

# BPE Series Cable (Sizes 400 - 600)

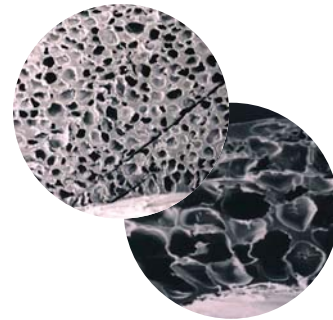
The BPE Series provides the most economical solution for 50 ohm coaxial cable assemblies up to 6 GHz. In applications not requiring high temperatures, BPE cable is a better solution than standard RG cable due to lower loss, better shielding and easier connector attachment. BPE100 and BPE195 cable fit 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

	BPE400	BPE500	BPE600
Jacket O.D. (in)	.405	.500	.590
Round Braid O.D. (in)	.320	.405	.490
Foil O.D. (in)	.291	.376	.461
Dielectric O.D. (in)	.285	.370	.455
Center Conductor O.D. (in)	.108	.142	.176
Center Conductor Type	CCA	CCA	CCA
Inside Min Bend Radius (in)	1.00	1.25	1.50
Operating Temperature (°C)	-40/85	-40/85	-40/85
Weight (lbs/ft)	.066	.096	.130

*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.*



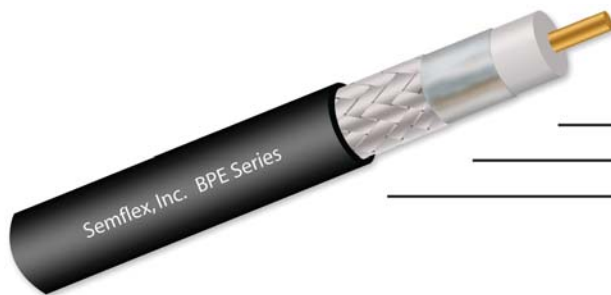
*Foam structures with large voids can degrade electrical, mechanical, and environmental performance.*

### Electrical Properties

Impedance (ohms)	50	50	50
Capacitance (pf/ft)	23.9	23.6	23.4
Inductance (nH/ft)	59	58	58
Shielding Effectiveness (dB)	>90	>90	>90
Cut Off Frequency (GHz)	16.2	12.6	10.4
Velocity of Propagation	85%	86%	87%
Max Structural VSWR	1.25:1	1.25:1	1.25:1

## CABLE CONSTRUCTION

BPE400 thru BPE600 cable uses a solid copper clad aluminum 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 microcell 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.



- Copper Clad Aluminum
- 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)

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## Attenuation (dB/100 ft)

GHz	Nominal Attenuation	BPE400	BPE500	BPE600
.5		2.86	2.29	1.82
1		4.13	3.31	2.65
2		5.99	4.84	3.90
6		11.03	9.04	7.41
12		16.52	13.70	-
18		-	-	-
*k1		<b>3.867</b>	<b>3.054</b>	<b>2.389</b>
*k2		<b>.260</b>	<b>.260</b>	<b>.260</b>

## Average Power (KW)

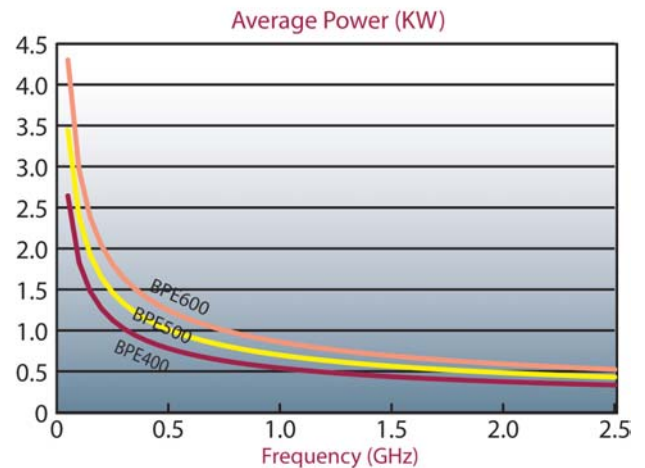
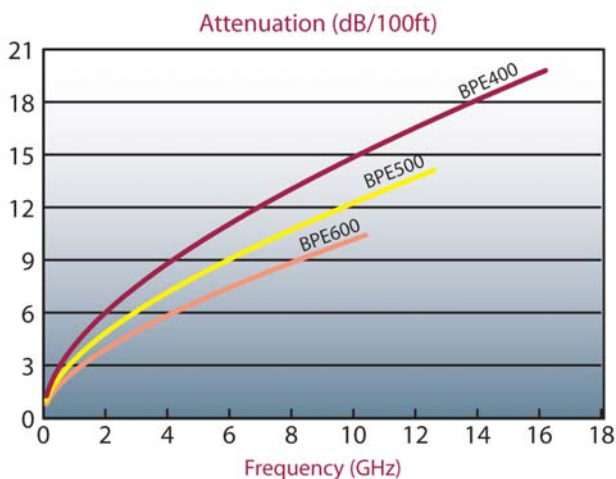
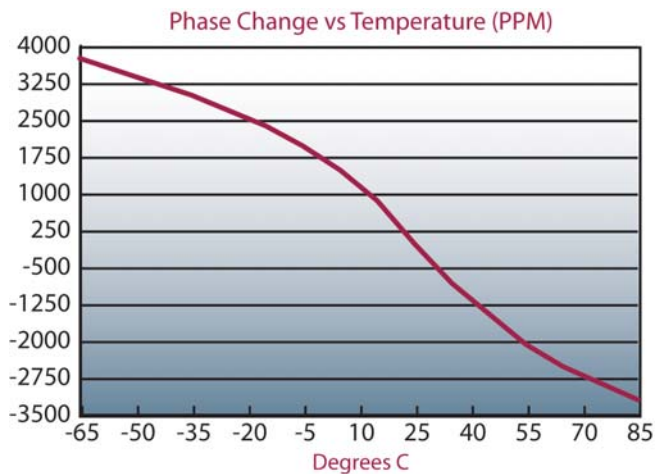
	Power Rating	BPE400	BPE500	BPE600
.05		2.60	3.40	4.30
.15		1.50	1.90	2.40
.9		0.58	0.75	0.93
1.5		0.44	0.57	0.70
2		0.37	0.49	0.59
2.5		0.33	0.43	0.52

Ideal for applications requiring:

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

## Cable Cross Reference

Semflex	Replacement
BPE400	LMR400, WCX400, HPF400, RG8, RG213, RG214, RG393, Beldon 9913
BPE500	LMR500, 3/8", 1/2", 5/8" Cell Reach
BPE600	LMR600, WCX600, 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..."

