



10–100 kV DC screened silicone HV cable

HSUS / HSL

Screened Silicone High-Voltage Connection Cable

10 kV to 100 kV DC coaxial screened silicone HV cable with dual semicon layers (HSUS)



10 kV – 100 kV DC

Dual Semicon + Cu Braid

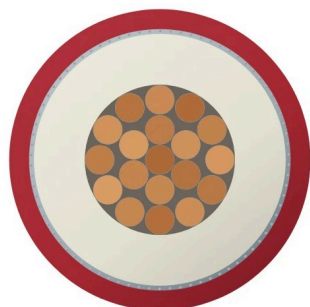
HSUS / HSL

Application

Touch-safe coaxial screened high-voltage DC connection cable (10 kV to 100 kV DC) with inner and outer semiconductive silicone stress-control layers, void-free silicone HV dielectric, $\geq 85\%$ tinned copper earth braid, and PVC/PUR (HSUS) or $-60/+180\text{ }^{\circ}\text{C}$.

Typical uses: Precision High-Voltage Laboratory Power Supplies, Ion Beam, Electron Microscope & Mass Spec Feeds, Industrial X-Ray & Capacitor Charger Interconnects, Semiconductor Ion Implantation & Wafer Chuck Bias, High-Voltage Partial Discharge & Hipot Test Leads

Construction



Cross-section, not to scale

- 1 Fine-stranded tinned copper HV center conductor
- 2 Inner semiconductive silicone stress-smoothing layer
- 3 Void-free high-voltage silicone rubber dielectric
- 4 Outer semiconductive silicone screen
- 5 $\geq 85\%$ tinned copper braided earth shield
- 6 HSUS (PVC/PUR) or HSL (Silicone) outer sheath

Provides flexible 10 kV to 100 kV DC insulation

Technical data

Typical values

Rated DC working voltage	10, 15, 20, 30, 40, 50, 60, 75 & 100 kV DC	Rated AC voltage (50/60 Hz)	4 kV to 40 kV AC rms
Factory DC routine test	$1.5 \times \text{to } 2.0 \times \text{rated } U_{DC}$ (core to screen) for 5 min	Jacket spark / dielectric test	3.0 kV AC rms on outer sheath
Nominal capacitance	95 pF/m to 180 pF/m (size & voltage dependent)	Partial discharge level	$\leq 5 \text{ pC at } 1.2 \times \text{rated } U_{AC} \text{ rms}$ (IEC 60270)
Operating temperature (HSUS)	$-25 \text{ }^{\circ}\text{C to } +80 \text{ }^{\circ}\text{C}$ (PVC) · $-40 \text{ }^{\circ}\text{C to } +90 \text{ }^{\circ}\text{C}$ (PUR)	Operating temperature (HSL)	$-60 \text{ }^{\circ}\text{C to } +180 \text{ }^{\circ}\text{C}$ (all-silicone)
Center conductor sizes	0.75, 1.0, 1.5, 2.5, 4.0, 6.0, 10 & 16 mm ²	Min. bend radius	$6 \times \text{OD static} \cdot 10 \times \text{OD flexing}$
Touch safety	Fully grounded concentric screen (EN 50191 / IEC 61010)	Flame retardancy	IEC 60332-1-2 · HSL zero-halogen IEC 60754-1
Standards	IEC 60502-2 · IEC 60270 · DIN VDE 0250		

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	Conductor mm ² (AWG)	Rated U_{DC} kV DC	Test U_{DC} kV DC	Dielectric OD mm	Overall OD mm	Capacitance pF/m	Weight kg/km
HSUS Series — Silicone HV Core + Tough PVC/PUR Outer Sheath (10–100 kV DC) 7 sizes							
☐ HSUS-10KV-1.0	1.0 (18 AWG)	10	20	3.8	6.2	155	58
☐ HSUS-20KV-1.5	1.5 (16 AWG)	20	40	5.2	7.8	135	88
☐ HSUS-30KV-1.5	1.5 (16 AWG)	30	55	6.6	9.4	118	124
☐ HSUS-40KV-2.5	2.5 (14 AWG)	40	70	8.0	11.0	122	168
☐ HSUS-50KV-2.5	2.5 (14 AWG)	50	85	9.4	12.6	110	215
☐ HSUS-65KV-2.5	2.5 (14 AWG)	65	110	11.2	14.8	102	285
☐ HSUS-100KV-4.0	4.0 (12 AWG)	100	160	15.8	19.8	96	490
HSL Series — All-Silicone $-60/+180 \text{ }^{\circ}\text{C}$ Screened HV Cable (15–100 kV DC) 5 sizes							
☐ HSL-15KV-1.5-SIR	1.5 (16 AWG)	15	30	4.6	7.2	145	76
☐ HSL-30KV-1.5-SIR	1.5 (16 AWG)	30	55	6.6	9.6	118	128
☐ HSL-50KV-2.5-SIR	2.5 (14 AWG)	50	85	9.4	12.8	110	220
☐ HSL-75KV-2.5-SIR	2.5 (14 AWG)	75	125	12.6	16.4	98	345
☐ HSL-100KV-6.0-SIR	6.0 (10 AWG)	100	160	16.5	20.8	105	545

– When terminating HSUS / HSL cables, always strip back the outer semiconductive layer cleanly to the manufacturer stress-cone dimension so it does not bridge the HV termination creepage path.

Standards and approvals

- ✓ IEC 60270 Partial-Discharge Tested (≤ 5 pC)
- ✓ DIN VDE 0250 & EN 50191 Touch-Safe Screened HV

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/screened-silicone-high-voltage-connection-cable



Typical values for this cable type, based on IEC 60502-2 / IEC 60270 / 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.