



MIL-DTL-17 Fluoropolymer & RF Coaxial Cables

RG-316

Flexible Coaxial Cable

MIL-DTL-17/113 · 50 Ω ± 2 Ω · Ø 2.50 mm · 26 AWG (7×0.17) SCCS · PTFE · SPC braid · FEP



MIL-DTL-17/113

50 Ω · DC-3 GHz

-55 to +200 °C FEP/PTFE

Application

RG-316 (MIL-DTL-17/113-RG316 / M17/138) is a miniature 50 Ω high-temperature fluoropolymer RF coaxial cable with a 2.50 mm outer diameter. Engineered with a 7×0.17 mm (26 AWG) silver-plated copper-clad steel (SCCS) conductor, solid PTFE dielectric

Typical uses: Avionics & Aerospace RF Harnesses, RF Test & Measurement Assemblies, Military Tactical Radio Modules, Cellular & Wi-Fi/GNSS Pigtailed, Medical RF & Diagnostic Equipment

Construction



Cross-section, not to scale

1	Center conductor (26 AWG SCCS)	MIL-DTL-17/113
2	Solid PTFE fluoropolymer dielectric	MIL-DTL-17/113
3	Silver-plated copper (SPC) shield	MIL-DTL-17/113
4	Fluorinated ethylene-propylene (FEP)	MIL-DTL-17/113

Technical data

Typical values

Characteristic impedance Z_0	50 $\Omega \pm 2 \Omega$	Nominal capacitance	96.5 pF/m (29.4 pF/ft)
Velocity of propagation (VoP)	69.5 %	Propagation delay	4.80 ns/m (1.46 ns/ft)
Max. operating voltage	900 V rms (1200 V rms peak)	Dielectric withstand test	2.0 kV rms at 60 Hz
Operating temperature range	-55 °C to +200 °C continuous	Peak soldering heat resistance	+260 °C (non-melting PTFE dielectric)
Storage temperature range	-65 °C to +200 °C	Flame & smoke rating	UL 910 / CMP low-smoke fluoropolymer
Thermal phase stability	Low phase change over -55 to +125 °C	Cold-bend temperature	-55 °C per MIL-DTL-17
Center conductor stranding	7 × 0.17 mm (26 AWG, Ø 0.51 mm)	Dielectric diameter	1.52 mm ± 0.05 mm (0.060 in)
Outer jacket diameter	2.50 mm ± 0.10 mm (0.098 in)	Min. bend radius (fixed / flex)	13 mm (5×D) / 25 mm (10×D)
Nominal cable weight	15.6 kg/km (RG-316) / 23.0 kg/km (316D)	Connector compatibility	SMA, SMB, SMC, MMCX, MCX, BNC, TNC
Chemical & solvent immunity	Inert to aviation fuel, hydraulic oil & acids	Flame retardance	IEC 60332-1-2 & UL VW-1
Moisture & humidity absorption	< 0.01 % water uptake (PTFE/FEP)	UV & radiation resistance	Weatherproof fluoropolymer jacket
Outgassing behaviour	Low outgassing fluoropolymer construction	RoHS / REACH status	RoHS 3 compliant
Standards	MIL-DTL-17/113-RG316 & M17/138-00001		

Sizes

4 standard constructions

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

Order designation	Construction / Variant	Conductor	Outer Ø ≈ mm	Metal kg/km	Weight ≈ kg/km	Min. bend R fixed mm
Standard RG-316 variants 4 sizes						
☐ RG-316/U (M17/113-RG316) Single Shield	50 Ω Single SPC Braid (FEP)	26 AWG (7×0.17 SCCS)	2.50	7.8	15.6	12
☐ M17/138-00001 Low-Loss RG-316	50 Ω Tight-Tol SPC Braid (FEP)	26 AWG (7×0.17 SCCS)	2.50	8.2	16.0	12
☐ RG-316D / RD-316 (M17/152) Double Shield	50 Ω Double SPC Braid (FEP)	26 AWG (7×0.17 SCCS)	2.90	14.5	23.0	14
☐ RG-316 PFA (+250 °C Jacket)	50 Ω Single SPC Braid (PFA)	26 AWG (7×0.17 SCCS)	2.50	7.8	16.2	12

– Dimensions and weights are nominal production values subject to manufacturing tolerances per MIL-DTL-17/113-RG316 (M17/138).

Attenuation & RF power handling

6 sizes

Frequency	Nominal attenuation dB / 100 m	Nominal attenuation dB / 100 ft	Max. CW RF power W (@ 40 °C)	Impedance Z_0 Ω	Velocity VoP %
50 MHz	24.6	7.50	560	50	69.5
100 MHz	36.1	11.00	380	50	69.5
400 MHz	68.9	21.00	180	50	69.5
1000 MHz (1 GHz)	115.0	35.05	110	50	69.5
2400 MHz (2.4 GHz)	183.7	55.99	68	50	69.5
3000 MHz (3 GHz)	206.7	63.00	58	50	69.5

– Attenuation values apply at +20 °C ambient into a matched 50 Ω load; CW power ratings assume VSWR 1.0:1 at +40 °C ambient.

Standards and approvals

- ✓ MIL-DTL-17/113-RG316
- ✓ UL VW-1 / IEC 60332-1-2
- ✓ RoHS 3 / 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/rg-316-flexible-coaxial-cable



Typical values for this cable type, based on MIL-DTL-17/113-RG316 (M17/138). Values for your order are confirmed in the quotation. Subject to change without notice. Jiangsu Tebaoflex Special Cable Co., Ltd., Taicang, Jiangsu, China.