



fiber optic cable series

ADSS

All-Dielectric Self-Supporting Fiber Optic Cable

All-dielectric polyaramid-reinforced aerial optical cable for 10–500 kV lines

IEEE 1222 / IEC 60794-4-20

100–600 m Spans

AT Anti-Tracking Sheath

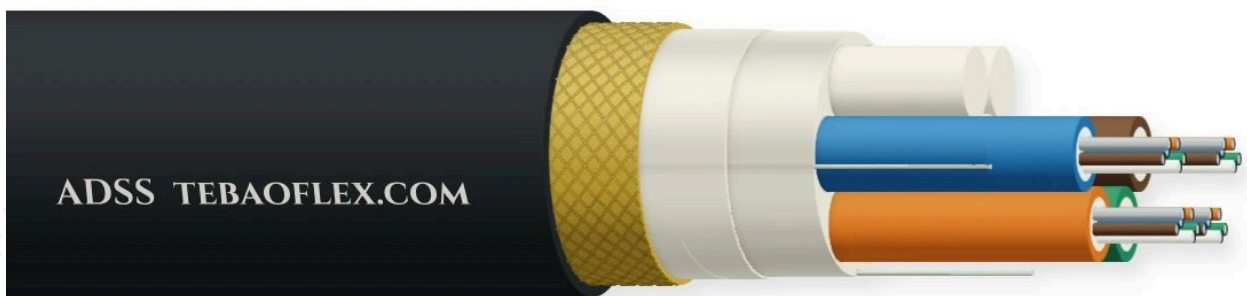


Application

ADSS All-Dielectric Self-Supporting Fiber Optic Cable engineered per IEEE 1222 and IEC 60794-4-20 with SZ loose tubes, high-modulus polyaramid tensile yarns for 100–600 m spans, and HDPE or Anti-Tracking (AT) outer sheath for.

Typical uses: HV Overhead Power Transmission (110–500 kV), MV Distribution & Rural Utility Grids, Railway Electrification Catenary Corridors, Wind & Solar Farm Collector Lines, River, Valley & Highway Aerial Crossings

Construction



Cross-section, not to scale

- 1 Single-mode optical fibres

≤ 0.35 dB/km @ 1310 nm
 ≤ 0.21 dB/km @ 1550 nm

- 2 SZ-stranded PBT loose tubes

- 3 Central dielectric strength rod

- 4 Inner polyethylene bedding sheath

- 5 Tensile load-bearing yarn

- 6 Outer HDPE or AT anti-tracking jacket

Technical data

Typical values

Dielectric isolation	100 % non-metallic — hot-line installable
Max. space potential (AT)	12 kV to 25 kV (IEEE 1222 dry-band arc)
Installation temperature	-20 °C to +50 °C
Rated Tensile Strength (RTS)	15 kN to 65 kN across 100–600 m span designs
Everyday Stress (EDS)	16 % to 20 % of RTS
Min. bend radius	15 × OD (static) · 20 × OD (stringing)
Attenuation @ 1310 / 1550 nm	≤ 0.35 dB/km / ≤ 0.21 dB/km
Aeolian vibration test	10 ⁸ cycles at EDS without attenuation rise
Water penetration	IEC 60794-1-22 Method F5B pass
Galloping & sheave test	Passes IEEE 1222 sheave & galloping fatigue

Max. space potential (PE)	≤ 12 kV induced electric field
Operating temperature	-40 °C to +70 °C
Thermal expansion coeff.	8.2 to 11.5 × 10 ⁻⁶ /K (span-dependent)
Max. Allowable Tension (MAT)	40 % to 50 % of RTS (zero optical loss)
Elastic modulus	9.5 to 14.5 GPa (for sag-tension calculation)
Fibre standard	ITU-T G.652.D (OS2) or ITU-T G.655 (NZDSF)
Fibre strain at MAT	≤ 0.05 % (within tube excess fibre window)
Dry-band arc tracking	IEEE 1222 salt-fog tracking pass (AT sheath)
UV & weather ageing	2,000 h xenon-arc weathering (ISO 4892-2)
Standards	IEEE Std 1222 & IEC 60794-4-20

Sizes

8 standard constructions

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

Order designation	Span & fibres	Outer Ø ≈ mm	Weight ≈ kg/km	MAT kN	RTS kN
HDPE Outer Sheath (Space potential ≤ 12 kV) 3 sizes					
☐ ADSS-24B1-PE-100M	100 m · 24F G.652.D	11.4	108	7.0	16
☐ ADSS-24B1-PE-200M	200 m · 24F G.652.D	12.2	124	10.5	24
☐ ADSS-48B1-PE-200M	200 m · 48F G.652.D	12.8	136	11.5	26
AT Anti-Tracking Outer Sheath (Space potential 12–25 kV) 5 sizes					
☐ ADSS-24B1-AT-300M	300 m · 24F G.652.D	13.4	148	14.5	33
☐ ADSS-48B1-AT-300M	300 m · 48F G.652.D	13.8	158	15.5	36
☐ ADSS-48B1-AT-400M	400 m · 48F G.652.D	14.8	182	19.5	45
☐ ADSS-96B1-AT-500M	500 m · 96F G.652.D	16.5	228	24.0	55
☐ ADSS-144B1-AT-600M	600 m · 144F G.652.D	18.2	274	28.5	65

– Custom sag-tension tables and preformed helical dead-end/suspension fittings supplied matched to exact outer diameter and RTS.

Standards and approvals

- ✓ IEEE Std 1222 & IEC 60794-4-20
- ✓ ITU-T G.652.D / G.655
- ✓ 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

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Email

info@tebaoflex.com

Web

tebaoflex.com/cables/all-dielectric-self-supporting-fiber-optic-cable



Typical values for this cable type, based on IEEE 1222 / IEC 60794-4-20 / DL/T 788. Values for your order are confirmed in the quotation. Subject to change without notice. Jiangsu Tebaoflex Special Cable Co., Ltd., Taicang, Jiangsu, China.