

**MIL-DTL-17 Fluoropolymer & RF Coaxial Cables**

# RG-400

## Double-Shielded Coaxial Cable

MIL-DTL-17/128 · 50 Ω ± 2 Ω · Ø 4.95 mm · 20 AWG (19×0.20) SPC · PTFE · Dual SPC braids



MIL-DTL-17/128

50 Ω · DC-12.4 GHz

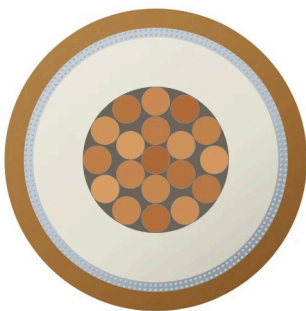
Double SPC Shield +200 °C

### Application

RG-400 (MIL-DTL-17/128-RG400) is the aerospace industry benchmark 50 Ω double-shielded fluoropolymer coaxial cable rated from -55 °C to +200 °C up to 12.4 GHz. Featuring a 19-strand 20 AWG silver-plated copper center, solid PTFE dielectric, dual

**Typical uses:** Commercial & Military Aircraft Avionics, ADS-B, TCAS, DME & VHF/UHF Antennas, Radar & Electronic Warfare Systems, Satellite Ground Station Interconnects, High-Temperature RF Test Benches

### Construction



Cross-section, not to scale

|   |                                        |                |
|---|----------------------------------------|----------------|
| 1 | Stranded SPC center conductor (20 AWG) | MIL-DTL-17/128 |
| 2 | Solid virgin PTFE dielectric           | MIL-DTL-17/128 |
| 3 | Inner silver-plated copper braid       | MIL-DTL-17/128 |
| 4 | Outer silver-plated copper braid       | MIL-DTL-17/128 |
| 5 | FEP fluoropolymer outer jacket         | MIL-DTL-17/128 |

Technical data

Typical values

|                                |                                                     |                                 |                                                |
|--------------------------------|-----------------------------------------------------|---------------------------------|------------------------------------------------|
| Characteristic impedance $Z_0$ | 50 $\Omega$ $\pm$ 2 $\Omega$                        | Nominal capacitance             | 105.0 pF/m (32.0 pF/ft)                        |
| Velocity of propagation (VoP)  | 69.5 %                                              | Shielding effectiveness         | > 90 dB (dual SPC braids)                      |
| Max. operating voltage         | 1,900 V rms                                         | Dielectric withstand test       | 5.0 kV rms at 60 Hz                            |
| Operating temperature range    | -55 $^{\circ}$ C to +200 $^{\circ}$ C continuous    | Storage temperature range       | -65 $^{\circ}$ C to +200 $^{\circ}$ C          |
| Airframe fire resistance       | FAR 25.853 / UL 910 low flame/smoke                 | Soldering thermal stability     | Non-melting PTFE core (+327 $^{\circ}$ C melt) |
| Cold-bend rating               | -55 $^{\circ}$ C without jacket cracking            | Continuous CW power @ 400 MHz   | 580 W (@ +40 $^{\circ}$ C ambient)             |
| Center conductor stranding     | 19 $\times$ 0.20 mm (20 AWG, $\varnothing$ 0.98 mm) | Dielectric diameter             | 2.95 mm $\pm$ 0.08 mm (0.116 in)               |
| Outer jacket diameter          | 4.95 mm $\pm$ 0.13 mm (0.195 in)                    | Min. bend radius (fixed / flex) | 25 mm (5 $\times$ D) / 50 mm (10 $\times$ D)   |
| Nominal cable weight           | 74.4 kg/km (50 lb/1000 ft)                          | Connector compatibility         | TNC, BNC, Type N, SMA (RG-400/142 group)       |
| Aviation fluids & Skydrol      | 100 % resistant to Jet-A, JP-8 & Skydrol            | Flame retardance                | FAR 25.853, UL 910 & IEC 60332-1-2             |
| Moisture & altitude stability  | Zero moisture absorption in unpressurized           | Vibration & flex fatigue        | 19-strand SPC resists work-hardening           |
| Ozone & UV weathering          | Inert FEP fluoropolymer outer sheath                | RoHS / REACH status             | RoHS 3 compliant                               |
| Standards                      | MIL-DTL-17/128-RG400 (M17/128)                      |                                 |                                                |

