industrial data rf cable series

HV Low-Inductance Pulse Coax

High-Voltage Low-Inductance Pulse Discharge Coaxial Cable

20–100 kV low-inductance (35–80 nH/m) semicon-screened pulse discharge coaxial cable



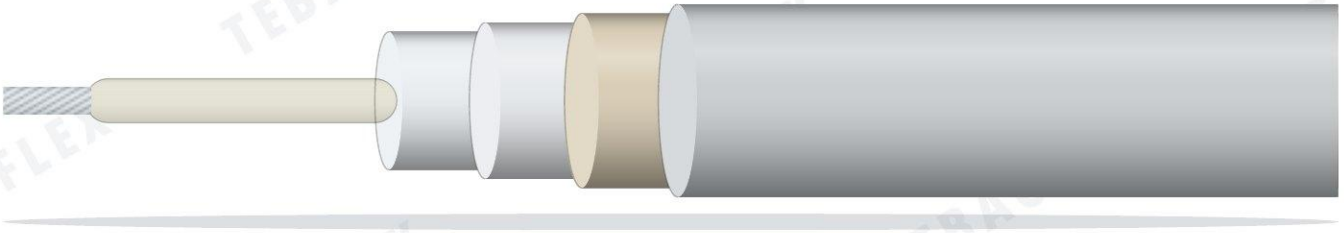
20 kV – 100 kV DC / Pulse | **≤ 35–80 nH/m Low Inductance** | **Dual Semicon Corona-Free Screens**

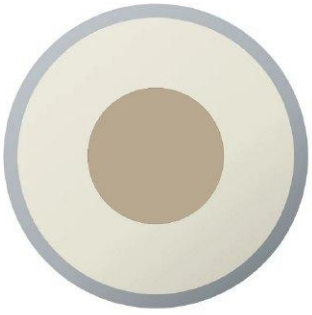
Application

High-voltage low-inductance (35–80 nH/m) pulse-discharge coaxial cable (HV Low-Inductance Pulse Coax) for capacitor banks, lasers, and plasma physics with a finely stranded copper core, semiconductive layers, corona-free EPR/FEP dielectric (20–100 kV DC), and

Typical uses: Pulsed-Power Capacitor Banks & PFNs, High-Energy Flashlamp & Excimer Lasers, Particle Accelerator Klystron Modulators, Electromagnetic Forming & Magnetizing, Plasma Physics & Fusion Research Labs

Construction





Cross-section, not to scale

1. Flexible stranded or annular copper center conductor
2. High-voltage EPR or Virgin LDPE pulse dielectric
3. Separator / barrier tape
4. Flame-retardant PVC, PUR or Chloroprene jacket

Technical data

Typical values

Rated DC / pulse voltage	20 kV, 30 kV, 40 kV, 60 kV, 80 kV & 100 kV	**Characteristic impedance**	15 Ω, 20 Ω, 28 Ω, 40 Ω or 50 Ω (by geometry)
Distributed loop inductance	35 nH/m (15 Ω) to 80 nH/m (40–50 Ω)	**Distributed capacitance**	140 pF/m to 360 pF/m
Partial discharge level	< 5 pC at 1.5 × nominal AC voltage (IEC 60270)	**Peak pulse current capacity**	25 kA to 150 kA (depending on model)
Operating temperature (EPR)	-40 °C to +90 °C continuous	**Operating temperature (LDPE)**	-30 °C to +70 °C continuous
Short-circuit conductor temp.	+200 °C max. (EPR dielectric)	**Overall cable diameter**	13.5 mm (20 kV) to 38.0 mm (100 kV)
Min. bending radius	8 × OD (fixed EPR) · 12 × OD (HV LDPE)	**Return braid coverage**	≥ 95 % tinned copper braid + binder tape
Corona & ozone resistance	Semicon-screened EPR immune to ozone cracking	**Flame & oil resistance**	IEC 60332-1-2 & EN 60811-404 oil resistant
Voltage reversal endurance	Up to 50 %–80 % ringing voltage reversal	**Standards**	IEC 60270 / IEEE 404 HV Dielectric Screening

