10 kVDC semiconductive field-controlled HVDC cable

HSC-10-6SSSA

10 kVDC Field-Controlled Multicore HVDC Cable

IEC 60502 / VDE 0250 · 10 kVDC core-to-core/screen · −50…+180 °C 6×AWG 20 silicone cable



10 kVDC Multicore | Semicon Stress Ctrl | −50…+180 °C Silicone

Application

HSC-10-6SSSA 10 kVDC multicore high-voltage DC cable combining 6 × AWG 20 tinned copper conductors, per-core semiconductive silicone stress control, 10 kVDC silicone primary insulation, tinned copper EMC braid screen and a silicone sheath.

Typical uses: Particle Physics Detectors & Photomultiplier Bias, Ion Beam, Electron Microscope & Mass Spec HV Feeds, Semiconductor Wafer Electrostatic Chuck (ESC) Bias, Industrial X-Ray & High-Voltage Test Benches

Construction





Cross-section, not to scale

1	HVDC Conductors (6xAWG 20)	IEC 60502 / DIN VDE 0250
2	Per-Core Stress Control Layer	IEC 60502 / DIN VDE 0250
3	Per-Core HV Silicone Dielectric	IEC 60502 / DIN VDE 0250
4	Central Support Element	IEC 60502 / DIN VDE 0250
5	Overall Screen & Silicone Jacket	IEC 60502 / DIN VDE 0250

Technical data

Typical values

Rated voltage / transmission duty	10 kVDC (IEC 60502 / DIN VDE 0250)	**Core / conductor construction**	HVDC Conductors (6xAWG 20) — Six 19 x 0.203 mm (0.61 mm², AWG 20) concentric stranded tinned copper conductors laid around the central core
Primary dielectric / insulation	Per-Core Stress Control Layer — Extruded black semiconductive silicone elastomer stress-control layer over each individual conductor eliminating corona onset	**Continuous operating temperature**	−50…+180 °C (rated operating envelope)
Storage & transport temperature	−40…+80 °C on export drum or reel	**Outer protection / sheath**	Overall Screen & Silicone Jacket — Polyester binder tape, overall tinned copper wire braid screen, and flexible silicone rubber outer sheath (OD 14.5 mm)
Minimum bending radius	8–10 × OD	**Structural layer count**	5 concentric functional layers
Environmental & chemical resistance	Industrial moisture, oils and mechanical wear per IEC 60502 / DIN VDE 0250	**RoHS & REACH compliance**	RoHS 2 (2011/65/EU + 2015/863) & REACH SVHC compliant
Standards	IEC 60502 / DIN VDE 0250		

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	Weight ≈ kg/km	Tensile load kN ≈	Min. bend R mm
HSC-10-6SSSA Construction Schedule (−50…+180 °C) 3 sizes						
☐ HSC-10-4SSSA (4×AWG 20, 10 kVDC)	4 × AWG 20 (0.61 mm²)	19×0.203 mm tinned Cu + semicon	11.2	165	0.5	90
☐ HSC-10-6SSSA (6×AWG 20, 10 kVDC)	6 × AWG 20 (0.61 mm²)	19×0.203 mm tinned Cu + semicon	13.6	235	0.8	110
☐ HSC-10-8SSSA (8×AWG 20, 10 kVDC)	8 × AWG 20 (0.61 mm²)	19×0.203 mm tinned Cu + semicon	15.8	310	1.0	130

– Custom core counts, cross-sections, sheath colours and factory-tested cut lengths available per IEC 60502 / DIN VDE 0250.

Electrical, optical & thermal parameters

3 sizes

Configuration	Max. DC R_{20} / Atten. Ω/km or dB/km	Rating / Capacity	Operating temp.
4 × AWG 20 (10 kVDC)	32.10	10 kVDC (25 kVDC test)	−50…+180 °C
6 × AWG 20 (10 kVDC)	32.10	10 kVDC (25 kVDC test)	−50…+180 °C
8 × AWG 20 (10 kVDC)	32.10	10 kVDC (25 kVDC test)	−50…+180 °C

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

Standards and approvals

- IEC 60502 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/hsc-10-6sssa-10kvdc-semiconductive-field-controlled-hvdc-cable

Typical values for this cable type, based on IEC 60502 / DIN VDE 0250. Values for your order are confirmed in the quotation. Subject to change without notice. Jiangsu Tebaoflex Special Cable Co., Ltd., Taicang, Jiangsu, China.