



OMAN CABLES INDUSTRY (S.A.O.G.)

TECHNICAL PARTICULARS AND GUARANTEES FOR 33000 VOLT GRADE XLPE INSULATED CABLES

Note: 1) Conductor of the Cables of Sizes below 185 mm² are not suitable for fault level of 1500 MVA for one second.

2) The cables shall be tested as per IEC 60502-2 only

The Tenderer shall state in the following schedule the technical particulars of the 33000 V grade Cable offered:

OCI ITEM CODE

FMOCL3UIPSK

3 x 300, 19/33 kV

Sl.No	DESCRIPTION	UNIT	PARTICULARS
01	Voltage grade of cable	kV	19/33
02	Standard to which the cable confirms		IEC 60502-2 & OES - 2
03	Shape of conductor		Stranded Compact Circular
04	Type of cable		2XCEWY-Cu/XLPE/CTS/PVC/GSW/PVC
05	Section area of conductor		
	a) Conductor(Nominal)	mm ²	300
	b) Strands (Numbers / mm)		Shall be as per IEC 228 - Class 2
06	Diameter of conductor - Approximate	mm	20.6
07	Max. DC resistance of conductor at 20 °C	ohm/km	0.0601
08	Reactance per 1000 m of completed cable at 50 cycles - Approximate	ohm/km	0.107
09	Max. charging current per conductor for 1000 m of completed cable at normal voltage and frequency	A	1.37 (at U ₀ =19 kV & f=50 Hz) (Approx.)
10	Insulation		
	a) Material		XLPE
	b) Thickness - Average	mm	9.0
11	Insulation shield - Non-metallic		
	a) Material		Extruded semiconducting
	b) Thickness - Minimum	mm	0.3
12	Bare copper shield		
	a) Material		Annealed Copper tape
	b) Thickness - Approximate	mm	0.035
13	Cable tape binder - Over laid up cores		
	a) Material		Polypropylene/Polyester tape
	b) Thickness - Approximate	mm	0.05
14	Sheath - (Separation)		
	a) Material		Extruded PVC type 9
	b) Thickness - Average	mm	2.4
15	Armour		
	a) Type		Galvanised round steel wires

	b) Number - Approximate		74
	c) Diameter of wire - Nominal	mm	3.15
16	Overall serving		
	a) Material		Extruded PVC type 9
	b) Thickness - Minimum	mm	3.40
17	Overall Diameter of cable - Approximate	mm	108.5
18	Weights of the following		
	a) Copper conductor - Approximate	kg/km	8039
	b) Finished cable - Approximate	kg/km	21655
19	Minimum radius of bend round which cable can be laid	m	1.30
20	Nominal drum length	m	250 ± 5%
21	Gross weight of completed run - Approx	kg	5924
22	Current carrying capacity per circuit		
	a) When laid in the ground 100 cm depth at ground temp 35 °C. Ground resistivity 150 °C cm/W.(considering single circuit only)	A	420
	b) When laid on racks in air at an ambient temp of 50 °C (considering single circuit only)	A	491
23	Assumed max. conductor temp for 22 above		
	a) Laid direct in ground	°C	90
	b) Laid on racks in air	°C	90

Note:

1) Embossing on outer sheath of cable shall be as per the examples given below for 3C x 300 mm² - 33 KV cable:

"ELECTRIC CABLE 19/33 KV OMAN CABLES 3 X 300 YEAR MADE IN OMAN"

Apart from the above sequential length marking shall also be provided on outer sheath of cable at every one meter by printing/indenting/embossing.

2) The cables shall be supplied in wooden/steel drums with Plastic flute lagging as per our standard practice.