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 $\varnothing$ $\approx$ mm | Metal kg/km | Weight $\approx$ kg/km | Min. bend R fixed mm |
|----------------------------------------------------------------|-----------------------------------------|-------------------------------|----------------------------------|-------------|------------------------|----------------------|
| Standard RG-400 variants 4 sizes                               |                                         |                               |                                  |             |                        |                      |
| <input type="checkbox"/> RG-400/U (M17/128-RG400) Standard     | 50 $\Omega$ Dual SPC Braid (FEP Brown)  | 20 AWG (19 $\times$ 0.20 SPC) | 4.95                             | 46.5        | 74.4                   | 25                   |
| <input type="checkbox"/> M17/175-00001 Swept 12.4 GHz RG-400   | 50 $\Omega$ Swept Dual SPC Braid (FEP)  | 20 AWG (19 $\times$ 0.20 SPC) | 4.95                             | 47.0        | 75.0                   | 25                   |
| <input type="checkbox"/> RG-400 PFA (+250 $^{\circ}$ C Jacket) | 50 $\Omega$ Dual SPC Braid (PFA Tan)    | 20 AWG (19 $\times$ 0.20 SPC) | 4.95                             | 46.5        | 76.0                   | 25                   |
| <input type="checkbox"/> RG-400-LSZH Halogen-Free Shipboard    | 50 $\Omega$ Dual SPC Braid (LSZH Black) | 20 AWG (19 $\times$ 0.20 SPC) | 5.00                             | 46.5        | 68.0                   | 25                   |

- Dimensions and weights are nominal production values subject to manufacturing tolerances per MIL-DTL-17/128-RG400 (M17/128).

Attenuation & RF power handling

7 sizes

| Frequency            | Nominal attenuation dB / 100m | Nominal attenuation dB / 100ft | Max. CW RF power W (@ 40 $^{\circ}$ C) | Impedance $Z_0$ $\Omega$ | Velocity VoP % |
|----------------------|-------------------------------|--------------------------------|----------------------------------------|--------------------------|----------------|
| 100 MHz              | 14.4                          | 4.39                           | 1,100                                  | 50                       | 69.5           |
| 400 MHz              | 31.2                          | 9.51                           | 580                                    | 50                       | 69.5           |
| 1000 MHz (1 GHz)     | 48.2                          | 14.69                          | 320                                    | 50                       | 69.5           |
| 3000 MHz (3 GHz)     | 88.6                          | 27.01                          | 170                                    | 50                       | 69.5           |
| 5000 MHz (5 GHz)     | 118.1                         | 36.00                          | 120                                    | 50                       | 69.5           |
| 10000 MHz (10 GHz)   | 177.2                         | 54.01                          | 75                                     | 50                       | 69.5           |
| 12400 MHz (12.4 GHz) | 203.4                         | 62.00                          | 62                                     | 50                       | 69.5           |

- Attenuation values apply at +20  $^{\circ}$ C ambient into a matched 50  $\Omega$  load; CW power ratings assume VSWR 1.0:1 at +40  $^{\circ}$ C ambient.

## Standards and approvals

- ✓ MIL-DTL-17/128-RG400
- ✓ FAA FAR 25.853
- ✓ RoHS 3 / CE

## 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-400-double-shielded-coaxial-cable](https://tebaoflex.com/cables/rg-400-double-shielded-coaxial-cable)



Typical values for this cable type, based on MIL-DTL-17/128-RG400 (M17/128). Values for your order are confirmed in the quotation. Subject to change without notice.  
Jiangsu Tebaoflex Special Cable Co., Ltd., Taicang, Jiangsu, China.