

## CABLE CHARACTERISTICS

## CONSTRUCTION / DIMENSIONS

	material	
center conductor	solid SPC <sup>(1)</sup>	
dielectric	PTFE <sup>(2)</sup> tape	
inner shield	SPC tape	
outer shield	SPC braid	
jacket	green FEP <sup>(3)</sup>	
out diameter	4,10±0,1 mm	0.161 inches

(1) SPC = Silver Plated Copper

(2) PTFE = PolyTetraFluoroEthylene

(3) FEP = Fluorinated Ethylene Propylene



Radiall p/n : F1703194

## ELECTRICAL CHARACTERISTICS

characteristic impedance	50 ohms ± 1 ohms	
operating frequency range	DC - 30 GHz	
cut-off frequency	36 GHz	
screening effectiveness	> 90 dB (at 18 GHz)	
velocity of propagation	74 %	
propagation time	4.5 ns / m	1.4 ns / ft
capacitance	91 pF / m (at 1 GHz)	27.6 pF / ft (at 1 GHz)
insulation resistance	> 3 x 10 <sup>5</sup> MOhm / m	
Corona extinction voltage	> 1.5 kV	
nominal phase	1620 ° / m / GHz	
phase stability with temperature	< 3 ° / m / GHz (-55 / +100 °C)	
phase stability with bending <sup>(1)</sup>	< 0.4 ° / 360° / GHz	
attenuation stability with bending	< 0.05 dB (at 18 GHz) / < 0.1 dB (at 30 GHz)	
attenuation stability with shaking	< 0.01 dB/m (at 18 GHz) / < 0.02 dB/m (at 30 GHz)	
atten. variation with temperature	Att. (at X ° C) = att. (at 20 ° C) x 1 + (X - 20) x 0,002	

<sup>(1)</sup> = according to IEC 966-2-1

## MECHANICAL CHARACTERISTICS

maximum weight	45 g / m	13.6 g / ft
recommend. min. bend radius	25 mm	0.984 inch
crush resistance	> 600 N / 100 mm	

## ENVIRONMENTAL CHARACTERISTICS

operating temperature range	-70 / +200 ° C	-94 / +392 ° F
fire resistance	yes (MIL C 87104)	
halogen free jacket	no	

FREQUENCY / ATTENUATION (typ.) / CW MAX POWER<sup>(1)</sup>

GHz	dB / m	dB / ft	Watts
1,0	0,32	0,10	630
2,0	0,46	0,14	450
4,0	0,68	0,21	310
6,0	0,85	0,26	260
8,0	1,01	0,31	220
12,4	1,30	0,40	180
18,0	1,63	0,49	150
26,5	2,07	0,63	140
30,0	2,24	0,68	110
attenuation calculation (dB/m)	0.30 x √ F (GHz) + 0,02 x F (GHz)		

<sup>(1)</sup> = CW max power calculated at sea level / 40 °C and VSWR 1:1 (Cable-assembly power ratings may be limited by the connector type. Please contact us for specific needs)

Note : typical attenuation for a couple of connectors (dB) = 0,0447 x √ F(GHz) + 0.04

## APPLICATION NOTE

This cable, featuring a solid center conductor, is a perfect alternative to semi-rigid cable RG402 (dia .141) when flexibility is required.

## Main benefits :

- ultra-low loss
- high screening effectiveness
- standard connectors for semi-rigid cables can be used
- no 3D drawing required for design and manufacturing
- high chemical resistance (oil, lubricant, humidity, ...)