injection points) into the space between the Ring and the flange to seal the leak and to **prevent any leakage**.



**The repair is very quick**, no drilling or altering of flanges is required, thus not damaging the original material.

The Ring can be easily removed during the next shutdown. Then the flange gasket can be changed and the line can be put back into operation.

After the Flange+Repair Ring is removed, it can be reconditioned and stored for **reuse in the future**.



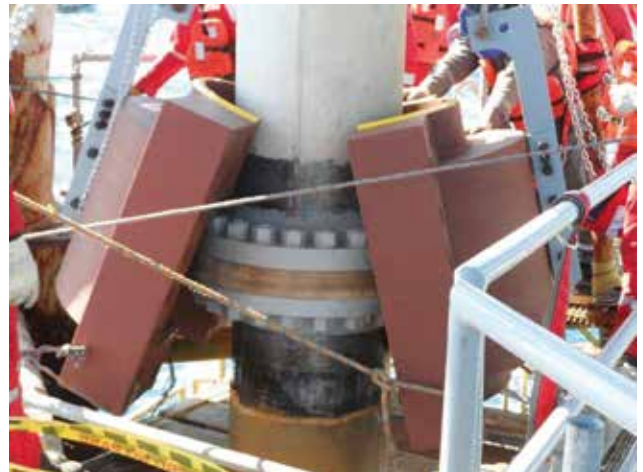
## PLIDCO® FLANGE REPAIR SPLIT+SLEEVE

The PLIDCO® Flange Repair Split+Sleeve works on the basis of the principle of combining the repairs using the Split+Sleeve type sleeves and Flange+Repair Rings and is used especially to repair leaks detected on circumferential welds between the pipe and the flange, or **if the flange is damaged**.

The Flange Repair Split+Sleeve is used to fix entire flange joint with sealing on the pipe beyond the flange welds (circumferential weld between the pipe and the flange).

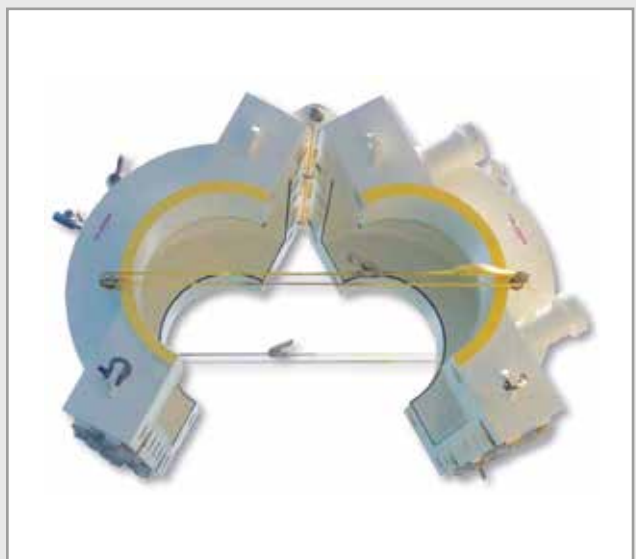
The Flange Repair Split+Sleeve may be used as a temporary or permanent repair. If used for a permanent repair the Flange Repair Split+Sleeve is welded on the pipe.

The PLIDCO® steel Flange Repair Split+Sleeve is designed and manufactured for various products in the pipeline with various chemical compositions, temperature and pressure.



### Benefits:

- The Flange Repair Split+Sleeve can be used **for both temporary and permanent repair**
- In the case of permanent repair the sleeve **is welded on the pipe while the pipe is in operation**
- The steel GirderRing holds seals in place and protects them from displacement and damage during installation
- Covers a wide range of flange types and classes with a variety of available seal materials
- If the Sleeve is not welded on the pipeline, it can be reconditioned and **reused again**



