

SPITZE^{HP CLAMP}

PRODUCT SHEET
Emergency Online leak repair system





PRODUCT OVERVIEW

SPITZE HP CLAMP

Overview:

The Spitze HP clamp is engineered and manufactured in accordance with ASME VIII Div 1 for the temporary repair of live high-pressure leaks without having to shut down or isolate the system. The low-profile standoff height of the clamp is intended for a composite overwrap using any of the Revowrap systems for long terms repairs. The Spitze HP clamp is resistant to the harsh chemical environment prevalent in the oil, gas and petrochemical industries.

The Spitze HP clamp is engineered to operate in working temperatures from -60°C to 380°C and has a pressure rating of up to 200 Bar with a maximum application pressure of 150Bar. Please refer to the maximum and minimum service temperatures of the various Spitze bungs as illustrated in the SPITZE BUNG column below. The installation of the Spitze HP clamp is non-invasive and may be applied to live piping systems without shutting down for the repair on hole sizes up to 25mm Diameter. Spitze HP clamp may be applied to piping sizes up to 56", and may be installed on most substrates and is suitable for Subsea application.



PRODUCT PERFORMANCE INDICATORS

SPITZE HP CLAMP	Maximum Design Temperature	380°C
	Maximum Design Pressure	200 Bar
	Min/Max Application Temperature	Refer to Spitze bung column
	Maximum Application Pressure	150 Bar
	Minimum Allowable Operating Temperature	-60°C
	Installation Time	10 Minutes
	Minimum Pipe Diameter	1 Inch
	Maximum Pipe Diameter	56 Inch
	Shelve Life	No Limitation if stored correctly
	Repair Lifespan	5 Year Design
	Maximum Defect Diameter	25mm
	Sub Sea Application	Spitze Subsea edition available in SAE 316 Stainless steel
	Man Power required per installation	One
	Applications	Elbows, Straight-line, Welds

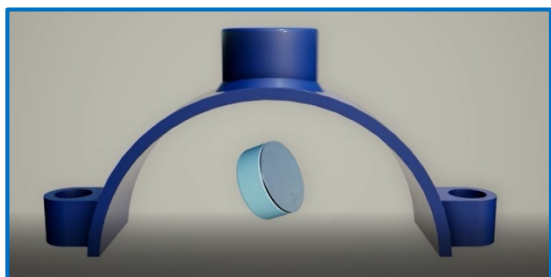
Spitze clamp Design Data

SPITZE HP CLAMP	Design Code	ASME VIII DIVISION 1: 2021 COMPLIANT
	Clamp Materials	CARBON STEEL - SA-516 GR 70N/ MILD STEEL - EN8/ STAINLESS STEEL - SA-240M-19 316L
	Bolt Material	SA-193 GR B7
	Bung Material/s	FluoroSilicone, Silicone, EPDM, Viton
	Clamp Coating	Powder coat



SPITZE BUNGS

SPITZE BUNG Temperature Selection	
Viton Bung @204° C	Indefinite
Viton Bung @232° C	3000 Hours
Viton Bung @260° C	1000 Hours
Viton Bung @287° C	240 Hours
Viton Bung @315° C	48 Hours
Viton Bung minimum operating Temperature	-45°C
EPDM Bung @80° C	Indefinite
EPDM Bung @100° C	1000 Hours
EPDM Bung @150° C	48 Hours
Viton Bung minimum operating Temperature	-50°C
Fluorosilicone Bung @204° C	Indefinite
Fluorosilicone @232° C	3000 Hours
Fluorosilicone Bung minimum operating Temperature	-65°C
Silicone Bung @150° C	Indefinite
Silicone Bung @200° C	10 000 Hours
Silicone Bung @220° C	1000 Hours
Silicone Bung @250° C	48 Hours
Silicone Bung minimum operating Temperature	-60°C



Example of Crown Bung



Example of Prone Bung



Viton Bung
Shore A Hardness A60
Stainless steel backing plate



EPDM Bung
Shore A Hardness A50
Stainless steel backing plate



Fluorosilicone Bung
Shore A Hardness A60
Stainless steel backing plate



Silicone Bung
Shore A Hardness A50
Stainless steel backing plate



PRESSURE TEST PERFORMANCE

The Spitze HP clamp is designed and manufactured in accordance to ASME VIII with a pressure rating of 200 Bar. Achievable working pressures are defect diameter and shape dependant. Please see pressure and defect parameters below. Please note that this table is for reference only and is based on live leak test data conducted in ambient temperatures in a workshop environment. Site Risk assessments to be completed before installation of the SPITZE HP or SPITZE Subsea clamp.

