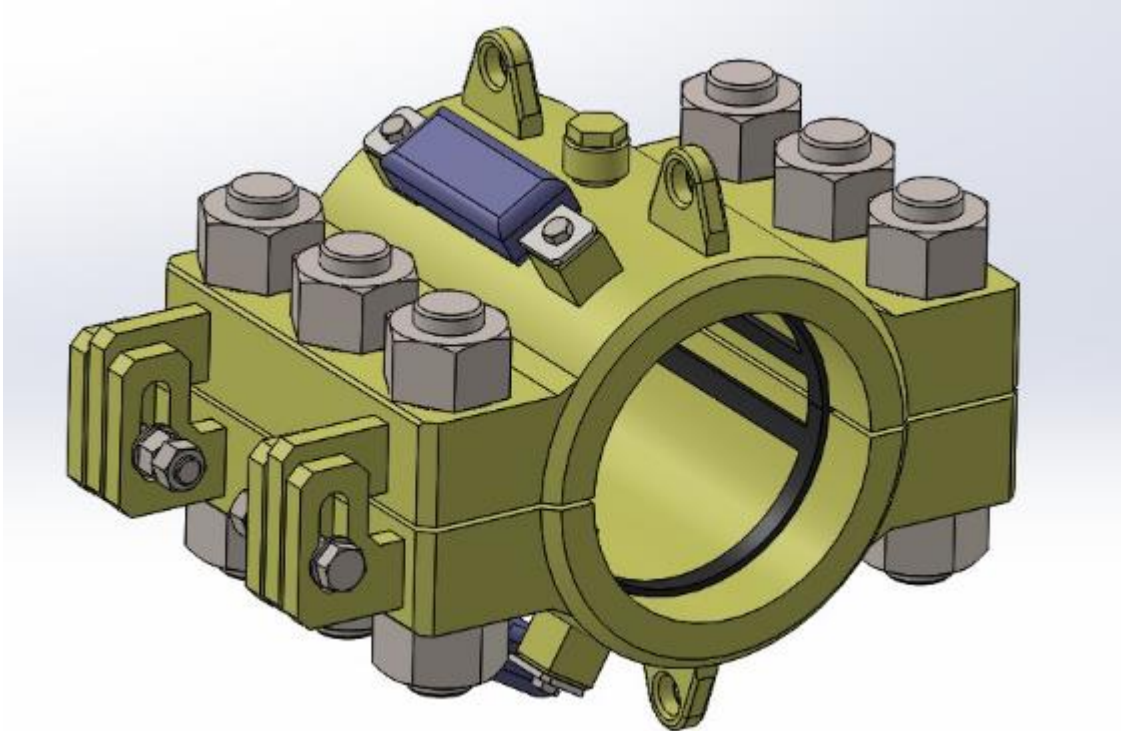


BOLTED REPAIR CLAMPS



Split sleeves are widely used for making repairs to a variety of high or low pressure and high or low temperature pipelines, containing oil, water, gas, steam and chemical fluids. The clamp halves are joined by bolts to form a high integrity pressure vessel around the damaged or leaking pipe. Sealing is provided by elastomer seals of the highest quality selected for compatibility with the pipeline fluid and operating temperature. The Split sleeves may also be welded after installation to provide a permanent repair. It may be completely seal-welded with the pipe line in operation.

Split repair sleeve

1. for onshore installation
2. for off shore installation, with zinc anodes and marine epoxy coating
3. weldable, with heat insulating gaskets
4. with girder rings, if required

