



A range of polymer cable protectors for use in Downhole, subsea and flow line applications.

The Smart® Protector is a patented product developed in co-operation with Shell. It is designed to operate within restricted annular clearances, to accommodate various tubing diameters, all coupling types and most cable combinations.

The Smart® Protector is not only used as a cable protector downhole it can be used to protect & attach cables in many other situations in conjunction with either the Smart® Band or Smart® Tie. One of the most successful applications is the attachment of Cathodic protection cables to Marine structures.

## Key Features

- High temperature resistance up to 175°C (347°F)
- Fits any tubing diameter or coupling length
- Can be used for multi-line installations
- Prevents cable snagging
- Low profile and low friction coefficient
- Available for many different cable configurations
- Will not hang in BOP stack
- Easy to mill

SP-100	SP-100-2	SP-200	SP-300
SP-400-3820	SP-400-5228	SP-500-1721	SP-500-3338

Cable Configurations & Dimensions						
Part	Cable Configuration/Options	Strapping Compatibility		Height	Length	Width
		20mm/¾ inch	32mm/1¼ inch	mm/in	mm/in	mm/in
SP-100	1 x ¼ inch control line 1 x 1/8 inch control line 1 x 2mm fibre optic	Yes	No	19.5/0.77	75.5/2.97	25.0/0.98
SP-100-2	2 x ¼ inch control line	Yes	Yes	22.0/0.87	104.0/4.09	25.0/0.98
SP-200	1 x 11mm square or round encapsulated line	Yes	Yes	24.9/0.98	114.0/4.49	25.0/0.98
SP-200-3/8	1 x 10mm square or round encapsulated line	Yes	Yes	24.9/0.98	114.0/4.49	25.0/0.98
SP-300	1 or 2 x 11mm square or round encapsulated line 1 or 2 x ¼ inch control lines	Yes	Yes	27.9/1.10	159.6/6.28	46.2/1.82
SP-400-3820	Flat Packs & Flat ESP Cables up to 38mm width & 20mm height	Yes	Yes	32.5/1.28	160.0/6.30	46.2/1.82
SP-400-5228	Flat Packs & Flat ESP Cables up to 52mm width & 28mm height	Yes	Yes	41.5/1.63	159.6/6.28	62.6/2.46
SP-500-1721	Round Cables between 17mm to 21mm Diameter	Yes	Yes	34.9/1.37	122.9/4.84	33.8/1.33
SP-500-3338	Round Cables between 33mm to 38mm Diameter	Yes	Yes	56.2/2.19	181.0/7.13	55.7/2.19

Performance & Material							
Material	Max Temp*		Longevity*	Gas Resistance		Rotational Load	Crush Load
	°C	°F		CBM Coal Seam Gas	H <sub>2</sub> S Sour Gas		
PK	125	257	Long term		Good		
PA12	100	212	Long term	Fair	Fair	50	2000
PPS	175	347	Long term	Very Good	Very Good		
PA66	125	257	Long term	?	?		

\*Life expectancy is dependant on the working temperature. Refer to the Smart Products Technical Booklet for Downhole Use.