SOLAR CABLE

For Rooftop & Ground-Mount Solar PV Application

Highlights

In a PV system, SOLAR CABLE is one of the most crucial parts. They are connected on DC side of the system, proper cable sizing and its quality ultimately decides the power delivered to the load and in turn efficiency of the entire system because undersized cable results into heating which may lead further up to hazardous incidents like fire. Also Even a small increase in cable resistance resulting into increased I^2R losses which is considered as a higher loss of energy and such cable will lose its acceptance.

Further as solar cable has to function in open atmosphere over a long period, it has to withstand all environmental severities like UV radiation, rain, dust & dirt, temperature variations, humidity, insects and microbes etc. Frequent failure / replacement of solar cable will lead to decrease in the overall project efficiency resulting in high operational costs.

HPL Solar cables are made under stringent MNRE parameters to deliver lasting performance throughout the lifetime of the PV System.

HPL Solar
Green. Smart. Durable

Special Properties of HPL Solar Cables

- UV Resistance : Full protection against Ultraviolet Rays.
- Outdoor Durability : resists extreme temperatures (-40°C to 120°C) & ozone resistant.
- Halogen-Free : Low Smoke Emission & Low Toxicity/Corrosively during fire.
- Properties against fire : flame retardant, fire retardant.
- Flexibility and stripping ability : for fast and easy installation.
- Lifetime reliability : lasts up to 30 years even under tough external conditions.
- Fully Recyclable : In accordance with new environmental regulations.
- Suitable to any connector types.
- According to EN/IEC/IS.

Constituents :-

- HPL solar cables are manufactured with the following materials.
- Zero Halogen Polyolefin Compound
- Annealed Tinned Copper Conductor
- Cross Linked Polyolefin Compound

Mechanical Features

- Resistant to Impact, tear & abrasion
- Minimum bending radius - 4 times of overall diameter.
- Safe pulling force -50 N/sq mm

Thermal Features

- Maximum conductor temperature of operation-120°C.
- Minimum operating temperature: -40°C

Electrical Features

- Voltage Rating : 1.5 (1.8) KV DC
- High voltage test : 6.5 KV DC for 5 minutes.

Chemical Features

- Resistant to mineral oils
- Resistant to acids & alkaline

HPL ATC copper conductor XLPO insulated and XLPO sheathed Solar cable as per EN-50618

Nominal Cross sectional area of the conductor sq.mm	Nos./Max. Dia of Strand No./ (mm)	Nominal Thickness of Insulation (mm)	Nominal Thickness of Sheath (mm)	Mean Overall Diameter Upper Limit Informative Value	Current Rating under according to method of installetion			Conductor Resistance at 20°C Max. ohm/Km
					Single Cable Free in air	Single Sable on a surface	Two loaded cable touching on a surface	
				mm	Amp.	Amp.	Amp.	
1.5	30 / 0.25	0.7	0.8	5.4	30	29	24	13.7
2.5	50 / 0.25	0.7	0.8	5.9	41	39	33	8.21
4	56 / 0.30	0.7	0.8	6.6	55	52	44	5.09
6	84 / 0.30	0.7	0.8	7.4	70	67	57	3.39
10	80 / 0.40	0.7	0.8	8.8	98	93	79	1.95
16	126 / 0.40	0.7	0.9	10.1	132	125	107	1.24
25	196 / 0.40	0.9	1.0	12.5	176	167	142	0.795
35	276 / 0.40	0.9	1.1	14.0	218	207	176	0.565
50	396 / 0.40	1.0	1.2	16.3	276	282	221	0.393
70	556 / 0.40	1.1	1.2	18.7	347	330	278	0.277
95	954 / 0.40	1.1	1.3	20.8	416	395	333	0.210