

Presta™ Mechanical Splice for Deep Water and Extreme Service



Pressure Balanced Cable Splicing

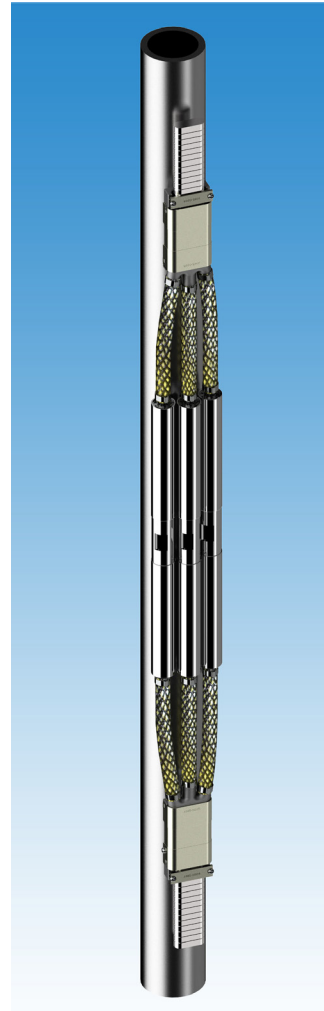
The Presta™ Mechanical Splice Family is a high temperature / high pressure splice for ESP cables. The Pressure-balanced k-PaC™ is new technology, which changes the way cable splices are made.

k-PaC™ Technology	Demonstrated to improve splice performance to new levels of reliability
Faster and Easier ESP cable splices	Cable splicing time is reduced to minutes

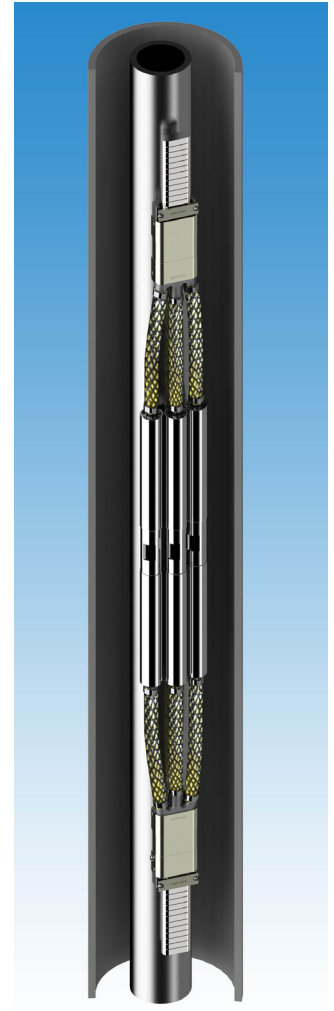
Simplicity: Cable ends are prepared with a crimped-on electrical contact, and simply pushed into the new splice. This splice matches long-term performance of taped splices, while reducing splicing time to less than ninety minutes.

Versatility: This splice offers the ability to change cable sizes on either side of the Presta™ Mechanical Splice (leaded to non-leaded cable on opposite sides of device). Splices can be installed in the parallel or staggered configuration. Phase-change splicing can be accommodated.

Reliability: All primary pressure blocks and external tube seals are metal to metal. Use of elastomers is minimized. Presta™ Mechanical Splice has protector configurations for severe applications.



The Presta™ Mechanical Splice



The Presta™ Mechanical Splice within well casing

Patent-Pending k-PaC™ Technology

New k-PaC™ Technology relies on complete pressure balancing, inside and outside of the device. By eliminating pressure differentials between the splice and the environment, the entrance of conductive fluid is eliminated.

Patent-pending k-PaC™ Technology provides redundant protection with two moveable barriers. If one barrier fails, the second will provide full protection.

- Temperature tested to 500°F
- Dielectric performance is high over a wide temperature range

Specification Chart

	Deep Water	Extreme Service
Mechanical	15000 psi	5000 psi
Environmental	350°F (177°C)	400°F (204°C)
Electrical	5 KV 150 Amps,	5 KV 150 Amps,
Decompression	50 psi/minute	50 psi/minute

Other sizes and materials available to meet a wide range of applications. Technology capable of greater than 500° F and 20,000 psi. Please contact BIW with your request.

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Conventional splices attempt to seal out the environment. This new splice encapsulates the electrical components in a viscous dielectric medium (VDM), which is dynamically pressure balanced with the outside environment.

