Oil & Gas - Cable Solutions

Exploration & Production

ESP Cables

Flat Cables

DW 450 FL / DEVILEAD F 450 °F

Flat cable, which is specified when there is a tight fit between casing and tubing. For easier installation and maintenance, Prysmian ESP cables are shipped on reels of a continuous, splice-free length. Maximum permissible temperature is 450 °F (232 °C).

APPLICATION

Downhole extraction systems are critical for crude oil extraction. The reliability of the electrical power supply to an Electrical Submersible Pump (ESP) system depends on the performance and reliability of the power feed through to the wellhead, power cable, motor lead cable, pig tail connectors and related equipment such as the pump and motor. Prysmian ESP cables offer an efficient, rugged and easy to handle solution that delivers reliable performance in a package that is straightforward to install and maintain.

STANDARDS & APPROVALS

IEEE 1018.

QUALITY & TESTING

Prysmian has a built-in multi-step quality assurance program, covering the production process from cable design and raw material purchases to final inspection and testing documentation.

The ISO 9001 quality system of Prysmian Group (together with ISO 14001 and OHSAS 18001) has been assessed, approved and is currently audited by SGS.

DESIGN & CONSTRUCTION

1 CONDUCTOR
Solid or stranded plain (or tinned) copper conductors. A special sealing compound completely fills the interstitial spaces between the strands to prevent gas migration.

2 INSULATION
A proprietary high quality EPDM compound is chemically bonded to the conductor. It is specially formulated to provide high dielectric and low swell characteristics in presence of oil.

3 LEAD SHEATH
A continuous, impervious, fatigue and corrosion resistant lead sheath is extruded over the insulation to provide excellent protection against oil, chemicals and gases and insulation decompression.

4 BRAID
A synthetic braid, applied with full coverage over the lead sheath, provides additional mechanical reinforcement, hoop strength and armour bedding. A suitable overlapped tape can be used as an alternative.

5 ARMOUR
A 50% lapped, fully galvanized (4-sides) steel tape armour provides excellent mechanical protection with a high degree of flexibility and is available in thickness of 0.020" or 0.025". Stainless steel or Monel 400 armour is available for use in highly corrosive well environments.

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Prysmian Group

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ESP Cables

Round Cables

PERFORMANCES / RATINGS

CHEMICAL RESISTANCE	MAXIMUM AXIAL LOAD	MIN. INSTALLATION TEMPERATURE	MAX. RATED TEMPERATURE	MIN. BENDING RADIUS FOR INSTALLED CABLES
				
galvanised steel tape: good stainless steel tape: very good monel tape: excellent	50 N/mm²	-40 °F (-40°C)	+450 °F (+232°C)	7 times major axis dimension

TECHNICAL DATA

DEVILEAD F 450 °F - 3 Conductors EPDM/LEAD/GSTA 5 kV Flat Pump Cable - Insulation thickness 0,075'' (1,91 mm)

SIZE		CONDUCTOR STRANDS	CONDUCTOR DIAMETER		INSULATION THICKNESS		INSULATION DIAMETER		DIMENSIONS UNDER ARMOUR		OVERALL DIMENSIONS		WEIGHT		ELECTRICAL PARAMETERS	
															r	x
(awg)	(mm²)	(nr)	(in)	(mm)	(in)	(mm)	(in)	(mm)	(in)	(mm)	(in)	(mm)	(lb/kft)	(kg/km)	(Ω/kft)	(Ω/kft)
1	42,4	7	0,331	8,41	0,075	1,91	0,49	12,4	0.59x1.78	15.0x45.2	0.70x1.87	17.8x47.5	2515	3745	0,241	0,042
1	42,4	1	0,289	7,34	0,075	1,91	0,44	11.2	0.55x1.66	14.0x42.2	0.66x1.75	16.8x44.5	2355	3500	0,234	0,042
2	33,6	7	0,292	7,42	0,075	1,91	0,45	11,4	0.56x1.67	14.2x42.4	0.66x1.76	16.8x44.7	2230	3320	0,313	0,043
2	33,6	1	0,258	6,55	0,075	1,91	0,41	10,4	0.52x1.56	13.2x39.6	0.63x1.65	16.0x41.9	2100	3125	0,304	0,043
4	21,2	1	0,204	5,18	0,075	1,91	0,36	9,1	0.47x1.40	11.9x35.6	0.58x1.51	14.7x38.4	1705	2535	0,469	0,046

DEVILEAD F 450 °F - 3 Conductors EPDM/LEAD/GSTA 5 kV - Insulation thickness 0,090" (2,29 mm)

SIZE		CONDUCTOR STRANDS	CONDUCTOR DIAMETER		INSULATION THICKNESS		INSULATION DIAMETER		DIMENSIONS UNDER ARMOUR		OVERALL DIMENSIONS		WEIGHT		ELECTRICAL PARAMETERS	
															r	x
(awg)	(mm²)	(nr)	(in)	(mm)	(in)	(mm)	(in)	(mm)	(in)	(mm)	(in)	(mm)	(lb/kft)	(kg/km)	(Ω/kft)	(Ω/kft)
1	42,4	7	0,331	8,41	0,090	2,29	0,52	13,2	0.63x1.88	16.0x47.8	0.73x1.97	18.5x50.0	2640	3930	0,241	0,043
1	42,4	1	0,289	7,34	0,090	2,29	0,47	11,9	0.58x1.75	14.7x44.5	0.69x1.84	17.5x46.7	2470	3680	0,234	0,043
2	33,6	7	0,292	7,42	0,090	2,29	0,48	12,2	0.59x1.76	15.0x44.7	0.69x1.85	17.5x47.0	2350	3495	0,313	0,045
2	33,6	1	0,258	6,55	0,090	2,29	0,44	11,2	0.55x1.65	14.0x41.9	0.66x1.74	16.8x44.2	2215	3295	0,304	0,044
4	21,2	1	0,204	5,18	0,090	2,29	0,39	9,9	0.50x1.49	12.7x37.8	0.61x1.60	15.5x40.6	1815	2705	0,469	0,047

r = conductor electrical resistance at 450 °F | x= inductive reactance at 60 Hz

Note: overall dimensions and weights are based on 0.020" armour tape thickness

This product information sheet is provided for reference only.
For Voltage Drop/Ampacity data, please contact your Prysmian representative.

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