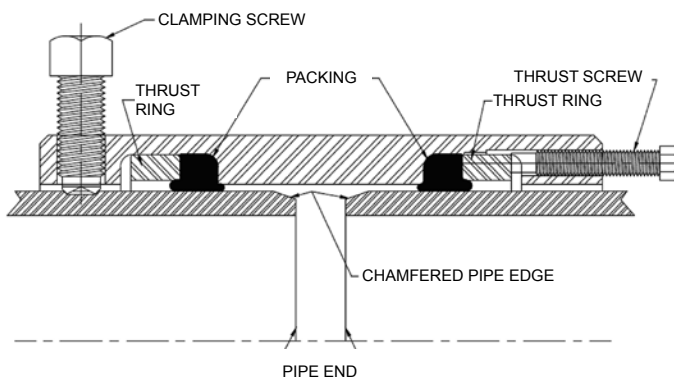


# COMPONENTS FOR PIPE CONNECTIONS

## PLIDCO® WELD+END®

The PLIDCO® Weld+Ends® are safety welding couplings used to **join pipes or pipe components quickly**, so that the flow can be resumed immediately **keeping downtime to a minimum**.

Once the pipe is cut, the PLIDCO® Weld+Ends® Coupling is fitted by sliding onto the pipe at the pipe end. The Coupling is fixed on the pipe using Clamping Screws to secure it in a place. After the Coupling is secured on both sides, the packing is activated by tightening of the Thrust Screws.



Once the pipe joint is sealed, the pipe may be put into full operation. Where necessary, the coupling may be subsequently welded on the pipe **while the pipe is again in operation**.

The PLIDCO® Weld+Ends® Couplings are manufactured as standard for a maximum operating pressures up to 69 bar (1000 psig). If higher operating pressures, special sizes or length are needed, please contact us.

## PLIDCO® CLAMP+RINGS

The PLIDCO® Clamp+Rings are used with the PLIDCO® Weld+Ends, Split+Sleeves or other fittings as reinforcing clamps. They are used in places with high longitudinal stresses and where it is not possible to weld a pipe coupling on the pipe.

### Benefits:

- Extreme gripping power
- **High tensile strength** even without welding
- Can be used also for a permanent repair
- The reinforcing clamps can be reconditioned and **used again**





## PLIDCO® FLANGE

The PLIDCO® Flange is the mounted flange coupling used as a **temporary flange joint** useful for hundreds of applications, particularly for making tie-in connections for prefabricated expansion and rework projects. It can be also used for piping pressure tests, pipeline cleaning, or to connect equipment temporarily.

The PLIDCO® Flange enables making a flange joint mechanically **with no welding required**. If a permanent connection is required, the coupling can be welded on the pipe at any time.



### Benefits:

- Mechanical connection with no welding required
- Easy flange bolt alignment
- Safe and easy to use
- If necessary, PLIDCO® Flange can be welded on the pipe while the pipe is in operation
- If not welded, it can be reconditioned and used again



## PLIDCO® POWER+GRIP

The PLIDCO® Power+Grip is a high load flange pipe coupling used for permanent connection of a flange to a pipe in spaces where no welding is possible.

The high load flange coupling enables making a full flange joint mechanically with no welding required. The integrated grips are designed for powerful structural attachment to the pipe.

### Benefits:

- Self-gripping **mechanical connection without welding**
- The coupling can bear an external longitudinal load equivalent to a welded joint
- The double row of packing combined with the pressure port enables a pressure leak test to be performed without pressurizing the pipe
- Offers a generous end gap adjustment of  $\frac{1}{2}$  the pipe diameter
- Can be reconditioned and **reused again**



# OTHER COMPONENTS FOR PIPE REPAIRS

## **PLIDCO® HOT TAPPING+SADDLE**

The PLIDCO® Hot Tapping+Saddle allows **pipe tapping into a pressurized line** while being in operation **without welding** to make a branch connection or for plugging operation, or e.g. for draining a product from the pipeline.

The sleeves are available in multiple material versions, sizes, connection types and pressure categories.



### **Benefits:**

- Mechanical connection with no welding required
- **Easy and safe to install**
- If necessary, the Tapping+Saddle can be welded on the pipe later when the pipe is in operation
- The steel GirderRing holds seals in place and protects them from displacement and damage during installation
- The Tapping+Saddle can be reconditioned and used again
- Can be used in hazardous areas where welding is not permitted



PLIDCO® Hot Tapping+Saddles when **used for plugging** operations are designed to include clamping areas, to restrict movement of the fitting when setting the plugging head.

