



industrial data rf cable series

BCB029

Double-Screened Aerospace RF Coaxial Cable

50 Ω low-attenuation double-screened ePTFE aerospace RF coaxial cable (DC-18 GHz)



EN 4604 / FAR 25.869

50 Ω · 83% VoP · ≥ 95 dB

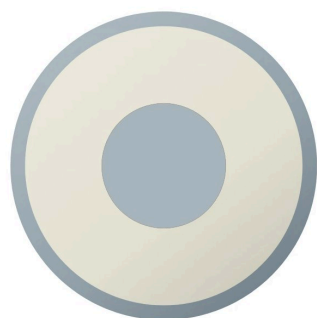
-65 °C to +200 °C

Application

50 Ω double-screened aerospace RF coaxial cable per EN 4604 / MIL-DTL-17 with a silver-plated copper core, low-loss PTFE/ePTFE dielectric (70–80 % VoP), dual silver-plated braids (> 90 dB screening), and FEP/ETFE jacket for radar up to 18 GHz and +200 °C.

Typical uses: Commercial Airliner Satcom & Radar, Military EW & Reconnaissance Pods, Helicopter & UAV Datalinks, Space Launch Vehicle Telemetry, Ground Defense Radar Shelters

Construction



Cross-section, not to scale

- 1 Silver-plated copper center conductor
- 2 Expanded microporous PTFE (ePTFE) dielectric
- 3 Inner silver-plated copper flat-ribbon screen
- 4 Outer silver-plated copper round wire braid
- 5 Fluoropolymer (FEP / ETFE) outer sheath

Technical data

Typical values

Characteristic impedance	50 Ω $\pm$ 2 Ω	Operating frequency	DC to 18 GHz
Velocity of propagation	83 % nominal (64.2 pF/m)	Attenuation @ 1 / 6 / 18 GHz	14.2 / 36.0 / 64.5 dB/100m
Shielding effectiveness	$\geq$ 95 dB (DC to 18 GHz)	Operating temperature	-65 °C to +200 °C
Peak RF power @ 1 GHz	1.1 kW CW average at +40 °C	Max. operating voltage	1,500 V RMS at sea level
Center conductor $\varnothing$	1.42 mm (solid or 19 $\times$ 0.29 mm SPC)	Overall cable diameter	5.20 mm $\pm$ 0.12 mm nominal
Min. bending radius	5 $\times$ OD (26 mm) static $\cdot$ 10 $\times$ OD dynamic	Flammability & smoke	FAR 25.869 / ABD0031 / EN 3475 pass
Chemical & fluid resistance	Skydrol, Jet-A1, hydraulic oils, de-icing fluids	Radiation & altitude	70,000 ft decompression & UV resistant
Standards	EN 4604 / SAE AS22759 / MIL-DTL-17		

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 $\approx$ mm	Outer $\varnothing \approx$ mm	Metal kg/km	Weight $\approx$ kg/km	Min. bend R fixed mm
Standard BCB029 configurations 8 sizes							
☐ BCB029	50 Ω $\cdot$ $\varnothing$ 1.42 mm	SPC 19 $\times$ 0.29 + ePTFE	0.42	5.20	38.0	56.0	26
☐ BCB029-S	50 Ω $\cdot$ $\varnothing$ 1.40 mm	Solid SPC + ePTFE	0.42	5.15	37.5	54.5	26
☐ BCB029-ETFE	50 Ω $\cdot$ $\varnothing$ 1.42 mm	SPC 19 $\times$ 0.29 + ePTFE/ETFE	0.45	5.30	38.0	57.5	27
☐ BCB029-PFA	50 Ω $\cdot$ $\varnothing$ 1.42 mm	SPC 19 $\times$ 0.29 + ePTFE/PFA	0.45	5.30	38.0	58.5	27
☐ BCB029-L	50 Ω $\cdot$ $\varnothing$ 1.80 mm	SPC 19 $\times$ 0.36 + ePTFE	0.50	6.40	56.0	82.0	32
☐ BCB029-XL	50 Ω $\cdot$ $\varnothing$ 2.25 mm	SPC 37 $\times$ 0.32 + ePTFE	0.55	7.80	84.0	122.0	39
☐ BCB029-TR	50 Ω $\cdot$ Triaxial	SPC + ePTFE + Dual Braid	0.50	6.10	52.0	76.0	31
☐ BCB029-SS	50 Ω $\cdot$ SS Braid	SPC + ePTFE + SS304 Outer	0.50	5.85	49.0	74.0	30

– Outer diameters and weights are nominal engineering values for BCB029 subject to standard manufacturing tolerances per EN 4604 / SAE AS22759 / FAR 25.869 (Low-Loss 50 Ω Aerospace 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
BCB029 (50 Ω $\cdot$ $\varnothing$ 1.42 mm)	12.20	50.0	83.0	2,000
BCB029-S (50 Ω $\cdot$ $\varnothing$ 1.40 mm)	11.40	50.0	84.0	2,000
BCB029-ETFE (50 Ω $\cdot$ $\varnothing$ 1.42 mm)	12.20	50.0	83.0	2,000
BCB029-PFA (50 Ω $\cdot$ $\varnothing$ 1.42 mm)	12.20	50.0	83.0	2,000
BCB029-L (50 Ω $\cdot$ $\varnothing$ 1.80 mm)	7.80	50.0	84.0	2,500
BCB029-XL (50 Ω $\cdot$ $\varnothing$ 2.25 mm)	5.10	50.0	84.0	3,000
BCB029-TR (50 Ω $\cdot$ Triaxial)	12.20	50.0	83.0	2,000
BCB029-SS (50 Ω $\cdot$ SS Braid)	12.20	50.0	83.0	2,000

– Characteristic impedance, propagation velocity, DC resistance at +20 °C, and dielectric withstand voltages verified per EN 4604 / SAE AS22759 / FAR 25.869 (Low-Loss 50 Ω Aerospace Coax).

Standards and approvals

- ✓ EN 4604 / SAE AS22759 / FAR 25.869 (Low-Loss 50 Ω Aerospace 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/bcb029-double-screened-aerospace-rf-coaxial-cable



Typical values for this cable type, based on EN 4604 / SAE AS22759 / FAR 25.869 (Low-Loss 50 Ω Aerospace Coax). Values for your order are confirmed in the quotation. Subject to change without notice. Jiangsu Tebaoflex Special Cable Co., Ltd., Taicang, Jiangsu, China.