wind turbine tower, DLO & blade grounding power cable

# 1.8/3 kV & UL WTTC Cu/Al EMC Tower

## Global Dual-Standard 1.8/3 (3.6) kV (IEC) & UL WTTC Compacted Al / Cla

IEC 60502-1 / UL 2277 WTTC · 1.8/3 (3.6) kV / WTTC · Wind turbine tower, dlo & blade




IEC 60502-1 / UL 2277 WTTC | 1.8/3 (3.6) kV / WTTC (-40 to +90 °C | LSOH Low-Smoke Zero-Halogen Outer Sh

## Application

Global Dual-Standard 1.8/3 (3.6) kV (IEC) & UL WTTC Compacted Al / Class 5 Cu HEPR EMC-Screened LSOH Wind Tower Cable (IEC 60502-1 / UL 2277 WTTC, 1.8/3 (3.6) kV / WTTC, -40 to +90 °C, min. bend radius 8 × OD).

**Typical uses:** Wind Turbine Tower Vertical Power Feeders (Cu & Al), North American UL 2277 WTTC & 2 kV DLO Wind Turbines, IEC 61400-24 Wind Blade Lightning Down-Conductors, Nacelle Converter Busbars & Transformer Interconnects

## Construction






Cross-section, not to scale

1. Class 2 Compacted Aluminum / Class 5 Cop
2. 1.8/3 (3.6) kV High-Modulus HEPR Insulat
3. Copper Tape / Wire EMC Screen
4. LSOH Low-Smoke Zero-Halogen Outer Sheath

## Technical data

Typical values

| | | | |
|---|---|---|---|
| **Rated voltage / operating system** | 1.8/3 (3.6) kV / WTTC (IEC 60502-1 (1.8/3 kV) & UL 2277 WTTC EMC-Screened HEPR/LSOH Wind Tower Specification) | **Core / conductor construction** | Class 2 Compacted Aluminum / Class 5 Copper — 50-630 mm² conductor engineered for vertical tower cleat fixing |
| **Primary dielectric / insulation** | 1.8/3 (3.6) kV High-Modulus HEPR Insulation — Thermoset HEPR dielectric certified to IEC and UL WTTC | **Continuous operating temperature** | −40…+90 °C (wind turbine nacelle, hub & tower duty) |
| **Low-temperature torsion & cold bend** | Verified cold-flex and torsion endurance across −40…+90 °C per IEC 60502-1 (1.8/3 kV) & UL 2277 WTTC EMC-Screened HEPR/LSOH Wind Tower Specification | **Storage & transport temperature** | −40…+80 °C on export wooden/steel cable drum |
| **Outer jacket / sheath protection** | LSOH Low-Smoke Zero-Halogen Outer Sheath — Flame-retardant halogen-free jacket for enclosed wind towers | **Minimum bending radius** | 8 × OD |
| **Intermediate screen / separator / core layer** | Copper Tape / Wire EMC Screen — Metallic shield attenuating converter harmonic emissions in tower | **Oil, grease, ozone & UV resistance** | Resistant to wind turbine gearbox oil, hydraulic fluid, ozone and UV weathering per IEC 60502-1 (1.8/3 kV) & UL 2277 WTTC EMC-Screened HEPR/LSOH Wind Tower Specification |
| **Flame retardancy & smoke/halogen emission** | Flame-retardant and environmental performance verified per IEC 60502-1 (1.8/3 kV) & UL 2277 WTTC EMC-Screened HEPR/LSOH Wind Tower Specification | **RoHS & REACH compliance** | RoHS 2 (2011/65/EU + 2015/863) & REACH SVHC compliant |
| **Standards** | IEC 60502-1 (1.8/3 kV) & UL 2277 WTTC EMC-Screened HEPR/LSOH Wind Tower 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 |
|---|---|---|---|---|---|---|
| **1.8/3 kV & UL WTTC Cu/Al EMC Tower Construction Schedule (−40…+90 °C)** 3 sizes | | | | | | |
| ☐ 1.8/3 kV & UL WTTC Cu/ 1×150 / 4×95 Al | 1 × 150 mm² (or 4 × 95 mm² Al) | Class 2 Compacted Al / Class 5 AA8000 | 23.5 | 640 | 10.5 | 190 |
| ☐ 1.8/3 kV & UL WTTC Cu/ 1×240 / 4×150 Al | 1 × 240 mm² (or 4 × 150 mm² Al) | Class 2 Compacted Al / Class 5 AA8000 | 28.4 | 980 | 16.8 | 230 |
| ☐ 1.8/3 kV & UL WTTC Cu/ 1×400 / 4×240 Al | 1 × 400 mm² (or 4 × 240 mm² Al) | Class 2 Compacted Al / Class 5 AA8000 | 35.8 | 1,590 | 28.0 | 290 |

– Custom conductor cross-sections, core counts, pre-lugged tower kits and drum lengths available per IEC 60502-1 (1.8/3 kV) & UL 2277 WTTC EMC-Screened HEPR/LSOH Wind Tower Specification.

## Electrical & thermal parameters

3 sizes

| Configuration | Max. DC $R_{20}$ Ω/km | Rating / Impedance | Operating temp. |
|---|---|---|---|
| 1 × 150 mm² (or 4 × 95 mm² Al) | 0.21 | 1.8/3 (3.6) kV / WTTC (315 A Al) | −40…+90 °C |
| 1 × 240 mm² (or 4 × 150 mm² Al) | 0.12 | 1.8/3 (3.6) kV / WTTC (435 A Al) | −40…+90 °C |
| 1 × 400 mm² (or 4 × 240 mm² Al) | 0.08 | 1.8/3 (3.6) kV / WTTC (590 A Al) | −40…+90 °C |

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

## Standards and approvals

- IEC 60502-1 / UL 2277 WTTC 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/1-8-3kv-cu-al-emc-fixed-wind-tower-cable-wttc**

Typical values for this cable type, based on IEC 60502-1 (1.8/3 kV) & UL 2277 WTTC EMC-Screened HEPR/LSOH Wind Tower Specification. Values for your order are confirmed in the quotation. Subject to change without notice. Jiangsu Tebaoflex Special Cable Co., Ltd., Taicang, Jiangsu, China.