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	Impedance / size	Conductor & dielectric	Wall ≈ mm	Outer Ø ≈ mm	Metal kg/km	Weight ≈ kg/km	Min. bend R fixed mm
Standard HV Low-Inductance Pulse Coax configurations 8 sizes							
☐ HV Low-Inductance Pulse Coax 20kV-15Ω	20 kV · 15 Ω (35 nH/m)	Hollow Core + Semicon EPR	2.80	14.50	165.0	295.0	116
☐ HV Low-Inductance Pulse Coax 25kV-20Ω	25 kV · 20 Ω (45 nH/m)	Hollow Core + Semicon EPR	3.40	16.80	195.0	365.0	135
☐ HV Low-Inductance Pulse Coax 30kV-28Ω	30 kV · 28 Ω (58 nH/m)	16 mm² Cu + Semicon EPR	4.20	19.20	230.0	450.0	154
☐ HV Low-Inductance Pulse Coax 40kV-20Ω	40 kV · 20 Ω (42 nH/m)	Annular Cu + Semicon EPR	5.00	22.50	310.0	610.0	180
☐ HV Low-Inductance Pulse Coax 40kV-40Ω	40 kV · 40 Ω (75 nH/m)	16 mm² Cu + Semicon EPR	5.20	21.80	250.0	540.0	175
☐ HV Low-Inductance Pulse Coax 60kV-30Ω	60 kV · 30 Ω (62 nH/m)	25 mm² Cu + Semicon EPR	7.00	27.50	360.0	820.0	248
☐ HV Low-Inductance Pulse Coax 80kV-40Ω	80 kV · 40 Ω (78 nH/m)	25 mm² Cu + Semicon EPR	9.00	32.80	420.0	1,120.0	328
☐ HV Low-Inductance Pulse Coax 100kV-50Ω	100 kV · 50 Ω (85 nH/m)	35 mm² Cu + Semicon EPR	11.20	38.00	510.0	1,480.0	380

– Outer diameters and weights are nominal engineering values for HV Low-Inductance Pulse Coax subject to standard manufacturing tolerances per IEC 60502-2 / IEEE 404 Semicon-Screened High-Voltage Pulsed-Power Coax.

RF & electrical data

8 sizes

Configuration	Max. DC R @ 20 °C Ω/km	Char. Z0 Ω	Velocity VoP / L (% or nH/m)	Dielectric test V AC rms
HV Low-Inductance Pulse Coax 20kV-15Ω (20 kV · 15 Ω (35 nH/m))	1.85	15.0	35.0	35,000
HV Low-Inductance Pulse Coax 25kV-20Ω (25 kV · 20 Ω (45 nH/m))	1.55	20.0	45.0	45,000
HV Low-Inductance Pulse Coax 30kV-28Ω (30 kV · 28 Ω (58 nH/m))	1.21	28.0	58.0	55,000
HV Low-Inductance Pulse Coax 40kV-20Ω (40 kV · 20 Ω (42 nH/m))	0.95	20.0	42.0	70,000
HV Low-Inductance Pulse Coax 40kV-40Ω (40 kV · 40 Ω (75 nH/m))	1.21	40.0	75.0	70,000
HV Low-Inductance Pulse Coax 60kV-30Ω (60 kV · 30 Ω (62 nH/m))	0.78	30.0	62.0	95,000
HV Low-Inductance Pulse Coax 80kV-40Ω (80 kV · 40 Ω (78 nH/m))	0.78	40.0	78.0	120,000
HV Low-Inductance Pulse Coax 100kV-50Ω (100 kV · 50 Ω (85 nH/m))	0.55	50.0	85.0	150,000

– Characteristic impedance, propagation velocity, DC resistance at +20 °C, and dielectric withstand voltages verified per IEC 60502-2 / IEEE 404 Semicon-Screened High-Voltage Pulsed-Power Coax.

Standards and approvals

- IEC 60502-2 / IEEE 404 Semicon-Screened High-Voltage Pulsed-Power Coax
- CE (2014/35/EU) & RoHS 3 (2015/863/EU) Compliant
- REACH SVHC Compliance Verified

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/negacoax-high-voltage-low-inductance-pulse-discharge-coaxial-cable

Typical values for this cable type, based on IEC 60502-2 / IEEE 404 Semicon-Screened High-Voltage Pulsed-Power Coax. Values for your order are confirmed in the quotation. Subject to change without notice. Jiangsu Tebaoflex Special Cable Co., Ltd., Taicang, Jiangsu, China.