

# BICON

## LV & MV Hydrocarbon Resistant Cable Joints for OGP applications

### LV Joints

This range of joints is based on the Prysmian low hazard JEM resin encapsulation together with rigid glass reinforced outer shells which provide excellent resistance to the hydrocarbons found in many installations.

### MV Joints

This range is built around the Prysmian Elaseed™ cold-shrink joint bodies – which reduce jointing time and improve system reliability. These one piece joint bodies can be used with compression or mechanical connectors and require minimal tooling and no heat. These joints are also enclosed within JEM resin and glass reinforced shells.

## LV & MV Hydrocarbon Resistant Joints

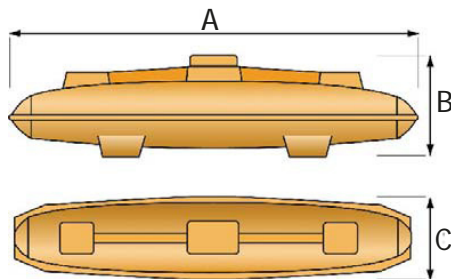
# General Technical Data

In this range a Phenolic resin shell is used to provide excellent resistance to Hydrocarbons found in Oil, Gas and Petrochemical installations. The use of this shell material together with other design features, means that the lead sheathe incorporated in the cable design does not need to be present in the joint.

Tests to demonstrate the chemical resistance of both the shell and the sealing putty have been carried out to BS6899 using ASTM oils, numbers 2 and 3. This calls for 24 hour immersion at 100°C and specifies permissible changes in mechanical properties before and after ageing. In each case minimal changes were observed after immersion in both oils, under conditions where most conventional polymers used in cable construction would not survive.

## LV Straight Joints

- > Suitable for copper and aluminium conductors
- > Armour bonds included
- > Joints comply with the LV jointing standards BS EN 50393 & ENA ER C81



**Shell Dimensions LV Straight**

Joints Ref.	A	B	C
PBMPJ4	430mm	110mm	90mm
PBMPJ5	560mm	160mm	130mm
PBMPJ6	740mm	180mm	145mm
PBMPJ7	870mm	190mm	160mm

Connectors are sold separately.  
BICON LV compression or mechanical connectors are recommended as per table.



600/1000V Polymeric insulated lead covered SWA cables to EEMUA 133 (copper conductors)				LV Compression	LV Mechanical
Nominal area of conductor	Two Core Ref.	Three Core Ref.	Four Core Ref.	Copper	Copper & Aluminium
1.5mm <sup>2</sup>	PBMPJ4	PBMPJ4	PBMPJ4	BERS	-
2.5mm <sup>2</sup>	PBMPJ4	PBMPJ4	PBMPJ4	BEBS	-
4mm <sup>2</sup>	PBMPJ4	PBMPJ4	PBMPJ4	BEYS	BMT16
6mm <sup>2</sup>	PBMPJ4	PBMPJ4	PBMPJ4	BT6CS	BMT16
10mm <sup>2</sup>	PBMPJ4	PBMPJ4	PBMPJ4	BT10CS	BMT16
16mm <sup>2</sup>	PBMPJ4	PBMPJ4	PBMPJ5	BT16CS	BMT16
25mm <sup>2</sup>	PBMPJ5	PBMPJ5	PBMPJ5	BT25CS	BMT35
35mm <sup>2</sup>	PBMPJ5	PBMPJ5	PBMPJ5	BT35CS	BMT35
50mm <sup>2</sup>	PBMPJ5	PBMPJ5	PBMPJ5	BT50CS	BMT70
70mm <sup>2</sup>	PBMPJ5	PBMPJ5	PBMPJ5	BT70CS	BMT70
95mm <sup>2</sup>	PBMPJ5	PBMPJ5	PBMPJ6	BT95CS	BM95M
120mm <sup>2</sup>	PBMPJ6	PBMPJ6	PBMPJ7	BT120CS	BM185M
150mm <sup>2</sup>	PBMPJ7	PBMPJ7	PBMPJ7	BT150CS	BM185M
185mm <sup>2</sup>	PBMPJ7	PBMPJ7	PBMPJ7	BT185CS	BM185M
240mm <sup>2</sup>	PBMPJ7	PBMPJ7	PBMPJ7	BT240CS	BM300M
300mm <sup>2</sup>	PBMPJ7	PBMPJ7	PBMPJ7	BT300CS	BM300M

