

BPE Series Cable (Sizes 100 - 300)

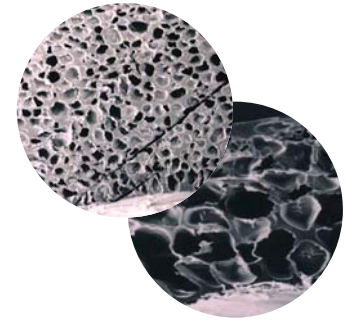
The BPE Series provides the most economical solution for 50 ohm coaxial cable assemblies up to 6 GHz. In applications not requiring high temperatures, BPE cable is a better solution than standard RG cable due to lower loss, better shielding and easier connector attachment. BPE100 and BPE195 cable fit standard RG316 and RG142 connectors; all other BPE sizes fit the same connectors and accessories commercially available for LMR® type cable. In addition, a closed micro-cell foam dielectric structure provides multiple benefits: the industry's best mechanical bend performance, consistency of the cable's structural return loss and guaranteed protection from moisture migration into the dielectric.

CABLE PROPERTIES

Mechanical Properties

	BPE100	BPE195	BPE200	BPE240	BPE300
Jacket O.D. (in)	.105	.195	.195	.240	.300
Round Braid O.D. (in)	.086	.139	.144	.178	.225
Foil O.D. (in)	.065	.116	.121	.155	.196
Dielectric O.D. (in)	.060	.110	.116	.150	.190
Center Conductor O.D. (in)	.018	.037	.044	.056	.070
Center Conductor Type	CCS	Cu	Cu	Cu	Cu
Inside Min Bend Radius (in)	.25	.50	.50	.75	.88
Operating Temperature (°C)	-40/85	-40/85	-40/85	-40/85	-40/85
Weight (lbs/ft)	.015	.021	.022	.035	.055

Semflex's closed micro-cell dielectric prevents water migration and provides the industry's best mechanical bend performance resulting in greater consistency in structural return loss.



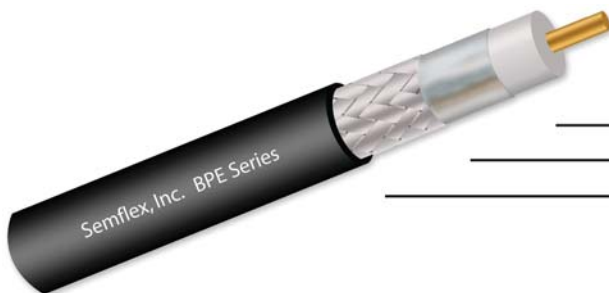
Foam structures with large voids can degrade electrical, mechanical, and environmental performance.

Electrical Properties

Impedance (ohms)	50	50	50	50	50
Capacitance (pf/ft)	30.0	24.3	24.5	24.2	24.1
Inductance (nH/ft)	73	66	59	60	61
Shielding Effectiveness (dB)	>90	>90	>90	>90	>90
Cut Off Frequency (GHz)	90	41	39	31	24.5
Velocity of Propagation	66%	80%	83%	84%	85%
Max Structural VSWR	1.25:1	1.25:1	1.25:1	1.25:1	1.25:1

CABLE CONSTRUCTION

BPE100 cable uses a copper clad steel center conductor while BPE195 thru BPE300 cable uses a solid copper center conductor. Shielding effectiveness of greater than 90 dB is derived from a combination of a bonded aluminum foil and tin plated copper braid wire. A closed micro-cell Polyethylene dielectric offers excellent attenuation properties with a foam structure that leads the industry in return loss consistency and mechanical bending properties. Jackets are available in standard Polyethylene or Fire Retardant PVC versions.



- Bare Copper or Copper Clad Steel
- Foam PE
- Aluminum Poly Foil
- Tin Plated Copper Round Braid *
- PE Jacket - Optional Flame Retardant PVC Jacket

For Fire Retardant Version Add FR to the end of Part Number (i.e. BPE240FR)



LMR® is a Registered Trademark of Times Microwave Systems

Most Economical

Attenuation (dB/100 ft)

GHz	BPE100	BPE195	BPE200	BPE240	BPE300
.5	16.73	8.21	7.34	5.58	4.46
1	24.16	11.75	10.48	7.99	6.40
2	35.19	16.90	15.01	11.49	9.24
6	65.37	30.46	26.84	20.73	16.85
12	98.56	44.73	39.11	30.48	24.98
18	126.46	56.34	48.99	38.42	31.69
*k1	22.425	11.285	10.148	7.655	6.069
*k2	1.740	.470	.330	.330	.330

