



High-temperature wire

310-PEEKM-035

PEEK-Insulated UHV Hook-Up Wire

10^{-10} mbar UHV & radiation-resistant (10^7 Gy) PEEK multistrand hook-up wire



10^{-10} mbar UHV PEEK

10^7 Gy Radiation Hard

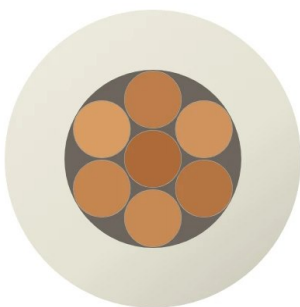
-65 °C to +250 °C

Application

310-PEEKM-035 ultra-high-vacuum hook-up wire with a 19×0.07 mm (Ø 0.35 mm, 28 AWG) silver-plated OFHC copper multistrand conductor and virgin extruded polyetheretherketone (PEEK) insulation for 10^{-10} mbar vacuum, +250 °C bakeout, and 10^7 Gy radiation.

Typical uses: Synchrotron & Free-Electron Lasers, Particle Accelerators & CERN/ITER, Nuclear Fusion & Plasma Diagnostics, UHV Sample Manipulators, Space Simulation & Ion Thrusters

Construction



Cross-section, not to scale

- 1 Multistrand silver-plated OFHC copper
- 2 Clean-room degreased surface
- 3 Extruded virgin PEEK wall
- 4 Natural tan PEEK outer surface

Technical data

Typical values

Rated working voltage	500 V DC / 300 V AC rms
Dielectric strength (PEEK)	≥ 20 kV/mm per IEC 60243-1
Max. continuous current	2.5 A in vacuum (310-PEEKM-035)
UHV bakeout peak temperature	+260 °C short-term (T _m = +343 °C)
Reference model 310-PEEKM-035	Ø 0.35 mm core (19×0.07 mm) · Ø 0.55 mm OD
Min. bending radius	5 × overall wire diameter
Ionizing radiation resistance	≥ 1 × 10 ⁷ Gy (10 ⁹ rad) gamma / e-beam
Standards	ASTM E595 / ECSS-Q-ST-70-02C

Dielectric test voltage	1,500 V AC rms
Volume resistivity	≥ 10 ¹⁶ Ω·cm at +20 °C
Continuous temperature range	-65 °C to +250 °C (4 K static cryo)
Glass transition temp. (T _g)	+143 °C (retains crystalline stiffness above T _g)
Full series conductor range	32 AWG to 18 AWG (Ø 0.25 to Ø 1.20 mm)
Vacuum outgassing limit	≤ 1 × 10 ⁻¹⁰ mbar (TML < 0.3 %, CVCM < 0.01 %)
Halogen & fluorine content	100 % halogen- and fluorine-free

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	Cross-section / size	Conductor build	Wall ≈ mm	Outer Ø ≈ mm	Metal kg/km	Weight ≈ kg/km	Min. bend R fixed mm
Standard 310-PEEKM-035 configurations 8 sizes							
☐ 310-PEEKM-025 (30 AWG)	0.055 mm ² (Ø 0.25 mm)	7×0.10 mm Ag-OFC	0.09	0.43	0.5	0.8	3
☐ 310-PEEKM-035 (28 AWG)	0.073 mm ² (Ø 0.35 mm)	19×0.07 mm Ag-OFC	0.10	0.55	0.7	1.1	3
☐ 310-PEEKM-050 (26 AWG)	0.15 mm ² (Ø 0.50 mm)	19×0.10 mm Ag-OFC	0.11	0.72	1.4	1.9	4
☐ 310-PEEKM-060 (24 AWG)	0.22 mm ² (Ø 0.60 mm)	19×0.12 mm Ag-OFC	0.12	0.84	2.0	2.8	5
☐ 310-PEEKM-075 (22 AWG)	0.34 mm ² (Ø 0.75 mm)	19×0.15 mm Ag-OFC	0.13	1.01	3.2	4.1	5
☐ 310-PEEKM-100 (20 AWG)	0.60 mm ² (Ø 1.00 mm)	19×0.20 mm Ag-OFC	0.15	1.30	5.7	7.1	7
☐ 310-PEEK-050 (Solid 24 AWG)	0.20 mm ² (Ø 0.50 mm)	1×0.50 mm Solid Ag-OFC	0.12	0.74	1.9	2.5	4
☐ 310-PEEK-100 (Solid 18 AWG)	0.79 mm ² (Ø 1.00 mm)	1×1.00 mm Solid Ag-OFC	0.15	1.30	7.4	8.9	7

– Outer diameters and weights are nominal engineering values for 310-PEEKM-035 subject to standard manufacturing tolerances per ASTM E595 UHV Outgassing & IEC 60544 Radiation-Resistant PEEK Wire.

Electrical & rating data

8 sizes

Configuration	Max. DCR @ 20 °C Ω/km	Primary rating (A or kV)	Derated / AC rating	Dielectric test V AC rms
310-PEEKM-025 (30 AWG) (0.055 mm ² (Ø 0.25 mm))	330.00	1.5	0.9	1,500
310-PEEKM-035 (28 AWG) (0.073 mm ² (Ø 0.35 mm))	238.00	2.5	1.5	1,500
310-PEEKM-050 (26 AWG) (0.15 mm ² (Ø 0.50 mm))	122.00	4.0	2.4	1,500
310-PEEKM-060 (24 AWG) (0.22 mm ² (Ø 0.60 mm))	84.00	5.5	3.2	1,500
310-PEEKM-075 (22 AWG) (0.34 mm ² (Ø 0.75 mm))	54.00	7.5	4.5	1,500
310-PEEKM-100 (20 AWG) (0.60 mm ² (Ø 1.00 mm))	30.50	11.0	6.5	1,500
310-PEEK-050 (Solid 24 AWG) (0.20 mm ² (Ø 0.50 mm))	88.00	5.0	3.0	1,500
310-PEEK-100 (Solid 18 AWG) (0.79 mm ² (Ø 1.00 mm))	22.00	13.0	8.0	1,500

– Electrical resistance at +20 °C and dielectric withstand voltages verified per ASTM E595 UHV Outgassing & IEC 60544 Radiation-Resistant PEEK Wire.

Standards and approvals

- ✓ ASTM E595 UHV Outgassing & IEC 60544 Radiation-Resistant PEEK Wire
- ✓ CE (2014/35/EU) & RoHS 3 (2015/863/EU) Compliant
- ✓ REACH SVHC & Halogen/Asbestos 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

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Email

info@tebaoflex.com

Web

tebaoflex.com/cables/310-peekm-035-peek-insulated-uhv-hook-up-wire



Typical values for this cable type, based on ASTM E595 UHV Outgassing & IEC 60544 Radiation-Resistant PEEK Wire. Values for your order are confirmed in the quotation. Subject to change without notice. Jiangsu Tebaoflex Special Cable Co., Ltd., Taicang, Jiangsu, China.