

CABLE CONSTRUCTION

1. FEP Jacket (Tan)
2. Tin-Plated Copper Shield
3. FEP Dielectric
4. Tin-Plated Copper Conductor



Certain avionics systems — TCAS, TCAD®, IHAS, for example — specify a range of antenna cable insertion loss rather than a maximum loss. The loss minimum may be difficult to achieve in shorter cable lengths without coiling extra length of cable or inserting attenuators. Either situation adds weight and cost. This cable addresses these problems.

S46191 is a 50 ohm coaxial cable, dimensionally equivalent to M17/128-RG400, but whose loss is greater by approximately 8 dB per 100 feet at 1.0 GHz. RG400 is typically 15 dB; S46191 is approximately 23 dB. In addition, S46191 will provide at least 40% weight savings over RG400.

An FEP jacket protects the cable against abrasion and environmental effects while maintaining flexibility for ease of installation.

It is Skydrol resistant, RoHS compliant and meets the FAA flammability requirements of FAR Part 23 and 25, Appendix F; complies with MIL-C-17 as applicable.

Application Data

	TCAS II (ARINC 735)	TCAD®	IHAS
Loss Range:	2.0 - 3.0 dB	2.5 - 3.5 dB	1.0 - 3.0 dB
Length Range:			
S46191	8 - 11 ft.	11 - 14 ft.	4.5 - 11 ft.
RG400	13.5 - 18.5 ft.	16.5 - 22 ft.	6.5 - 18.5 ft.

PHYSICAL DATA

- Conductor 20 AWG Stranded TPC
- Operating Temperature -55° to +150°C
- Outer Diameter: in (mm) 0.20 (4.95)
- Minimum Bend Radius: in (mm) 1.00 (25.40)
- Weight: lbs/100 ft (kg/100 m) 2.7 (4.0)

ELECTRICAL DATA

- Impedance: ohms 50
- Capacitance: pF/ft (m) 28.4 (93.2)
- Velocity of Propagation: % 70.0
- Time Delay: ns/ft (m) 1.45 (4.76)
- RF Shielding Effectiveness: dB/min -75
- DC Resistance: ohms/1000 ft (m) 9.5 (31.2)
- Attenuation: Nom / Max dB/100 ft (dB/100 m)
 - @400 MHz 11.3 / 12.5 (37.1 / 41.0)
 - @1.0 GHz 21.5 / 23.7 (70.5 / 77.8)
 - @1.6 GHz 30.5 / 33.6 (100.1 / 110.2)
 - @5.0 GHz 75.2 / 82.7 (246.7 / 271.3)
- K Values (nom loss): K1 = 0.37, K2 = 0.0098
- Formula for Attenuation: $(K1 * \sqrt{F(MHz)}) + (K2 * F(MHz))$

All values nominal unless otherwise noted

PIC P/N **CONNECTOR TYPE**

ARINC

190119	404 Size 1
190101	600 Size 1
190102	600 Modified Size 1
110123	404/600 Size 5

M39012

PIC P/N	CONNECTOR TYPE	PIC P/N	CONNECTOR TYPE
190112	BNC Straight Plug	110576	QMA Straight Plug
190113	BNC 90° Plug	110577	QMA 90° Plug
190127	BNC Inline Jack	110198	SMA Straight Plug
110193	BNC Bulkhead Jack	110207	SMA 90° Plug
190106	C Straight Plug	190125	SMA Inline Jack
190107	C 90° Plug	190108	TNC Straight Plug
190104	HN Straight Plug	190109	TNC 90° Plug
190105	HN 90° Plug	190131	TNC 75° Plug
190110	N Straight Plug	190123	TNC Inline Jack
190111	N 90° Plug	190121	TNC Bulkhead Jack
190124	N Inline Jack		
110087	N Bulkhead Jack		

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