



**TAMRA**



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**S**  **LAR**  
**C A B L E S**

Cable for Photovoltaic Modules &  
Solar Power Plants

# INTRODUCTION

Solar photovoltaic industry gets more attention as the most promising environment- friendly industry, and it is expected to have the significant role in resolving the earth's energy problem. As production costs diminish, users increasingly view these energy sources as clean, cheap and reliable. In this background, the demand for "SOLAR CABLE", which is the current transmission medium of solar energy power generation, is expected to increase with the expansion of market.

# SPECIAL PROPERTIES OF SOLAR CABLES

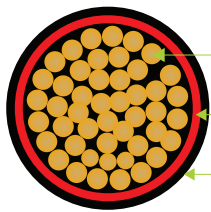
- Lifetime reliability : lasts up to 25 years even under tough external conditions.
- Outdoor durability : resists extreme temperatures (-40°C to 120°C maximum at the core) and ozone resistant.
- Halogen-free : Low Smoke Emission & Low Toxicity/Corrosivity during fire.
- Flexibility and Stripability : for fast and easy installation.

# REQUIRED FEATURES OF SOLAR CABLES

**ELECTRICAL FEATURES** - Voltage rating : 1.5 (1.8) KV DC / 0.6/1.0 (1.2) KV AC ▪ High voltage test: 6.5 KV DC for 5 minutes.

**CHEMICAL FEATURES** - Weather resistant ▪ Resistant to mineral oils ▪ Resistant to acids & alkaline

**MECHANICAL FEATURES** - Resistant to Impact , tear & abrasion ▪ Safe pulling force -50 N/sqmm.



Flexible tinned copper stranded class -5 conductors as per IEC-60228  
 Insulation – Cross linked Polyolefin, Natural Color\*  
 Outer sheath – Halogen free Polyolefin Black / Red Color



# CONSTITUENTS

Tamra Solar Cables are manufactured with the following materials.

1. Annealed Tinned Copper Conductor
2. Cross Linked Polyolefin Compound
3. Zero Halogen Polyolefin Compound

SIZE cross-sectional area in (sqmm)	Max. Conductor D.C. Resistance at 20 °C in ohm/(km)	Average Diameter of Conductor (in mm)	Approx. Overall Diameter of cable (in mm)		Approximate Overall weight (in kg/km)	Minimum Bending radius (in mm)	Current rating under continous operation 90 °C and ambient temperature 40 °C (in A)	Short circuit current rating for 1 sec. duration (in KA)
1.5	13.7	1.46	4.46	4.86	35	19	22	0.189
2.5	8.21	1.88	4.88	5.28	46	21	30	0.315
4.0	5.09	2.39	5.39	5.79	64	23	42	0.504
6.0	3.39	2.93	5.93	6.33	84	25	52	0.756
10	1.95	3.86	7.26	7.66	133	31	76	1.26
16	1.24	5.39	8.79	9.19	195	37	95	2.02
25	0.795	6.73	10.53	11.13	290	45	124	3.15



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