For 1.5mm<sup>2</sup> cables:  
7, 12 and 19 cores use PBMPJ4 size joint, 27 and 37 core use PBMPJ5.

For 2.5mm<sup>2</sup> cables:  
7, 12 and 19 cores use PBMPJ4 size joint, 27 cores use PBMPJ5 and 37 cores use PBMPJ6.

Make the right connection...

## LV & MV Hydrocarbon Resistant Joints

# MV Straight Joints 11kV & 33kV

The Prysmian range of ELASPEED™ cold applied joints has a wide range of applications including both single and three core polymeric and paper cables. The Prysmian cold applied technology has been developed to ensure that the accessories aren't the weak link in your system. The Elaseed™ cable joint is manufactured in the same way as cable. It starts its life as an extruded dielectric cable, manufactured to the highest standards in the cable industry. The Elaseed™ core, constructed from ethylene propylene rubber (EPR) insulation, is manufactured in a vertical extruder to ensure complete concentricity to the tightest tolerance possible. It is then tested as a cable to ensure long and trouble free operation under a wide variety of applications. The Elaseed™ joint has the highest physical and dielectric properties and it utilises the Prysmian Eprotenax™ insulation system.

**Cold Applied Technology** - Elaseed™ joints utilise cold applied technology over the connector position – widely recognised as the leading edge technology for cable accessories. Cold application ensures concentric joint recovery, even in tight installation spaces. Elaseed™ joints recover to give consistent insulation wall thickness and provide constant radial pressure.

**Self Eject Carrier** - The Elaseed™ joint bodies utilise the new Prysmian two-part self eject carrier. This construction eliminates the possibility of locking or breaking of the spiral carrier around the connector during unwinding. It also allows the body to be easily centralised and removes the need to grease the cable core thus reducing the risk of contamination. Jointing of three core cables is also made easier because the need to unwind the spiral between the cores is removed.

**Reliability and Repeatability** - Elaseed™ joints are reliable because they always shrink uniformly. No matter how many joints must be installed the last joint will be as reliable as the first. Resin Encapsulation - Jem two part resin is used to provide added mechanical strength and water protection.

**Standards** - Generally meet the requirements of BS 7888 – C 33 001 – DIN 57 278 -- IEEE 404 – IEC 60502-4 – CENELEC HD 629-1 – ENEL DJ 4853 – C 33 050-A1

## 11kV Rating Elaseed™ Joints

11kV rating: Polymeric Insulated Lead Sheathed Single Core Straight Joint											
Design No PBSC11 - Add range letter from table below											
Connector Type	Conductor Type	Cable Size mm <sup>2</sup>									
		50	70	95	120	150	185	240	300	400	500
Compression	ALL	A*	A*	A	A	A	A	B	B	C	C
Mechanical	ALL	B*	B*	B*	B*	B*	B	B	B	C	C

11kV rating: Polymeric Insulated Lead Sheathed Three Core Straight Joint										
Design No PB3C11 - Add range letter from table below										
Connector Type	Conductor Type	Cable Size mm <sup>2</sup>								
		50	70	95	120	150	185	240	300	400
Compression	ALL	A*	A*	A	A	A	A	B	B	C
Mechanical	ALL	B*	B*	B*	B*	B*	B	B	B	C

**Notes to all tables.**

- \* Refer to build up kit selection
- Connectors are sold separately
- Range selection charts relate to cables manufactured to IEC Standards, or equivalent, and Prysmian Connectors. See guidance notes for non-standard Cables and non-Prysmian connectors.

