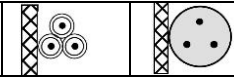
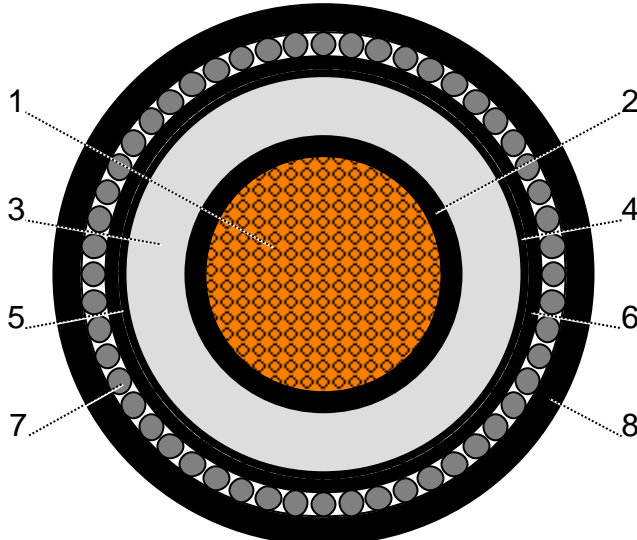


## TECHNICAL DATA SHEET MEDIUM VOLTAGE POWER CABLES

Cable Description:

Cu / XLPE / AWA / PVC 1X400 mm<sup>2</sup> 30kV CTS IEC 60502-2 FR-IEC 60332-1

Design and Construction Data:		
Reference Manufacturing Standard		IEC 60502-2, IEC 60228
Max. Permissible Continuous Conductor Temp	°C	90
Maximum Conductor Short Circuit Temperature for 5 Seconds	°C	250
Rated Voltage 'U <sub>0</sub> / U (U <sub>m</sub> )'	kV	18 / 30 (36)
Number of Cores x Conductor Cross-Section	mm <sup>2</sup>	1 x 400
Conductor Material & shape		Cu, Compacted Round Class 2
Approx. Diameter of Conductor	mm	24.0
Insulation Material		XLPE
Nominal Thickness of Insulation	mm	8.0
Approx. Thickness of Helically O.L. Copper Tape Screen	mm	0.075
Armour Material Type		Round Aluminum Wire
Outer Sheath Material		PVC - ST2
Approx. Overall Diameter of the Cable	mm	54.5
Colour of Outer Sheath		BLACK
Approx. Weight of Conductor	kg/km	3343
Approx. net weight of the cable	kg/km	5958
Electrical Data:		
System Frequency	Hz	60
Max. Conductor DC Resistance at 20°C	Ohms/km	0.0470
Conductor AC Resistance at 90°C	Ohms/km	0.0633
Inductance	mH/km	0.3544
Inductive Reactance	Ohms/km	0.134
Conductor Impedance at 90°C	Ohms/km	0.148
Capacitance	µF/km	0.3022
Charging Current	Amps/km	2.051
Short Circuit Rating of Cable based on Maximum Conductor Operating Temperature		
- Conductor for 1 second	KA	57.23
- Screen for 1 second	KA	1.02
Screen Temperature before Short Circuit	°C	80
Screen Temperature at the end of Short Circuit	°C	200
Permissible load under Service Conditions given below (for both end bond installation, Trefoil Formation)		
- In Air @ 40°C Ambient Temperature touched to vertical surface		Amp 654
- Direct in Ground with the following conditions: Ambient Ground Temperature: 35 °C Depth of laying in ground: 0.8 m Soil Thermal Resistivity: 1.2 °K.m/W		Amp 506

Additional Data:		
Maximum pulling Tension	kN	20.0
Maximum side wall press	kN/m	24.4
Minimum Bending Radius	m	0.818
The Cable shall meet all Test requirements of IEC-60502-2		Yes
Packing Data:		
Drum Type		Non-Returnable
Length of Cable per drum (± 5%)	m	500
Drum Dimensions "Height x Width" (Approx.)	m	2 x 1.16
Gross Weight (Approx.)	kg	3264
Cable Sheath Marking:		
BAHRA CABLES CO. KSA    ELECTRIC CABLE 1x400 mm <sup>2</sup> Cu/XLPE/AWA/PVC 18/30 (36) KV IEC 60502-2 FR-IEC 60332-1    'Manufacturing Year'    'Meter marked'		
Cable Drawing:		
		
Description	Cu / XLPE / AWA / PVC 1X400 mm <sup>2</sup> 30kV CTS	Approx. Diameter
1	Copper compacted conductor	23.96
2	Extruder Inner Semi-Conductor	25.2
3	XLPE Insulation	39.9
4	Extruder Outer Semi-Conductor (Strippable)	41.24
5	Copper Tape Metallic Screen	41.54
6	PVC Inner Covering	44.05
7	Round Aluminum Wire Armour (AWA)	49.05
8	PVC Outer Sheath	54.51