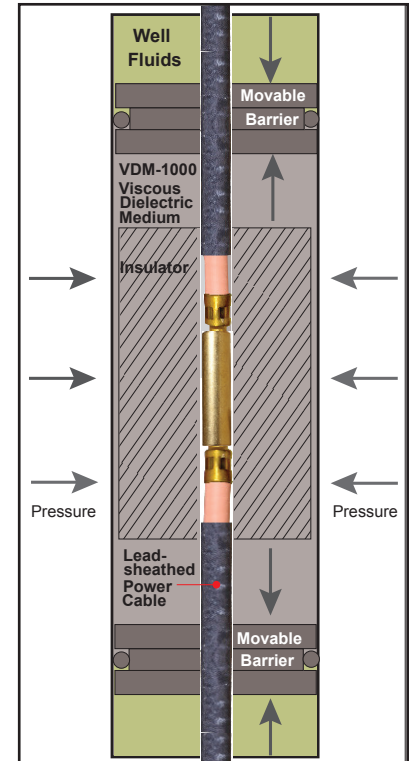
The pressure balancing system is simple, yet robust. The dielectric medium, VDM-1000, is retained in the splice body by movable barriers at each end of the splice. The barriers have O-rings preventing excessive loss of VDM-1000, when external pressure changes cause the barriers to move.

When thermally induced volume changes occur within the splice body, the barriers move to accommodate the new volume, without stressing the internal materials.

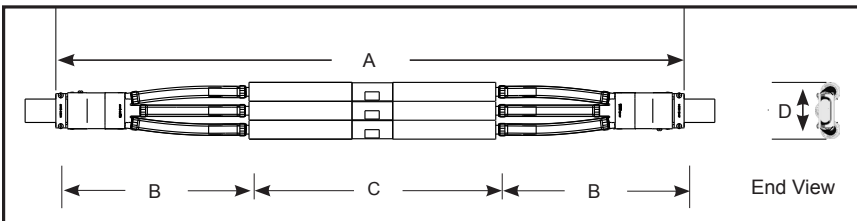
Pressure-balanced k-PaC™ Technology has been demonstrated to provide excellent performance at pressure levels up to 15,000 psi and temperatures up to 260°C. Rapid decompression, the enemy of other cable termination solutions, is easily accommodated. Performance under decompression, at rates in excess of 2500 psi/minute, has been successfully demonstrated under test conditions.

Cable Preparation

Cable preparation is the only step required to make a cable splice. A copper contact pin is crimped to the end of the each conductor. The plastic inserts are removed from both ends of each splice housing, and the cables are inserted. A tool supplied with the splice is used to assist with inserting the conductors. An armor termination is attached at each end, to ensure that cable armor remains in place for the life of the splice.



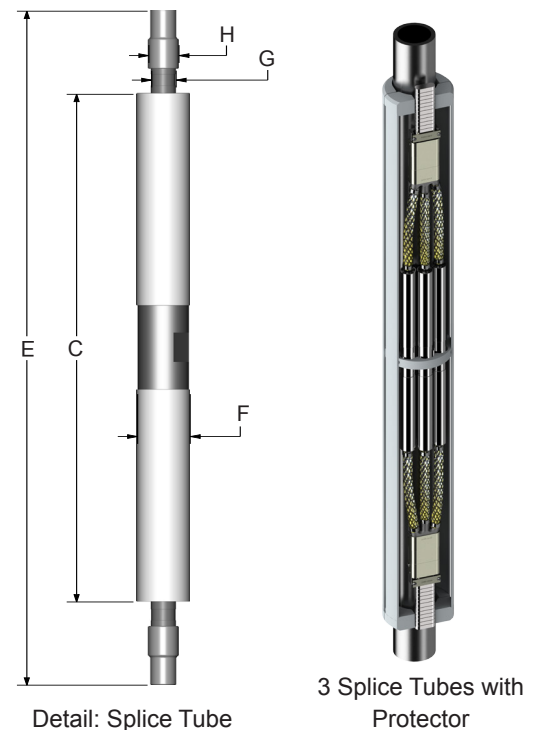
Overview of Presta Splice Tube



length (min.)	A	B	C	D	E
	50 in. 1270 mm	16.5 in. 419 mm	17 in. 432 mm	4 in. 101 mm	23 in. 584 mm
diam. (max)	F	G	H		
#1, #2, #4 AWG lead, #1 non-lead	1.3 in. 34 mm	.62 in. 16 mm	.76 in. 19 mm		

Splice Protection

Since it is necessary to remove a section of cable armor in order to properly install the individual phase splices, there may be risk of cable damage when the splice is positioned in the well. Depending on well deviation, the use of centralizers, and other factors, it may be desirable to use a suitable Protector Device, such as pictured at far right.



Detail: Splice Tube

3 Splice Tubes with Protector