



10–60 kV DC <1 pC low-noise triaxial HV cable

HSC Low-Noise Triaxial

Low-Noise Triaxial High-Voltage Cable

10 kV to 60 kV DC < 1 pC low-noise triaxial HV cable for PD testing & radiation detectors



10 kV – 60 kV DC

< 1 pC PD Noise

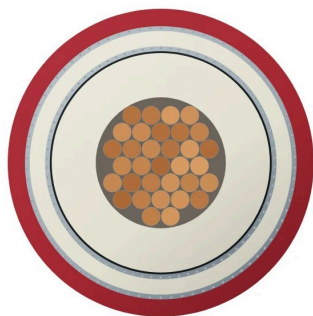
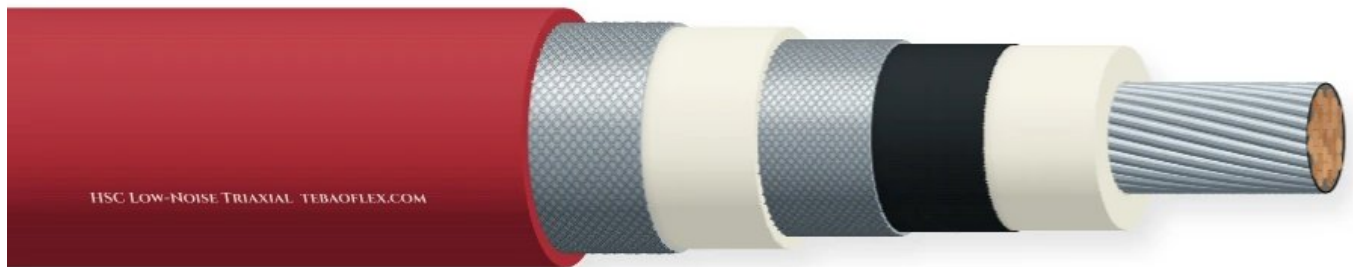
Triaxial Guard + Shield

Application

Precision low-noise triaxial high-voltage cable (HSC Low-Noise Triaxial) rated 10 kV to 60 kV DC with semiconductive triboelectric noise suppression (< 1 pC PD background), isolated inner guard screen, and outer EMC shield for IEC 60270 PD bridges and.

Typical uses: IEC 60270 Partial Discharge (PD) Test Systems, Tan-Delta (Dissipation Factor) Schering Bridges, Proportional Counters, Ion Chambers & Ge/Si Detectors, Picoammeter / Electrometer High-Voltage Bias Leads, Scanning Electron Microscope (SEM) Detector Feeds

Construction



Cross-section, not to scale

- 1 Low-noise stranded tinned / silver-plated copper core
- 2 Inner & outer anti-triboelectric semiconductive layers
- 3 Void-free HV PE/XLPE or Silicone primary OEM
- 4 Inner triaxial guard / signal return braid
- 5 Inter-screen isolation OEM
- 6 Outer ≥ 90 % EMC chassis braid & protective sheath

Technical data

Typical values

Rated DC working voltage	10, 15, 20, 30, 40, 50 & 60 kV DC	Rated AC PD-free voltage	5 kV to 25 kV AC rms (50/60 Hz)
Partial discharge background	< 0.5 pC (up to 20 kV AC) · < 1.0 pC (25 kV AC) per IEC 60270	Triboelectric noise (mechanically flexed)	≤ 0.1 pC / < 50 μV peak-to-peak
Inter-shield breakdown voltage	≥ 2.0 kV DC (inner guard screen to outer EMC screen)	Characteristic impedance	50 ± 3 Ω or 75 ± 4 Ω (HSC-PE pulse series)
Operating temperature (HSC-PE)	−30 °C to +85 °C	Operating temperature (HSC-SIR)	−50 °C to +150 °C
Center conductor cross-sections	0.50 mm², 0.75 mm², 1.0 mm², 1.5 mm², 2.5 mm²	Min. bend radius	8 × OD (HSC-PE) · 6 × OD (HSC-SIR)
Shielding attenuation (triaxial)	≥ 95 dB (100 kHz to 1 GHz)	Flame & oil resistance	IEC 60332-1-2 · EN 60811-404 (PUR/PVC jacket)
Standards	IEC 60270 · IEEE 400.3 · IEC 60060-1		

Sizes

12 standard constructions

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

Order designation	HV OEM & ZO	Center Core mm² (AWG)	Rated U _{DC} kV DC	PD-Free U _{AC} kV rms	Max PD pC	Capacitance pF/m	Overall OD mm	Weight kg/km
HSC-PE Series — Low-Loss PE/XLPE OEM Triaxial HV Cable (50 Ω / 75 Ω) 6 sizes								
☐ HSC-PE-10KV-50R	PE Low-Noise (50 Ω)	0.95 (18 AWG)	10	5	< 0.5	101	7.4	82
☐ HSC-PE-15KV-75R	PE Low-Noise (75 Ω)	0.50 (20 AWG)	15	7	< 0.5	68	8.2	96
☐ HSC-PE-20KV-50R	XLPE Low-Noise (50 Ω)	1.50 (16 AWG)	20	10	< 0.5	102	9.6	134
☐ HSC-PE-30KV-50R	XLPE Low-Noise (50 Ω)	1.50 (16 AWG)	30	14	< 0.5	94	11.4	182
☐ HSC-PE-40KV-75R	XLPE Low-Noise (75 Ω)	1.00 (18 AWG)	40	18	< 1.0	72	13.0	228
☐ HSC-PE-60KV-75R	XLPE Low-Noise (75 Ω)	1.50 (16 AWG)	60	25	< 1.0	69	16.5	355
HSC-SIR Series — Flexible Silicone OEM Triaxial HV Test Cable 6 sizes								
☐ HSC-SIR-10KV-1.0	Silicone Low-Noise	1.00 (18 AWG)	10	5	< 0.5	148	7.8	92
☐ HSC-SIR-20KV-1.5	Silicone Low-Noise	1.50 (16 AWG)	20	9	< 0.5	132	9.8	142
☐ HSC-SIR-30KV-1.5	Silicone Low-Noise	1.50 (16 AWG)	30	13	< 1.0	118	11.8	198
☐ HSC-SIR-40KV-2.5	Silicone Low-Noise	2.50 (14 AWG)	40	17	< 1.0	115	13.6	258
☐ HSC-SIR-50KV-2.5	Silicone Low-Noise	2.50 (14 AWG)	50	21	< 1.0	108	15.4	324
☐ HSC-SIR-60KV-2.5	Silicone Low-Noise	2.50 (14 AWG)	60	25	< 1.0	102	17.5	410

– Every length of HSC Low-Noise Triaxial is tested in a Faraday cage per IEC 60270 to certify partial-discharge inception/extinction and < 0.1 pC mechanical flex noise.

Standards and approvals

- ✓ IEC 60270 < 1 pC Partial-Discharge Certified
- ✓ IEEE 400.3 Shielded Diagnostic Lead Compliant

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/low-noise-triaxial-high-voltage-cable



Typical values for this cable type, based on IEC 60270 / IEEE 400.3 / MIL-C-17 Triaxial. Values for your order are confirmed in the quotation. Subject to change without notice. Jiangsu Tebaoflex Special Cable Co., Ltd., Taicang, Jiangsu, China.