Nominal Attenuation

Ideal for applications requiring:

- **RF and MW interconnects for racks, cabinets and enclosures**
- **Base station jumpers**
- **Antenna jumpers**
- **Indoor and outdoor cable runs**

Average Power (KW)

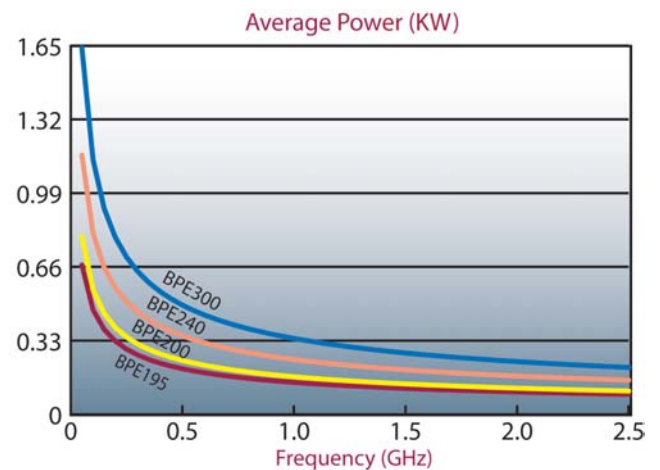
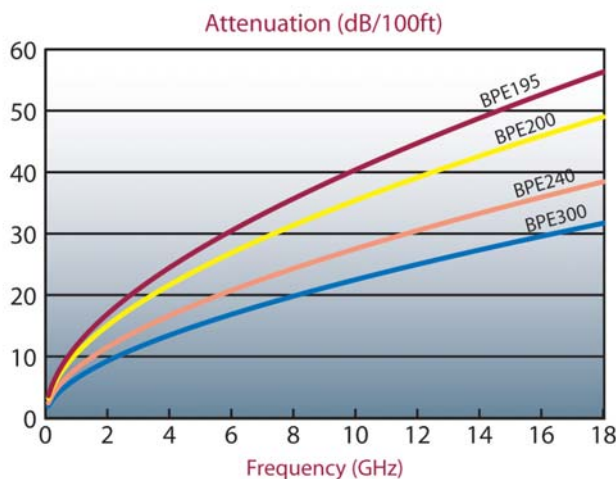
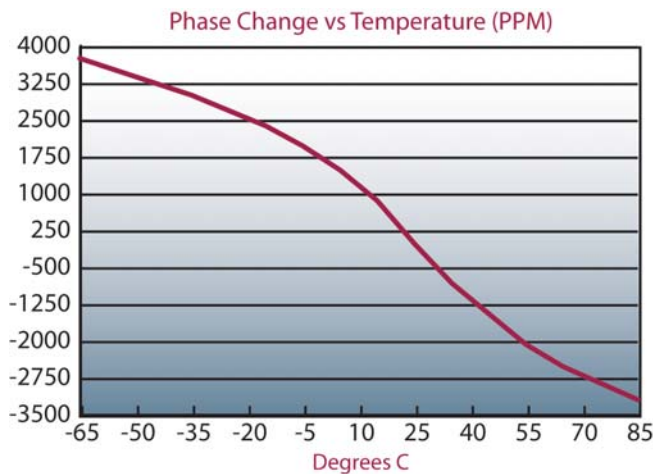
	BPE100	BPE195	BPE200	BPE240	BPE300
.05	0.18	0.68	0.79	1.15	1.60
.15	0.10	0.39	0.45	0.66	0.93
.9	0.05	0.15	0.18	0.26	0.36
1.5	0.04	0.12	0.14	0.20	0.28
2	0.02	0.10	0.12	0.17	0.24
2.5	0.01	0.09	0.10	0.15	0.21

Power Rating

Cable Cross Reference

Semflex Replacement

BPE100	LMR100, WCX100, HPF100, RG174, RG188, RG316
BPE195	LMR195, WCX195, HPF195, RG58, RG142, RG223
BPE200	LMR200, WCX200, HPF200
BPE240	LMR240, WCX240, HPF240, Beldon RG8X
BPE300	LMR300, HPF300, 1/4" Heliax, Flexwell



* Attenuation at any frequency

$$= (k1 \times \sqrt{\text{freq}(\text{GHz})}) + (k2 \times \text{freq}(\text{GHz}))$$

"The difference starts with the cable..."

