

Cold- and oil resistant cables for flexible application under torsional load, halogen free - 0,6/1 kV

Product Description

The special construction compensates reliably the permanent torsional movements inside of windmills between the nacelle and the tower; The high flexibility and the good dismantle and stripping properties enable easy space- saving cable installation and fast processing; Saltwater resistant for On- and Off-Shore application; FRNC = Flame Retardant Non Corrosive - Reduction of flame propagation and density and toxicity of smoke gases in event of fire - Minimisation of damage to buildings and production facilities - Safety for maintenance staff resp. in areas with high personnel concentration; The copper wrapping of the screened D version protects against electromagnetic interference



Application range

- For fixed, flexible as well as for torsional moved applications in the field of machinery building and wind power plant engineering
- Especially for the drip loop installation between the rotating nacelle and the stationary windmill tower to connect the generator and control units
- As torsional moved cable for application in North America with UL WTTC Listing (Wind Turbine Tray Cable) we recommend ÖLFLEX® FORTIS which complies to the NFPA 79 standard resp. UL 2277 and UL 6140 outline

Benefits

- The special construction compensates reliably the permanent torsional movements inside of windmills between the nacelle and the tower
- The high flexibility and the good dismantle and stripping properties enable easy space- saving cable installation and fast processing
- Saltwater resistant for On- and Off-Shore application
- FRNC = Flame Retardant Non Corrosive - Reduction of flame propagation and density and toxicity of smoke gases in event of fire - Minimisation of damage to buildings and production facilities - Safety for maintenance staff resp. in areas with high personnel concentration
- The copper wrapping of the screened D version protects against electromagnetic interference



Design

- Extra fine wired conductor of plain copper
- Core insulation of LSOH polyolefin polymer
- Cores torsion optimized twisted into layers
- Optional screening (D) of helically tinned copper wire wrapping
- Outer sheath of halogen free special compound, colour black (RAL 9005)

Approvals (Norm references)

- UL AWM Style 21288 / cUL AWM II A/B
- Fire behaviour : - Halogen free (IEC 60754-1) - Corrosivity of gases (IEC 60754-2) - Smoke density (IEC 61034-2) - Flame retardant (IEC 60332-1-2) - No flame propagation (IEC 60332-3-24 resp. IEC 60332-3-25)
- Oil resistant acc. to EN 60811-2-1 and UL OIL RES I and UL OIL RES II
- UV-resistant according ISO 4892-2
- Ozone resistant according EN 50396

Product features

- Torsion-resistant up to ± 150 °/mtr
- Good weather-, abrasion-, temperature- and UV resistance
- Resistant against a multitude of oils
- Halogen free and highly flame retardant
- Considering economic minimum quantities also customized designs are possible



Technical Data

Core identification code

Control and connection cables: Colour coded according to VDE 0293-308, see Appendix T9
Starting at 6 cores: Black with white numbers
Paired signal cables: DIN 47100

Approvals

UL AWM Style 21288 cUL AWM II A/B

Specific insulation resistance

> 20 GOhm x cm

Conductor stranding

Extra fine wire in acc. to VDE 0295 Cl.6 / IEC 60228 Cl.6

(For matching US conductor sizes according AWG please see technical table T16)

Minimum bending radius

Flexible use: 10 x outer diameter
Fixed installed: 6 x outer diameter

Rated voltage

nach VDE: U0/U 0,6/1,0 kV
Working voltage acc. UL: 1000V

Test voltage

C/C: 4000 V

Protective conductor

G = with protective conductor GN/YE
X = without protective conductor

Range of temperature

Flexible use: -40°C up to +90°C (UL +80°C)
Static use: -40°C up to +90°C (UL +80°C)

Article List

Part number	Number of cores and mm ² per conductor	Outer diameter in mm	Copper index kg/km	Weight kg/km
ÖLFLEX® TORSION FRNC				
1150199	12 G 0,75	12,4	86.4	237
1150377	14 G 0,75	13.0	100.8	291
1150201	18 G 0,75	14,6	129.6	323
1150204	25 G 0,75	17,8	180.0	480
1150208	50 G 0,75	24,2	360.0	886
1150373	12 G 1,0	13,2	115.2	274
1150378	16 G 1,0	14,8	153.6	392
1150271	3 G 1,5	9.0	43.2	131
1150272	4 G 1,5	9,7	57.6	156
1150273	5 G 1,5	10,6	72.0	183
1150275	7 G 1,5	12,6	100.8	253
1150279	12 G 1,5	15,3	172.8	386
1150280	18 G 1,5	18,3	259.2	563

1150374	25 G 1,5	22,8	360.0	837
1150375	32 G 1,5	24,5	460.8	994
1150311	3 G 2,5	10,4	72.0	181
1150312	4 G 2,5	11,3	96.0	242
1150313	5 G 2,5	12,4	120.0	258
1150315	7 G 2,5	15.0	168.0	372
1150319	12 G 2,5	18,9	288.0	567
1150322	19 G 2,5	23,9	456.0	925
1150376	25 G 2,5	26,8	600.0	1183
1150350	3 G 4	11,9	115.2	254
1150351	4 G 4	13.0	153.6	313
1150352	5 G 4	14,3	192.0	370
1150355	3 G 6	12,9	173.0	338
1150356	4 G 6	14,4	230.4	401
1150357	5 G 6	16.0	288.0	486
1150360	3 G 10	16,6	288.0	556.1
1150361	4 G 10	18,4	384.0	658
1150362	5 G 10	20,5	480.0	799
1150366	4 G 16	22,2	614.4	1061
1150367	5 G 16	24,4	768.0	1188
1150371	4 G 25	26,9	960.0	1526
1150372	5 G 25	29,9	1200.0	1881
1150369	5 G 35	33,7	1680.0	2520
1150379	5 G 50	39,5	2400.0	3710

Footnote:

All product related values as shown are nominal values unless specified differently. Further values, e.g. tolerances we submit on request - if available and released for publication.

Copper price basis: EUR 150 / 100 kg; For utilization and definition of 'Metal price basis' and 'Metal index' see Appendix T17

Please find our standard lengths at: www.lappkabel.de/en/cable-standardlengths

Packaging size: Coil ≤ 30 kg and ≤ 250 m, otherwise drum

Please specify the desired packaging size (e.g. 1 x 500 m drum or 5 x 100 m coils)

Photographs are not to scale and do not represent detailed images of the respective products.