



EASTFUL



## ● Introduction

Torsion Resistant Wind Power Cables are specialized cables designed to withstand the mechanical stresses associated with the operation of wind turbines, particularly the twisting and torsion stresses resulting from the rotation of the nacelle. These cables are engineered to maintain electrical performance and integrity under continuous torsional movements, ensuring reliable power transmission and control in wind energy applications.

## ● Application

This product is suitable for wind power generation equipment, including wind turbines and fixed installation towers, as well as similar applications, catering to wind power generation devices of 1.8/3kV and below, facilitating the transmission of electricity or signals.

## ● Performance

### Cold Resistance Performance

Wind power generation torsion-resistant flexible cables exhibit excellent cold resistance, making them suitable for installation in wind turbine environments where temperatures can be extremely low. The cold resistance performance of these cables is typically classified into three levels: -25°C, -40°C, and -55°C. This performance can be verified through rigorous testing, including: low-temperature tensile, low-temperature impact, and low-temperature bending tests.

### Oil Resistance Performance

Due to their application inside wind turbine nacelles, where exposure to lubricating oils and hydraulic fluids is common, torsion-resistant flexible cables must possess a certain level of oil resistance. The oil resistance performance can be evaluated through the oil resistance test specified in GB/T29631-2013.

### Twist Resistance Performance

Torsion-resistant cables used in wind power generation must withstand continuous twisting motions caused by the rotation of the wind turbine nacelle. To ensure they meet this requirement, cables are subjected to a twist test involving 10,000 twisting cycles as specified in GB/T29631-2013.

## ● Construction

Conductor: bare or tinned flexible copper wires, as per IEC 60228 class 5.

Insulation: Ethylene propylene rubber (EPR)

Shielding(Optional): tinned copper wire braided

Sheath: low smoke halogen free elastomer or neoprene rubber

## ● Specification

-IEC 61400-1: The general requirements for the design of wind turbines

-IEC 60502-1: Power cables with extruded insulation and their accessories for rated voltages from 1 kV ( $U_m = 1.2$  kV) up to 3 kV ( $U_m = 36$  kV)

-EN50525: Electric cables. Low voltage energy cables of rated voltages up to and including 450/750 V

\*\*\*This is customized product and can be designed according to customers' request.

## ● Eastful Cable Lab



We have CNAS Accredited Facility to assure conformity assessment services with a focus on quality, expertise, and customer satisfaction.

CNAS has international mutual recognition among IAF, ILAC, APLAC and PAC.

## ● Accreditation

We meet the requirements of ISO9001, ISO14001, ISO45001 and ISO50001 and our cables have certificate of CCC, RoHS, CASC, UL, cUL, TÜV Rheinland and CCS.



## ● National Green Factory



Our facility has been awarded of National Green Factory by Ministry of Industry and Information Technology of China.

We are committed to the development of high-end, intelligent and green manufacturing industry.

\*The overall energy consumption level of green factories is better than the energy efficiency benchmark level.

- Technical Parameters

Cable Model	Rated Voltage	No. of Cores	Conductor Nominal Cross Section Area	Properties
-	-	-	mm <sup>2</sup>	-
Customized Product	450/750V 0.6/1kV	1	1.5~400	Optional with shielding and flame retardant properties
		2	1~25	
		3	1~300	
		3+1	4~185	
		4	1~300	
		5	1~25	
	6~36	1.5~4		
	1.8/3kV	1	10~400	
		3	10~240	