halogen-free wind turbine torsion & tower cable

ATC/EPR/HF-XL-EVA 1.8/3 kV

(0.6/1 kV) Single-Core Wind Turbine Torsion

IEC 60502-1 / EN 50618 · 1.8/3 kV (0.6/1 kV) · Halogen-free wind turbine torsion &



IEC 60502-1 / EN 50618 | 1.8/3 kV (0.6/1 kV) (-40 to +120 °C) | HF-XL-EVA Halogen-Free Outer Sheath

Application

ATC/EPR/HF-XL-EVA 1.8/3 kV (0.6/1 kV) Single-Core Wind Turbine Torsion Power Cable (IEC 60502-1 / EN 50618) engineered for 1.8/3 kV (0.6/1 kV) wind turbine service across -40 to +120 °C (min. bend radius 6 × OD).

Typical uses: Onshore & Offshore Wind Turbine Nacelle Drip Loops, Wind Turbine Generator-to-Converter Main Power Drops, Halogen-Free Wind Tower Vertical Power Distribution, Cold-Climate (−40 °C) Renewable Energy Installations

Construction





Cross-section, not to scale

1. Class 5 Tinned Copper Conductor (ATC, 1.
2. EBXL-EPR Cross-Linked Insulation (+120 °
3. Anti-Torsion Separator Tape
4. HF-XL-EVA Halogen-Free Outer Sheath

Technical data

Typical values

Rated voltage / operating system	1.8/3 kV (0.6/1 kV) (IEC 60502-1 / Wind Turbine Drip-Loop Torsion Specification)	**Core / conductor construction**	Class 5 Tinned Copper Conductor (ATC, 1.5-630 mm²) — IEC 60228 Class 5 finely stranded annealed tinned copper
Primary dielectric / insulation	EBXL-EPR Cross-Linked Insulation (+120 °C) — Electron-beam cross-linked ethylene-propylene rubber dielectric	**Continuous operating temperature**	−40…+120 °C (wind turbine nacelle, hub & tower duty)
Low-temperature torsion & cold bend	Verified cold-flex and torsion endurance across −40…+120 °C per IEC 60502-1 / Wind Turbine Drip-Loop Torsion Specification	**Storage & transport temperature**	−40…+80 °C on export wooden/steel cable drum
Outer jacket / sheath protection	HF-XL-EVA Halogen-Free Outer Sheath — Flame-retardant low-smoke zero-halogen cross-linked EVA elastomer jacket	**Minimum bending radius**	6 × OD
Intermediate screen / separator / core layer	Anti-Torsion Separator Tape — Low-friction sliding tape facilitating ±100°/m drip-loop torsion	**Oil, grease, ozone & UV resistance**	Resistant to wind turbine gearbox oil, hydraulic fluid, ozone and UV weathering per IEC 60502-1 / Wind Turbine Drip-Loop Torsion Specification
Flame retardancy & smoke/halogen emission	Flame-retardant and environmental performance verified per IEC 60502-1 / Wind Turbine Drip-Loop Torsion Specification	**RoHS & REACH compliance**	RoHS 2 (2011/65/EU + 2015/863) & REACH SVHC compliant
Standards	IEC 60502-1 / Wind Turbine Drip-Loop Torsion Specification		

Sizes

3 standard constructions

Tick the sizes you need and send this page to info@tebaoflex.com or WhatsApp +86 185 9591 3361.

Order designation	Configuration	Core / stranding	Outer Ø ≈ mm	Net weight ≈ kg/km	Max. pulling kN ≈	Min. bend R mm
ATC/EPR/HF-XL-EVA 1.8/3 kV Construction Schedule (−40…+120 °C) 3 sizes						
☐ ATC/EPR/HF-XL-EVA 1.8/ 1×95 / 4G25 Cu	1 × 95 mm² (or 4G25 mm² / 3/0 AWG)	IEC 60228 Class 5 Flexible Cu/SnCu	21.6	1,080	14.2	110
☐ ATC/EPR/HF-XL-EVA 1.8/ 1×185 / 4G50 Cu	1 × 185 mm² (or 4G50 mm² / 373 kcmil)	IEC 60228 Class 5 Flexible Cu/SnCu	27.8	1,960	27.5	140
☐ ATC/EPR/HF-XL-EVA 1.8/ 1×300 / 4G95 Cu	1 × 300 mm² (or 1×535/777 kcmil)	IEC 60228 Class 5 Flexible Cu/SnCu	34.6	3,120	45.0	175

– Custom conductor cross-sections, core counts, pre-lugged tower kits and drum lengths available per IEC 60502-1 / Wind Turbine Drip-Loop Torsion Specification.

Electrical & thermal parameters

3 sizes

Configuration	Max. DC R_{20} Ω/km	Rating / Impedance	Operating temp.
1 × 95 mm² (or 4G25 mm² / 3/0 AWG)	0.21	1.8/3 kV (0.6/1 kV) (320 A Cu)	−40…+120 °C
1 × 185 mm² (or 4G50 mm² / 373 kcmil)	0.11	1.8/3 kV (0.6/1 kV) (495 A Cu)	−40…+120 °C
1 × 300 mm² (or 1×535/777 kcmil)	0.06	1.8/3 kV (0.6/1 kV) (680 A Cu)	−40…+120 °C

– Every production length undergoes routine conductor DC resistance, AC high-voltage spark/dielectric and dimensional verification.

Standards and approvals

- IEC 60502-1 / EN 50618 Compliant
- EN 10204 3.1 Factory Test Certificate
- CE, RoHS 2 (2011/65/EU) & REACH

Certifications

Management systems: ISO 9001, ISO 14001, ISO 45001

Request a quotation

Send the size, length and destination. An application engineer replies within 2 business hours.

WhatsApp / phone
+86 185 9591 3361

Email
info@tebaoflex.com

Web
tebaoflex.com/cables/atc-epr-hf-xl-eva-1-8-3kv-torsion-wind-cable

Typical values for this cable type, based on IEC 60502-1 / Wind Turbine Drip-Loop Torsion Specification. Values for your order are confirmed in the quotation. Subject to change without notice. Jiangsu Tebaoflex Special Cable Co., Ltd., Taicang, Jiangsu, China.