Through wall Defect Size	Defect on weld – weld standoff height 3.5mm	Defect on straight-line	Defect on Elbow	Defect on corroded straight-line
0-3mm	120 Bar	150 Bar	120 Bar	120 Bar
4-7mm	110 Bar	145 Bar	100 Bar	100 Bar
8-12mm	90 Bar	130 Bar	100 Bar	80 Bar
12-16mm	No Data	120 Bar	No Data	No Data
16-20mm	No Data	100 Bar	No Data	No Data
20-25mm	No Data	90 Bar	No Data	No Data

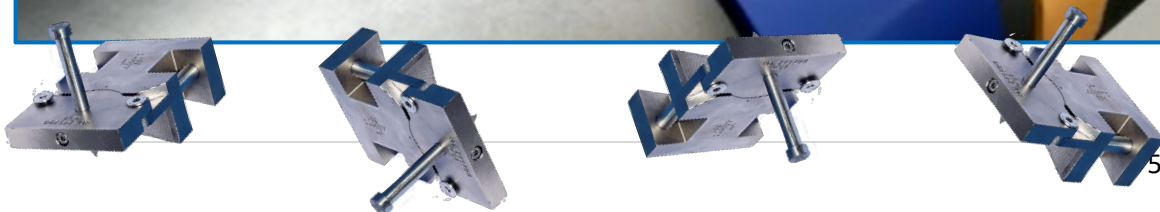
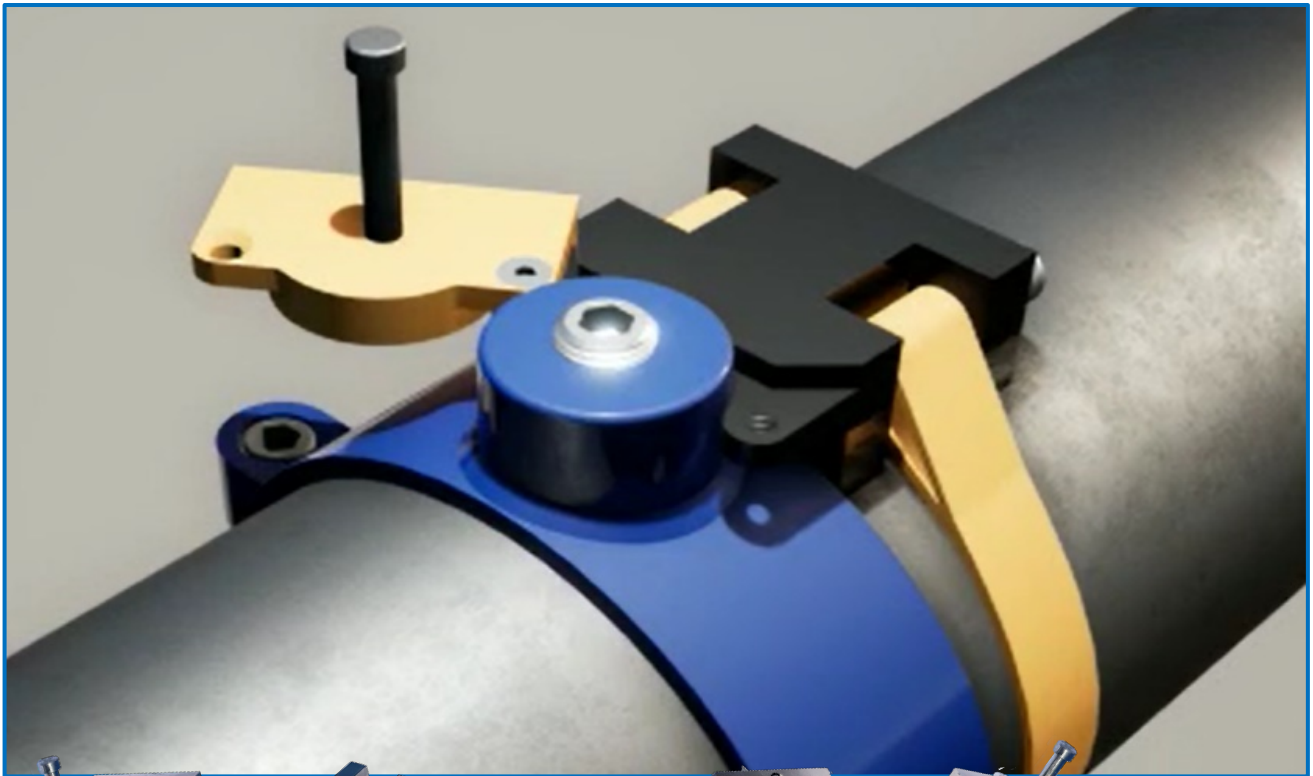
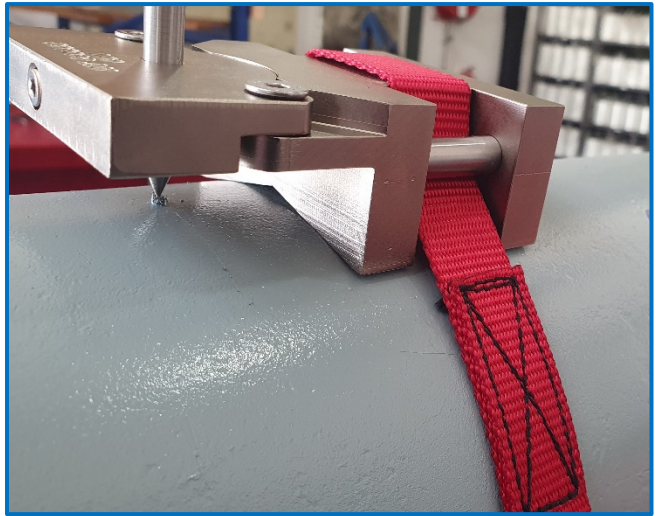
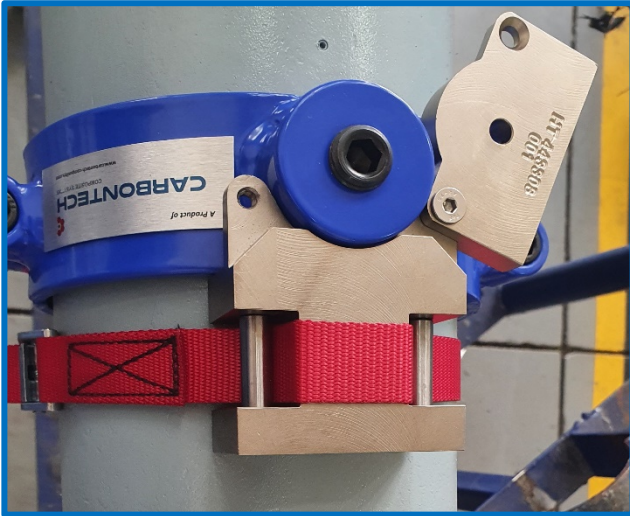
Application of the Crown and Prone Bungs