Installation is quick and easy; bolt it on, assemble tapping equipment, perform a pressure test and proceed with the tapping and plugging operation.

PLIDCO® Hot Tapping+Saddle **can be reclaimed, reconditioned and used again** if it hasn't been welded to the pipeline.

Branches are available in any range of sizes and pressures.

Threaded, welded or flanged outlets are available upon the customer specification.



## PLIDCO® TAP+ENCLOSURE

The PLIDCO® Tap+Enclosures are **designed to cover illegal hot-taps** or other equipment installed on the pipe necessary to be encapsulated. The Enclosure is available in three styles: Domed Split Bolt-On, Domed Weld-On, Domed Split Weld-On.

The Split Bolt-On is designed to ASME Section VIII and meets the intent of API 6H/6X; The Domed Weld-On and the Split Weld-On are designed to ASME Section VIII.

### Benefits:

- When welded, the repair is permanent
- Quick installation
- Easy and safe repair
- Custom designed based on temperature, pressure and the required size
- **Can be reconditioned and used again** if it is not welded



Domed  
Split Bolt-On



Domed  
Weld-On



Domed  
Split Weld-On

## OTHER PLIDCO® CUSTOMISED COMPONENTS

Each product is **customised and designed** to the technical parameters of the piping in use and **specific customer requirements**. PLIDCO® specialists in state-of-the-art research and development centre search for solutions on a daily basis for issues occurring on piping all over the world.

Thanks to this expertise, we are able to customise any of our standard products or develop and build a **new technical solution within a short time**.



## STOCK AND EMERGENCY SERVICES


PLIDCO® inventory includes many already assembled standard products as well as basic materials and spare parts of standard sizes and specifications from which we are able to assemble a product quickly and deliver it to the site in a short time.

We also provide a **24/7 emergency service** for our customers. Our experienced and knowledgeable staff is available to **answer any pipeline repair or maintenance questions you may have**. Do not hesitate to call us with any of such questions!



SPECIAL SERVICES FOR PIPELINES

*... when the quality matters!*



# PIPELINE INSPECTION, INTEGRITY, MAINTENANCE AND REPAIRS WITHOUT SHUTDOWN

## SAFETY • QUALITY • RELIABILITY

- Online leak sealing
- Repairs of damaged valves, pipes and welds while pipeline remains in service
- Pipeline cut-outs and replacement of piping components without shutdown
- Additional installation of measuring and sampling points without shutdown
- Repairs and reconstructions of pipes, tanks and pressure vessels
- Making a branch connection (hot tapping and tie-ins)
- Pipeline relocations, repairs and tie-ins without pipeline shutdown by pipeline plugging and bypassing
- Extending the service life of pipelines and pipeline integrity verification
- Pipeline plugging (pipeline isolation)
- Hot tapping (pressure tapping) to pipes, tanks and pressure vessels
- Pipeline cleaning and dewatering
- Stress tests and pressure tests
- Pipeline drying
- Repumping of gas by a mobile gas compressor unit
- Remaining life and reliability assessment of pipelines, tanks and pressure vessels
- Pipeline decommissioning and decontamination before repairs or shutdowns by mobile nitrogen generators
- Special welding procedures for welding on the in-service pipelines
- Corrosion mapping and monitoring of pipes, pressure vessels, tanks and other steel structures
- Advanced NDT (TOFD, Phased Array, Guided Waves, PECA™, PEC, EMAT and others)
- NDT / NDE (defectoscopy) field services by the mobile NDT laboratory accredited according to EN ISO/IEC 17025
- Positive material identification (PMI) and chemical analysis of metals using a mobile optical emission spectrometer (OES)
- On-site hardness testing of steel materials and welds
- Inspection and defect assessment of pipelines, tanks, pressure vessels and steel structures
- Localization and verification of defects identified by inline inspection (in-ditch verification)

### SEPS, a.s.

Údernícka 11, 851 01 Bratislava  
Slovak Republic

+421 2 682 45 720  
+421 905 885 139

office@sepssk.sk  
www.sepssk.sk