Application

Photovoltaic cable is mainly used in the line-line photovoltaics equipment systems under maximum 1.5 kV DC voltage with safety class II. It should have the characteristics of ozone and weather resistance, UV resistance, acid and alkali resistance, cold resistance, high wear and abrasion resistance, halogen-free and flame retardant. It should also be compatible with standard joint and connection system.

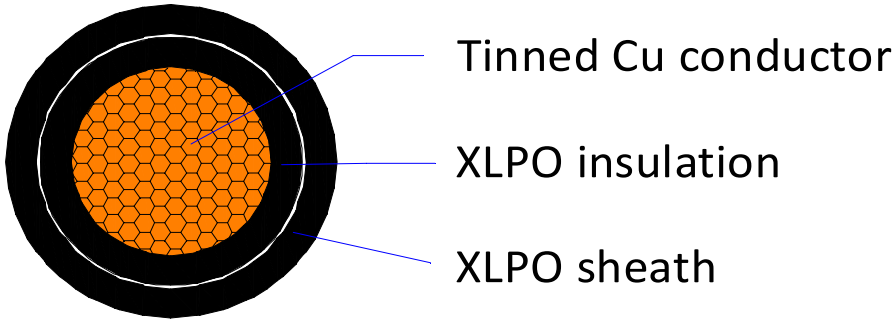
Solar photovoltaic power generation is a kind of completely zero emission clean energy and also a kind of realistic energy close to scale application. It has many advantages such as safety and reliability, no noise and no pollution etc. The energy can be obtained anywhere without geographic restrictions and no need for consuming fuel. Also it has a low failure rate and easy for maintenance. These advantages are beyond conventional power generation and other power generation method. In order to meet the growing demands for energy, solar energy is rapidly rising as one of the most feasible options among the current available energy.

Introduction

The photovoltaic farms have strict requirements of the cable service conditions. The cables can be work under the extreme environment such as hot and cold temperature, high UV radiation, dry and wet conditions etc. The technical properties are mainly as follows:

a) Thermal stability: In the conditions of rapid temperature change, high ambient temperature, and its own heat, the cable should maintain the insulation performance under operation.
b) Moisture resistance: The cable should be able to work at higher relative humidity environment.
c) Flame retardant: The cable should be low smoke, free halogen and flame retardant.
d) Radiation and ozone resistance: have the characteristics of UV resistance and anti aging of ozone and prevent the cable sheath and insulation from being breakdown under environmental stress.
e) Chemical stability: the cable installed at the chemical environment such as oil, ozone,and acid-base should maintain the safety and stability of the operation systems.

Drawing



Specification

Cross-sectional area	Cond Class Type	No. of wires	Wire Diameter	Nominal Insulation Thickness	Nominal Sheath Thickness	Max. Conductor D.C. Resistance at 20 °C	Approx. Overall Diameter
sqmm	Tinned	No.	mm	mm	mm	ohm/(km)	mm
4	5	56	0.285±0.03	0.40	1.00	5.09	5.6±0.2

Standard		Physical properties	
Test Voltage:	6500V, 5min, 50Hz	Rated voltage:	AC 1 KV, DC 1.5 KV
Cable design:	EN50618	Max. conductor temperature :	+120℃
Content of halogen acid gas:	IEC60754-1 EN50267-2-1	Ambient temperature:	-40~+90℃
Smoke density:	IEC61034, EN50268-2	Max.short circuit temp.:	+250℃/5S
UV resistant:	HD605/A1	Expected period of use	≥25 years
Flame retardant:	IEC 60332-1	Warranty:	5 years

Marking	The smallest permissible bending radius:	5xouter diameter
LEADER TECHNOLOGY SHENZHEN CO.,LIMITED DC 1.5kv XXXmm2 solar cable	Insulation resistance at 20℃:	≥10^{14}Ω·cm
	Elongation before aging:	125
Packing	Strength:	≥8Mpa
100m or other length to be packed by flexible roll	Cold bend test of (-40±2.0℃×16h):	No Cracking
	Sunlinght resistance of 720h:	Elongation and strength retention rate ⩾70%
Made by: Zouyuqiong	Approved by: ZOUZHIBING	