WILBAwind MV 20/35kV, Cu cl.5, +80°C

446_80

Twistable, halogen-free, shielded single-conductor medium-voltage cable

Application

The cable connection between the tower and nacelle of wind turbines is a trouble spot. The finely stranded standardised WILBAwind copper conductor for the medium-voltage range of up to 6 kV stands up to the torsional and tensile forces acting at that point as well as the environmental effects of frost, heat, ozone and UV radiation. In addition, the copper cable, deliverable in several cross-sections, is highly resistant to oil and fuel. The flexible cable can be laid precisely in limited installation space. It is shielded with a copper braid and inner and outer semiconductor sheaths and, per IEC fire safety standards, its EPR core insulation and the FRNC outer sheath are flame-retardant, do not spread fires, do not form corrosive gases and form little smoke in the event of fire thanks to freedom from halogen. In addition, it is highly resistant to oil, ozone and UV radiation. In the event of short-circuits, the cable withstands temperatures of up to 250°C for five seconds.

Materials and components

- Cu conductor bare class 5 (IEC 60228), finely stranded
- Inner cross-linked semiconducting layer
- Core insulation made of cross-linked EPR
- Core colour natural
- Outer cross-linked semiconducting layer
- Shielding from Cu tinned
- Outer sheath made of flame-resistant, cross-linked polyolefine (XLPO)

Jacket colour

- Black similar to RAL 9005

Functions

- Flexible
- Good oil and petrol resistance
- Halogen-free
- High mechanical strength

Environmental conditions

- Good resistance at high and low temperatures
- Ozone- and weather-resistant
- UV radiation-resistant
- Flame retardancy

Performance

Mechanical properties
- Max. tensile load 20N/mm2 Cu cross-section
- Min. bending radius 8 x D (D = cable Ø)

Torsion
- ± 100° on 1m

Nominal voltage
- Nominal voltage [AC]: Uo / U 20 / 35 kV, 50 Hz

Test voltage
- Test voltage [AC]: 70 kV

Current load
- Current carrying capacity acc. to IEC 60502-2, Table B4

Temperature range
- -40°C ... +80°C
- In event of short-circuit, +250°C for 5 sec.
- Conductor temperature max. +90°C

Standards

- Based on IEC 60502
- IEC 60332-1-2 Flame retardancy
- IEC 60754-1 Halogen-free
- IEC 60754-2 Corrosivity of fumes
- IEC 60811-404 Resistance to oil
- IEC 61034-2 Low smoke development
- IEC 60721-3-3 Humidity 3K6
- IEC 60811-403 Resistance to ozone

CPR Guideline
- Fire reacton class acc. EN 13501-6: Eca

Remarks

- D= total Ø
- d1=Ø across outer semiconductor layer
- Other types upon request

Technical data

Cross-section mm²	Part no.	Ø D mm	Ø d1 mm	Copper index kg/km	Weight kg/km
1X70/16	525089	28.8	35.9 ± 0.2	825.6	1960

20260306/100300

BRUGG eConnect

BRUGG eConnect AG
Phone +41 (0)56 460 3300 • info.econnect@brugg.com

Torsion Cables

Cross-section mm²	AC resistance by 60°C, 50 Hz Ω/km	Reactance at 50 Hz Ω/km	Impedance Z by 60°C, 50 Hz Ω/km	Capacity at 50 Hz µF/km	Max. tensile strength kN
1X70/16	0.272	0.135	0.343	0.200	4.3

Capacity at installation in free air

Installation	In free air	In free air	Center distance s = 2 - d
Operating mode Cond. temperature Earthing	Earthing two sided	Continuous load 90 °C Earthing two sided	Earthing two sided
Cross-section mm²	A	A	A
1X70/16	280	287	334

BRUGG eConnect

BRUGG eConnect AG
Phone +41 (0)56 460 3300 • info.econnect@brugg.com