

RG Upgrade Cable

The Semflex line of RG compatible cables are designed to offer significant performance upgrades over popular RG178, RG316, and RG142 cable types while using commercially available connectors. The data graphs evidence Semflex's performance advantages. In some cases, as much as 126% improvement in shielding effectiveness and 73% improvement in attenuation are realized.



CABLE PROPERTIES

Mechanical Properties

	DB178	DB316	SI316	DB142	SI142
Jacket O.D. (in)	.080	.097	.110	.165	.175
Round Braid O.D. (in)	.065	.082	.091	.144	.153
Shield Intelayer O.D. (in)	-	-	.075	-	.137
Flat Braid O.D. (in)	.049	.066	.066	.128	.128
Dielectric O.D. (in)	.033	.060	.060	.116	.116
Center Conductor O.D. (in)	.012	.020	.020	.036	.036
Center Conductor Type	Stranded	Stranded	Stranded	SPCS	SPCS
Inside Min Bend Radius (in)	.04	.5	.5	1.1	1.1
Operating Temperature (°C)	-65/125	-65/125	-65/125	-65/125	-65/125
Weight (lbs/ft)	.01	.02	.02	.05	.05

Electrical Properties

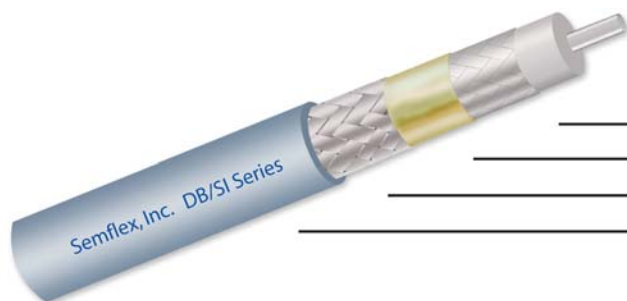
Impedance (ohms)	50	50	50	50	50
Capacitance (pf/ft)	32	32	32	32	32
Inductance (nH/ft)	69	69	69	69	69
Shielding Effectiveness (dB)	>85	>85	>90	>85	>90
Cut Off Frequency (GHz)	117	68	68	34	34
Velocity of Propagation	70%	70%	70%	70%	70%
Breakdown Voltage (KV)	>1	>2	>2	>5	>5
Max Structural VSWR	1.20:1	1.20:1	1.20:1	1.20:1	1.20:1



CABLE CONSTRUCTION

DB Series: This series uses the same solid PTFE core as RG cable but has a double shielded construction with a tightly woven flat and round braid.

SI Series: This series uses the same solid PTFE core as RG cable but has a triple shielded construction with a tightly woven flat braid, wrapped foil, and round braid.



- Silver Plated Copper or Silver Plated Copper Clad Steel *
 - Solid PTFE
 - Silver Plated Copper Flat Braid*
 - Metalized Foil (SI Series Only)
 - Silver Plated Copper Round Braid*
 - Extruded FEP Jacket - Blue Tint
- * Silver Plating per ASTM-B-289



Improved RG Performance

Attenuation (dB/100 ft)

GHz	DB178	DB316	SI316	DB142	SI142
.5	29.51	17.56	16.46	8.39	7.94
1	42.15	25.18	23.65	12.24	11.59
2	60.43	36.31	34.18	18.05	17.12
6	108.22	65.94	62.37	34.46	32.79
12	157.96	97.47	92.60	53.16	50.73
18	198.09	123.34	117.54	69.26	66.23
*k1	40.75	23.98	22.40	10.98	10.35
*k2	1.40	1.20	1.25	1.26	1.24

Average Power (KW)

GHz	DB178	DB316	SI316	DB142	SI142
.5	.09	.12	.12	.29	.29
1	.06	.08	.08	.20	.20
2	.05	.07	.07	.15	.15
6	.03	.05	.05	.10	.10
12	.02	.04	.04	.06	.06
18	-	-	.02	.05	.05

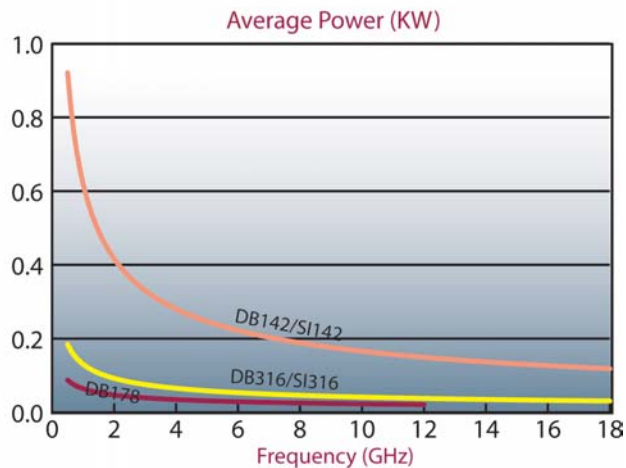
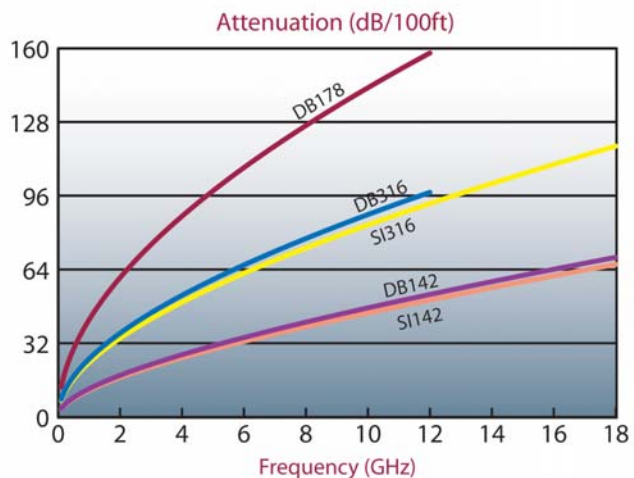
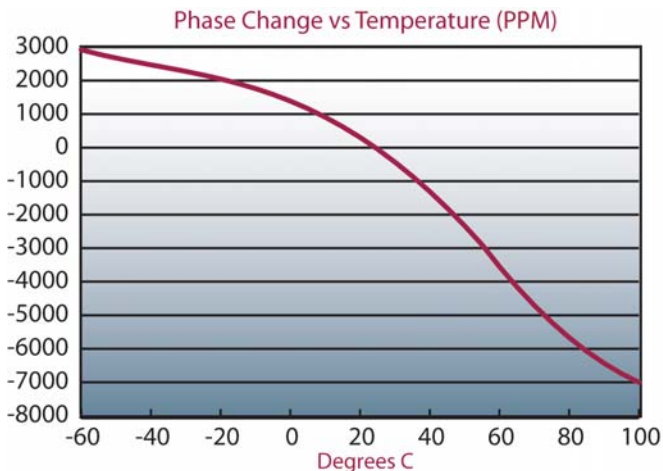
Application Note:

DB Series - uses the same connectors designed for double shielded RG cables.

SI Series - uses the same connectors designed for double shielded RG cables. In most applications, the foil interlayer must be removed prior to connector termination.

Cable Cross Reference

Semflex	Replacement
DB178	RG178, CN178
DB316	RG316, RD316, CN316
SI316	RG316, RD316, SF316, SB316
DB142	RG142, RD142, CN142
SI142	RG142, RD142, SF142, SB142



* Attenuation at any frequency
 $= (k1 \times \sqrt{\text{freq}(\text{GHz})}) + (k2 \times \text{freq}(\text{GHz}))$



"The difference starts with the cable..."