<ul style="list-style-type: none"> HIGH PRESSURE CLAMP FOR PIPE REPAIR 	<ul style="list-style-type: none"> CLAMP FOR PIPE REPAIR 	<ul style="list-style-type: none"> CLAMPS FOR PIPELINE REPAIR
<ul style="list-style-type: none"> SPLIT SLEEVES 	<ul style="list-style-type: none"> SLEEVE PIPE BOLTED 	<ul style="list-style-type: none"> SLEEVE PIPE TWO HALVES BOLTED FLANGED
<ul style="list-style-type: none"> BOLTED CLAMP 	<ul style="list-style-type: none"> SPLIT REPAIR CLAMP 	<ul style="list-style-type: none"> EMERGENCY PIPELINE REPAIR CLAMP
<ul style="list-style-type: none"> MANCHON DE REPARATION 	<ul style="list-style-type: none"> CLAMP REPAIR PIPE BOLTED 	<ul style="list-style-type: none"> SLEEVE SPLIT REPAIR
<ul style="list-style-type: none"> SPLIT SLEEVE PIPELINE REPAIR CLAMPS 	<ul style="list-style-type: none"> EXTERNAL SPLIT SLEEVE PIPELINE REPAIR CLAMPS 	<ul style="list-style-type: none"> PIPELINE MECHANICAL REPAIR
<ul style="list-style-type: none"> CLAMP PIPE REPAIR HIGH PRESSURE BOLTED TYPE 	<ul style="list-style-type: none"> REPAIR CLAMP & ACCESSORIES 	<ul style="list-style-type: none"> SPLIT SLEEVE CLAMP
<ul style="list-style-type: none"> WELDABLE SPLIT SLEEVE REPAIR CLAMPS 	<ul style="list-style-type: none"> WELDABLE SPLIT SLEEVE REPAIR CLAMPS FOR WELDING JOINT 	<ul style="list-style-type: none"> SPLIT SLEEVE REPAIR CLAMPS
<ul style="list-style-type: none"> SPLIT SLEEVE LEAK CLAMP FOR WELDING JOINT 	<ul style="list-style-type: none"> SPLIT SLEEVE LEAK CLAMP FOR PIPE 	<ul style="list-style-type: none"> LEAK CLAMP

APPLICABLE INTERNATIONAL STANDARDS

The design, engineering and supply of the fire tubes (two off) shall conform wherever applicable, and unless otherwise specified & agreed, to appropriate API, ASTM, ANSI ASME or equivalent standards / codes and also to internationally-accepted standards and practices. All Standards and Codes followed for the Design shall be of latest version/edition.

API RP 1160	Managing System Integrity of Hydrocarbon Liquid Pipelines
ASME B 31.4	Pipeline Transportation System for Liquids
ASME Section IX	Specification for Welding and Brazing Qualifications
ASME Section V	Non-Destructive Examination
ASME Section II, Part C	Specification for Welding rods, Electrodes and Filler materials
ASME Section VIII, Div I	Rules for Construction of Pressure vessels
ASTM E 94	Standard guide for Radiographic examination
ASTM E 709	Standard guide for Magnetic particle examination
ASTM E 1003	Standard test method for Hydrostatic leak testing

MANUFACTURER OF INTERNAL PIPE SLEEVE, HALF PIPE SLEEVE & BOLTED LEAK REPAIR CLAMPS.			
SPECIALIST IN COATED PIPES, FITTINGS, FLANGES & SPOOLS			
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FEATURES:

- Standard Clamps are fitted with a high grade elastomeric seal made from Buna-Nitrile or Viton. In these applications the sealing load is achieved through the bolt tensioning of the clamp studs (split sleeve design)
- All Clamps are designed with an external pressure test facility that determines the joint integrity prior to commissioning
- Twin seal configuration is also available to allow inter-seal testing to be carried out during installation
- Clamps may be supplied for both topside and subsea repair applications

Engineered solutions can be manufactured to use metal graphite composite seal that is provided in all Split sleeve Clamp Mechanical Connector products. Graphite based sealing ensures a chemically resistant, high temperature, high pressure seal that will not degrade in aggressive or harsh environments

Clamps bespoke connector solutions can be provided by our dedicated engineering team.

BENEFITS:

- Can be used in cases of leaking pipes or where wall thinning occurs
- They are self-sealing, achieved by bolting of the clamp studs
- Standard clamps come in single seal arrangement, but double seal arrangement can be provided upon request
- Hydro tested to 1.5 times the clamp design pressure (or as per your requirements)
- Widely used for subsea and topside repairs
- Provided with wedge shape grooves to prevent slipping of seals during installation
- Designed to ASME VIII
- Can be provided with prep angles for welding on the pipeline as and when required

