

SFL Rock SStable® Spiral Flex Coax



Construction:

Center conductor: Stranded silver plated copper

Dielectric: Solid PTFE

Inner Shield: Spiral silver plated copper strip

Outer Braid: Round silver plated copper

Jacket: Solid light blue specially formulated compound

Velocity of Propagation: 70%

Shielding Effectiveness: <-110 dB

	SFL402-105FLEX	SFL405-105FLEX
Center conductor	SPC	SPC
Center conductor diameter	.0376" (7/28)	.0210" (7/33)
Dielectric diameter	.117"	.063"
Diameter over inner shield	.124"	.071"
Diameter over outer braid	.138"	.085"
Overall diameter	.180"	.115"
Weight (lbs/mft)	29	14
Bend radius	0.9"	0.6"
Impedance (Ohms)	50	50
Capacitance (pF/ft)	29.2	29.0
Operating Temperature	-55°C +105°C	-55°C +105°C
Attenuation (dB/100ft)@	Typ	Typ
400 MHz	7.0	13.2
1 GHz	11.4	21.2
3 GHz	20.9	37.8
5 GHz	28.0	49.7
10 GHz	42.2	72.8
18 GHz	60.8	101.5

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Harbour's SFL Spiral Flex™ coaxial cables, more flexible and supple versions of the industry standard SS Spiral Strip constructions, have been designed with a specially formulated 105°C jacket compound and stranded silver plated copper center conductors. These 50 ohm versions exhibit VSWR levels that meet or exceed similar size flexible constructions, and just like their SS cable counterparts, offer excellent shielding effectiveness with readily available connectors.

Although the insertion loss is slightly higher than their SS cable counterparts, SFL attenuation levels through 18 GHz are substantially lower than comparable MIL-DTL-17 constructions.

Attenuation Calculation and K Factors

Although typical and maximum attenuation values are given for discrete frequencies, typical attenuation values may be calculated by using K1 and K2 factors for each construction. The K1 factor is calculated by taking into consideration the type, strand factor, and diameter of the center conductor, and the impedance of the cable. The K2 factor is calculated by taking into consideration the velocity of propagation and the dissipation factor of the dielectric.

Formula for Calculating Attenuation using K Factors:

$$\text{Attenuation (dB/100 ft) at any frequency (MHz)} = (\text{K1} \times \sqrt{\text{frequency}}) + (\text{K2} \times \text{frequency})$$

	SFL402-105Flex	SFL405-105Flex
K1	.331	.644
K2	.00091	.00084