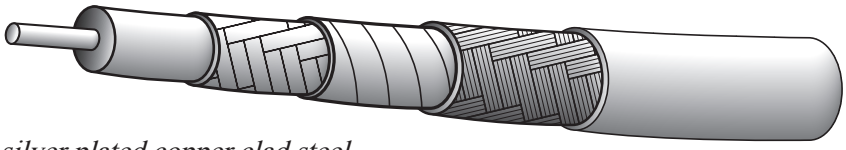
SB (Strip Braid) Coaxial Cable

• Low attenuation • High frequency designs
• Diameters similar to MIL-C-17 cables



Construction:

Center Conductor: *silver plated copper or silver plated copper clad steel*
Dielectric: *solid PTFE*
Inner braid: *flat silver plated copper strip*
Interlayer: *aluminum polimide polyester tape*
Outer braid: *round silver plated copper*
Jacket: *FEP, translucent colors, solid colors or clear*

Physical Characteristics:

Electrical Characteristics:

	SB316	SB142	SB400	SB304	SB393
Center conductor	SCCS	SCCS	SPC	SCCS	SPC
Center conductor diameter	.020″ (7/.0067″)	.037″ Solid	.0385″ (19/.008″)	.059″ Solid	.094″ (7/.031″)
Dielectric diameter	.060″	.1175″	.116″	.185″	.285″
Diameter over inner braid	.067″	.128″	.126″	.195″	.295″
Diameter over interlayer	.072″	.133″	.132″	.201″	.301″
Diameter over outer braid	.088″	.152″	.152″	.221″	.325″
Overall diameter	.098″	.195″	.195″	.280″	.390″
Weight (lbs./MFT)	12	40	47	77	155
Operating temperature range (°C)	-55 +200	-55 +200	-55 +200	-55 +200	-55 +200
Min. recommended bend radius	.05″	1.0″	1.0″	1.4″	2.0″
Impedance (ohms)	50	50	50	50	50
Capacitance (pF/ft)	29.4	29.4	29.4	29.4	29.4
Velocity of propagation	70	70	70	70	70
Attenuation (dB/100 ft)	**Typ/Max**	**Typ/Max**	**Typ/Max**	**Typ/Max**	**Typ/Max**
400 MHz	16.1 / 18.0	7.1 / 8.0	7.8 / 8.5	5.6 / 5.8	3.4 / 3.8
1 GHz	25.8 / 29.0	11.2 / 13.0	12.7 / 13.8	9.5 / 9.8	5.9 / 6.5
2 GHz	35.0 / 40.0	16.5 / 18.0	18.0 / 20.0	13.5 / 15.0	9.0 / 10.0
3 GHz	46.0 / 51.0	21.0 / 23.3	23.5 / 24.9	17.3 / 18.9	11.7 / 13.0
5 GHz	61.4 / 68.0	27.0 / 30.0	31.2 / 33.0	23.0 / 26.2	16.5 / 18.0
10 GHz	89.0 / 100.0	41.0 / 45.0	45.0 / 50.0	34.5 / 41.5	27.0 / 30.0
18 GHz	126.0 / 150.0	58.0 / 64.0	64.0 / 70.0	49.0 / 58.3	- / -
Cut-off frequency (GHz)	57.0	34.2	29.0	21.6	13.9
Shielding effectiveness	< -95 dB	< -95 dB	< -95 dB	< -95 dB	< -95 dB

All figures referenced above are nominal unless otherwise specified.

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Harbour's SB coaxial cables have been designed for low attenuation at high frequencies, while using similar dimensions to MIL-C-17 constructions. Standard connectors may frequently be used, thereby avoiding tooling charges.

Solid PTFE dielectrics are manufactured with tight tolerances to ensure impedance uniformity and to effect VSWR levels that meet or exceed MIL-C-17 specifications for cables of comparable size. The strip braid configuration is by far the most effective means of lowering attenuation levels of coaxial cable at high frequencies while providing shielding effectiveness levels that exceed those of flexible MIL-C-17 cables. Flat strips of silver plated copper are braided over the dielectric core, frequently with an intermediate metallized mylar or kapton layer, and an outer round wire braid. This shielding technique provides superior shielding effectiveness and lower transfer impedance than any standard double braided mil-spec construction.

FEP jackets are typically used, but alternate designs are available such as flame retardant PVC and abrasion resistant overall braids. Marker tapes or surface printing are used for positive identification.

The chart on the following page outlines just a few designs Harbour manufactures. Some of the more popular constructions are standard stock items, and many additional cables are available for prototype assemblies. Many cables not referenced have been designed to meet specific customer requirements. The graph below defines maximum attenuation levels for all SB cables referenced on the next page.