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MATERIAL SPECIFICATION

PIPE SIZES	4" & above
SPLIT BODY SHELL	SA / ASTM A 516 Gr. 70
	ASTM A106 Gr. A,BC seamless pipe
	ASTM A516 Gr. 70 steel plate.
	API 5L Gr B, X42, X46, X52, X56, X60, X65, X70 – PSL I – PSL2
	ASTM A36
	ASTM A572 GR42, GR50, GR55, GR60, GR65
	ASTM A516 GR55, GR60, GR65, GR70
	ASTM A537 Class I, Class 2, Class 3
	EN 10025 – S235,S275,S355,S450
	ASTM A216 WCC
	ASTM A352 LCC
	ASTM A216 WCB
Any other as per client requirement	
BODY FLANGE (STIFFNER)	SA / ASTM A 105
	Any other as per client requirement
STUD & NUT	ASTM A193 Gr. B7 with A194 Gr. 2H nuts.
	ASTM A194 Gr. 2,2H,2HM,4,7,7M,8,8M
	ASTM A307 GR. A,B,C
	ASTM A320 .GR L7,L43
	ASTM A325 GR Type 1,Type 2,Type 3
	Any other as per client requirement
	Coating : Yellow Epoxy Polyamide, Standard or Marine Epoxy, Galvanized, PTFE, Xylan Coated or any other as per client requirement
SEALS/GASKET	NBR temperature range is from - 20 C to + 80 ° C
	Viton temperature range is from - 20 C to + 200 ° C
	Silicone
	Kevlar
	Hycar
	HNBR temperature range is from - 20 C to + 150 ° C
Any other as per client requirement	
VENT PLUG	SA / ASTM A 105

HINGE ASSEMBLY	SA / ASTM A516 Gr. 70	EN 10025 – S235,S275,S355,S450
	SA / ASTM-A-325	ASTM A193 Gr. B7 with A194 Gr. 2H nuts.
	ASTM A106 Gr. A,BC seamless pipe	ASTM A194 Gr. 2,2H,2HM,4,7,7M,8,8M
	ASTM A572 GR42, GR50, GR55, GR60, GR65	ASTM A307 GR. A,B,C
	ASTM A36	ASTM A320 .GR L7,L43
	ASTM A572 GR42, GR50, GR55, GR60, GR65	ASTM A325 GR Type 1,Type 2,Type 3
	ASTM A516 GR55, GR60, GR65, GR70	Any other as per client requirement
	ASTM A537 Class 1, Class 2, Class 3	
LIFTING LUG	SA / ASTM A 516 Gr . 70	
SACRIFICIAL ANODE	ZINC ALLOY	
	Any other as per client requirement	
DESIGN CODE	ASME SEC VIII	
	API 6H	
	ANSI B31.3	
	ANSI B31.4	
	ANSI B31.8	
DESIGN PRESSURE	300#	
	400#	
	600#	
	900#	
	1500#	
	Any other as per client requirement	
HYDROTEST PRESSURE	(1.3 X DESIGN PRESSURE)	
	(1.5 X DESIGN PRESSURE)	
	As per client requirement	
DESIGN TEMPERATURE	0 TO 212°F	
	Any other as per client requirement	
COATING	Yellow Epoxy Polyamide, Standard or Marine Epoxy, Galvanized, PTFE, Xylan Coated	
	Any other as per client requirement	
SEALING LENGTH	As per client requirement	

TESTING & CERTIFICATIONS

- Non-destructive testing (NDT):
 - 100 % magnetic particle inspection (MPI) for stiffener to shell weld (fillet)
 - 100 % ultrasonic testing of vent plug welds
 - 100 % MPI of hinge welds
- Hydro Test as per ASME Section VIII Div.I clause UG-99
- Dimensional & Visual
- Hardness
- Load Testing of Hook & Hinge
- Painting Inspection
- Any other as per client requirement

WELDABLE SPLIT SLEEVES

All clamps can be fully prepared for welding after installation (welding procedure is available on request).

Heat insulators (parallel to the seals) protect the seals from heat during the welding of the sleeves to the pipe.

*Clamps with longer lengths available on request.

EASE OF INSTALLATION AND MAINTENANCE

All split sleeves are designed to be installed with the most common tools available and are readily field repairable, including full seal replacement

SPLIT SLEEVES ARE SUITABLE FOR SOUR ENVIRONMENT

This type of split sleeve is designed to be used in hydrogen sulfide (H₂S) bearing hydrocarbon service.

For sour services, the body material will meet NACE MR0175

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