CROWN BUNG APPLICATION	Pitted/uneven surface defects	Girth Welds
PRONE BUNG APPLICATION	Smooth/Even Surface defects	



ALIGNMENT TOOL FOR ACCURATE PLACEMENT OF THE SPITZE CLAMP OVER THE DEFECT

SPITZE HP CLAMP	Spitze clamp Alignment tool Data	
	Design Code	N/A
	Clamp Materials	Mild Steel - EN8
	Bolt Material	SA-193 GR B7
	Pipe Ranges	Universal system for all pipe sizes.
	Clamp Coating	Nickle Plated
	Maximum Application Temperaturte	250°C





ADVANTAGES



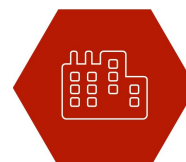
- Fast, Non-invasive repair - does not require hot work
- Repairs done live – no unplanned downtime
- High Pressure – High Temperature
- Resistant to Harsh chemicals



INDUSTRIES



- Oil and Gas facilities
- Petrochemical plants
- Chemical plants
- Transmission Pipelines



USES



- Pinholes
- Illegal Hot Taps
- Through wall corrosion
- Weld Anomalies

CONCLUSION:

Revowrap is available in a range of widths and lengths and is designed for variants of pipe diameters and defect ranges. Revowrap may be applied in continuous spiral wraps (used for continuous lengths of pipe), circumferential wraps for localised defects and weld defects). Revowrap 80 is the ideal solution for pipes where corrosion, mechanical damage or support abrasion has reduced the remaining wall thickness to below the MAOP. Once applied Revowrap 80 restores the pipe integrity back to the original design specification and also provides excellent corrosion and abrasion protection.

THE CARBONTECH INNOVATIVE PRODUCT RANGE:

Revowrap 80	High Performance quad-axial glass pipe wrap system used with super strength 2-part epoxy system
Revowrap 110	High Performance Carbon Fibre pipe wrap system used with high temperature 2-part epoxy system
Revowrap 185	High Performance Carbon Fibre pipe wrap system used with high temperature 2-part epoxy system
Revowrap 225	High Performance Carbon Fibre pipe wrap system used with ultra-high temp 2-part epoxy system
Revoshield 124	High Performance fibreglass coating system used with super strength 2-part epoxy system
PowRwrap	Water Activated Fibreglass pipe wrap kit
MV Putty	Medium Viscosity High compression strength Putty used for the profiling of Revowrap® systems
HV Putty	High Viscosity High compression strength Putty used for the profiling of Revowrap® systems
Spitze Clamp	A High-Pressure - High Temperature leak repair system
Revostrap	A 20 Second Leak Repair system for low to medium pressure
Revomat	An Intelligent post cure system for high temperature wrap systems
Rescue saddle	A Carbontech Initiative to safely wrap over active leaks





CARBONTECH

The place chemistry, engineering and global expertise are brought together to drive progressive innovation in advanced composite technologies for the emergency repair of critical assets **"There is nothing generic about us"** we don't just sell pipe wraps; we provide accurate engineering backing to deliver tailored solutions

Sound and responsible engineering is the basis on which we build our company, products and services. It is the core to our success and it is the foundation on which we have engineered and manufactured our innovative and bespoke products

We strive by a zero-failure philosophy and warrant our engineered composite solutions are tested, proven and validated. We vow to provide dependable, responsible and accurate information regarding the capabilities of our systems

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PROGRESSIVE COMPOSITE ENGINEERING

