

S. No	Particular	Requirement	
1.	Cable Cross section	4 mm <sup>2</sup> & 6 mm <sup>2</sup>	4 mm <sup>2</sup> & 6 mm <sup>2</sup>
2.	Conductor	Annealed Tinned Copper-Flexible Conductor-Class 5 (As per IEC 60228)	Annealed Tinned Copper- Flexible Conductor-Class 5 (As per IEC 60228)
3.	Grade of the conductor	Manufacturer to Specify	
4.	Number of Cores	One	One
5.	Cable Type	Unarmoured	Unarmoured
6.	Insulation material	XLPO, Flame Retardant, low smoke, halogen free, electron beam Crosslinked	XLPO, Flame Retardant, low smoke, halogen free, electron beam Crosslinked
7.	Insulation Thickness	As per IEC 62930 (To be specified in GTP)	0.7
8.	Type of Curing	Manufacturer to specify	electron beam Crosslinked
9.	Filled or Unfilled Insulation	Manufacturer to specify	/
10.	Sheath material	XLPO	XLPO
11.	Sheath Thickness with tolerance	As per IEC 62930 (To be specified in GTP)	As per EN50618
12.	Outer sheath Color	Positive polarity cables- BLACK with RED stripes Negative polarity cables- BLACK	Positive polarity cables- BLACK with RED stripes Negative polarity cables- BLACK
13.	Maximum conductor resistance at 20°C, 40°C & 50°C	As per IEC 60228 (To be specified in GTP)	5.09 (for 4mm <sup>2</sup> ) 3.39 (for 6mm <sup>2</sup> )
14.	Maximum Conductor Diameter	As per IEC 60228	As per IEC 60228
15.	Diameter of stranded compacted Copper conductor	As per manufacturer (To be specified in GTP)	2.50 (for 4mm <sup>2</sup> ) 3.3 (for 6mm <sup>2</sup> )
16.	Current carrying capacity in air	EN 50618 (Submit along with GTP)	55 (for 4mm <sup>2</sup> ) 77 (for 6mm <sup>2</sup> )

17.	Current carrying capacity on surface	EN 50618 (Submit along with GTP)	52 (for 4mm <sup>2</sup> ) 67 (for 6mm <sup>2</sup> )
18.	Short circuit capacity for 1sec	Manufacturer to specify	/
19.	Overload capacity of the cable and its duration	Manufacturer to specify	/
20.	Maximum Voltage grade	1800 V DC	1800 V DC
21.	Nominal Voltage	U <sub>0</sub> /U= 1.5/1.5 kV DC	U <sub>0</sub> /U= 1.5/1.5 kV DC
22.	Dielectric strength of cable (kV/mm)	Manufacturer to specify	25 (for insulation)
23.	Maximum conductor temperature	120°C (As per IEC 62930)	120°C
24.	Short circuit conductor temperature rating for 5 sec.	250°C	250°C
25.	AC Test Voltage	6.5 kV 50Hz for 5 min	6.5 kV 50Hz for 5 min
26.	DC Test Voltage	15kV for 5 min	15kV for 5 min
27.	Properties	Low smoke, Halogen free, UV Resistant, Fireproof & self-extinguishing, Ozone and Flame resistant	Low smoke, Halogen free, UV Resistant, Fireproof & self-extinguishing, Ozone and Flame resistant
28.	Expected Lifetime	25 years from PCOD	25 years from PCOD
	<b>Mechanical Properties</b>		
29.	Maximum overall Cable Diameter with tolerance	As per manufacturer (To be specified in GTP)	Approx.5.9mm Approx.6.7mm
30.	Safe pulling force when pulled by pulling eye on the conductor - N/mm	Manufacturer to specify	/
31.	Dynamic penetration resistance	Manufacturer to specify	/
32.	Notch propagation resistance	Manufacturer to specify	/
33.	Tensile strength and elongation according EN 60811	Manufacturer to specify	As per EN 60811
34.	Minimum bending radius	8 times of outer diameter	8 times of outer diameter

35.	Approx. Net weight of Cable-kg/km	Manufacturer to specify	68.7 (for 4mm <sup>2</sup> ) 90 (for 6mm <sup>2</sup> )
36.	Copper Index- kg/km	Manufacturer to specify	34.7 (for 4mm <sup>2</sup> ) 49.8 (for 6mm <sup>2</sup> )
37.	Maximum Laying stress during installation in N/mm <sup>2</sup>	As per IEC 60502	As per IEC 60502
38.	Cable construction	As per IEC 62930	As per EN 50618
	<b>Thermal &amp; Chemical Properties</b>		
39.	Temperature Range	-40°C to +120°C (As per IEC 62930)	-40°C to +120°C
40.	Fire resistance requirement	FRLS & LSZH	FRLS & LSZH
41.	High temperature pressure resistance	As per EN 60811-3-1	As per EN 60811-3-1
42.	Damp heat resistance	As per EN 60068-2-78 at 100% humidity	As per EN 60068-2-78 at 100% humidity
43.	Temperature Index	Manufacturer to specify	/
44.	Smoke Density Rating	Manufacturer to specify	60%
45.	Oxygen Index at 27±2°C	Manufacturer to specify	28
46.	Toxicity Index	Manufacturer to specify	≤5
47.	UV and ozone resistance	As per HD 605/A1 and EN 50396	As per EN 50618
48.	Halogen free	As per EN 50267	As per EN 50267
49.	Suitable for Immersion	Category AD7/AD8 as per IEC 60364-5-51	AD7
50.	Flame retardant	IEC 60332-1-2	IEC 60332-1-2
51.	Acid and alkaline resistance	As per EN 60811-2-1 (Oxalic acid and sodium hydroxide)	As per EN 60811-2-1 (Oxalic acid and sodium hydroxide)
52.	ROHS Compliance	Manufacturer to specify	YES
	<b>Drum Details</b>		
53.	Cable drum material (Wood/steel) (Steel drum mandatory for cable drum length of above	Manufacturer to specify	Wood

	1000 meter)		
54.	Approx. Weight of Cable drum with Cables	Manufacturer to specify	207 (for 4mm <sup>2</sup> ) 260 (for 6mm <sup>2</sup> )
55.	Max/Standard length per drum	Manufacturer to specify	2000
56.	Tolerance allowed in cable length per drum	Manufacturer to specify	± 10%
57.	Marking on cable	Manufacturer to specify	TBEA DEYANG CABLE CO., LTD. Solar cable Cu/XLPE/PVC/ 1.5kV Cable Size