## LV & MV Hydrocarbon Resistant Joints

11kV Guidance notes for non-Prysmian cables and connectors					
Kit No	Maximum Ø over sheath (Single Core)	Ø over insulation	Cross Section	Ø over connector	Maximum connector length
A	38 mm	19.0-32.0 mm	95-240mm <sup>2</sup>	19.0-32.0 mm	160 mm
B	48 mm	23.1-36.0 mm	185-300mm <sup>2</sup>	23.1-36.0 mm	160 mm
C	67 mm	31.9-56.0 mm	400-500mm <sup>2</sup>	31.9-56.0 mm	220 mm

### 11kV Build Up Kits

Example: To join an 11kV three core 50mm<sup>2</sup> polymeric cable to a 300mm<sup>2</sup> three core polymeric cable.

PB3C11-C Joint kit and 1 x BX02 to build the cable up to 150mm<sup>2</sup> plus 1xBX03 to build the 150mm<sup>2</sup> up to 300m<sup>2</sup>.

## 33kV Rating Elaseped™ Joints

33kV rating: Polymeric Insulated Lead Sheathed Single Core Straight Joint					
Design No PBSC33 - Add range letter from table below					
Connector Type	Conductor Type	185	240	300	400
Compression	ALL	C	C	C	C
Mechanical	ALL	C	C	C	C

33kV rating: Polymeric Insulated Lead Sheathed Three Core Straight Joint					
Design No PB3C33 - Add range letter from table below					
Connector Type	Conductor Type	185	240	300	400
Compression	ALL	C	C	C	C
Mechanical	ALL	C	C	C	C

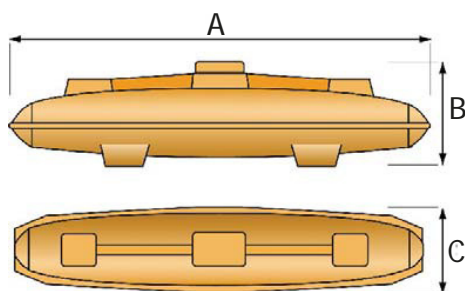
### Polymeric Kits

BX01 - To build 25&35mm<sup>2</sup> to 50mm<sup>2</sup> for use in size 'A' joints.

BX02 - To build 50, 70, 95 & 120mm<sup>2</sup> to 150mm<sup>2</sup> for use in size 'B' joints.

BX03 - To build up 150 & 185mm<sup>2</sup> to 300mm<sup>2</sup> for use in size 'C' joints.

33kV Guidance notes for non-Prysmian cables and connectors					
Kit No	Maximum Ø over sheath (Single Core)	Ø over insulation	Cross Section	Ø over connector	Maximum connector length
C	67 mm	31.9-56.0 mm	185-500mm <sup>2</sup>	31.9-56.0 mm	220 mm



MV Compression Connectors				
Size:	Copper	Str. Al.	Sl. Al.(Circ)	MV Mechanical Connectors
50	BTH50CS	BAP50AS	BAP50AS	8703801+8704902
70	BTH70CS	BAP70AS	BAP70AS	8703801+8704902
95	BTH90CS	BAP95AS	BAP95AS	8703801
120	BTH120CS	BAP120AS	BAP95AS	8703801
150	BTH150CS	BAP150AS	BAP120AS	8703801
185	BTH185CS	BAP185AS	BAP150AS	8703801
240	BTH240CS	BAP240AS	BAP185AS	8702908
300	BTH300CS	BAP300AS	BAP240AS	8702908
400	BTH400CS			8703501
500	BTH500CS			8703501

Shell Dimensions MV PB Straight			
Joints Ref.	A	B	C
PB3C11-	1420mm	275mm	200mm
PB3C33-	1750mm	260mm	215mm

Make the right connection...