

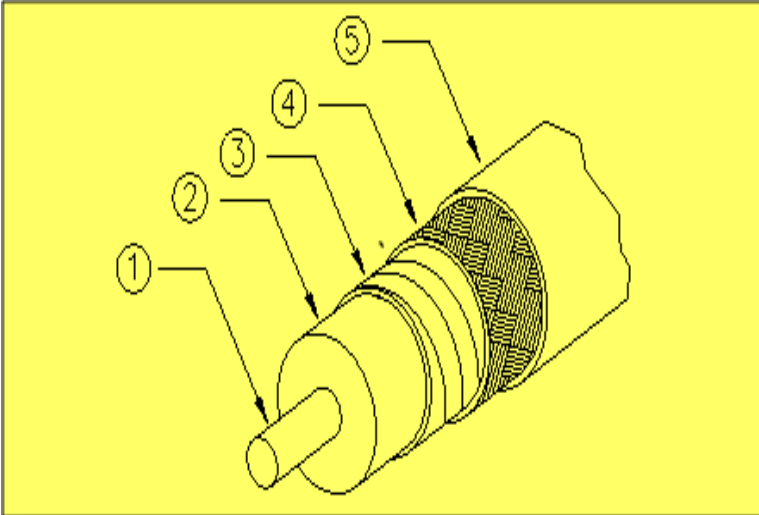
LA190S CABLE



Overview

- LA190S is a cable design with the intent to create a low loss, high Vp, phase stable and lightweight cable for high altitude and space flight applications.
- The cable is built with Dewal's 0.50 ultra low density ePTFE tape

Mechanical Characteristics

	Part	Description	Diameter
	1 – Center Conductor	Silver Plated Copper- Solid	0.051" +/- 0.001
	2 – Dielectric	Microporous PTFE Tape	0.140" (nominal)
	3 – Outer Conductor	Helically Wrap Silver Plated Copper Flat Braid	0.148" (nominal)
	4 – Shield	Liberator Fiber 40Ag	0.163" (nominal)
	5 – Jacket	Extruded FEP	0.183" +/- 0.008

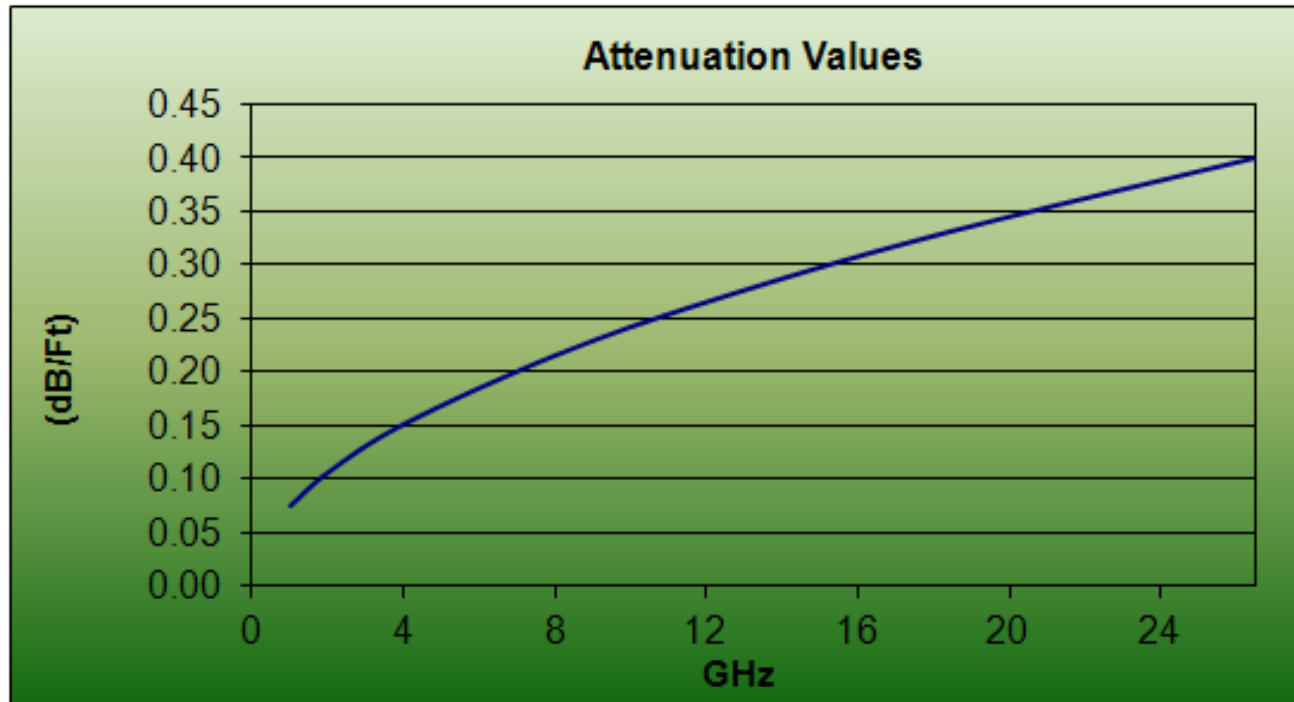
- Weight(lbs/ft) – 0.43 oz/ft(12.2grams/ft)
- Minimum Static Bend Radius(in) – 1.0”

Electrical Characteristics

• Impedance(ohms)	- 50	
• Frequency Range(Ghz)	- DC-26.5	
• Velocity of Propagation(%)	- 84	
• Capacitance(pF/ft)	- 23.5	
• Shielding Effectiveness(dB)	- >100	
• Structural VSWR	- 1.20:1	
• Insertion Loss(Nom)	Freq(Ghz)	Insertion Loss(dB/ft)
(see IL chart)	1.0	0.075
	2.0	0.106
	4.0	0.151
	8.0	0.216
	18.0	0.327
	26.5	0.400

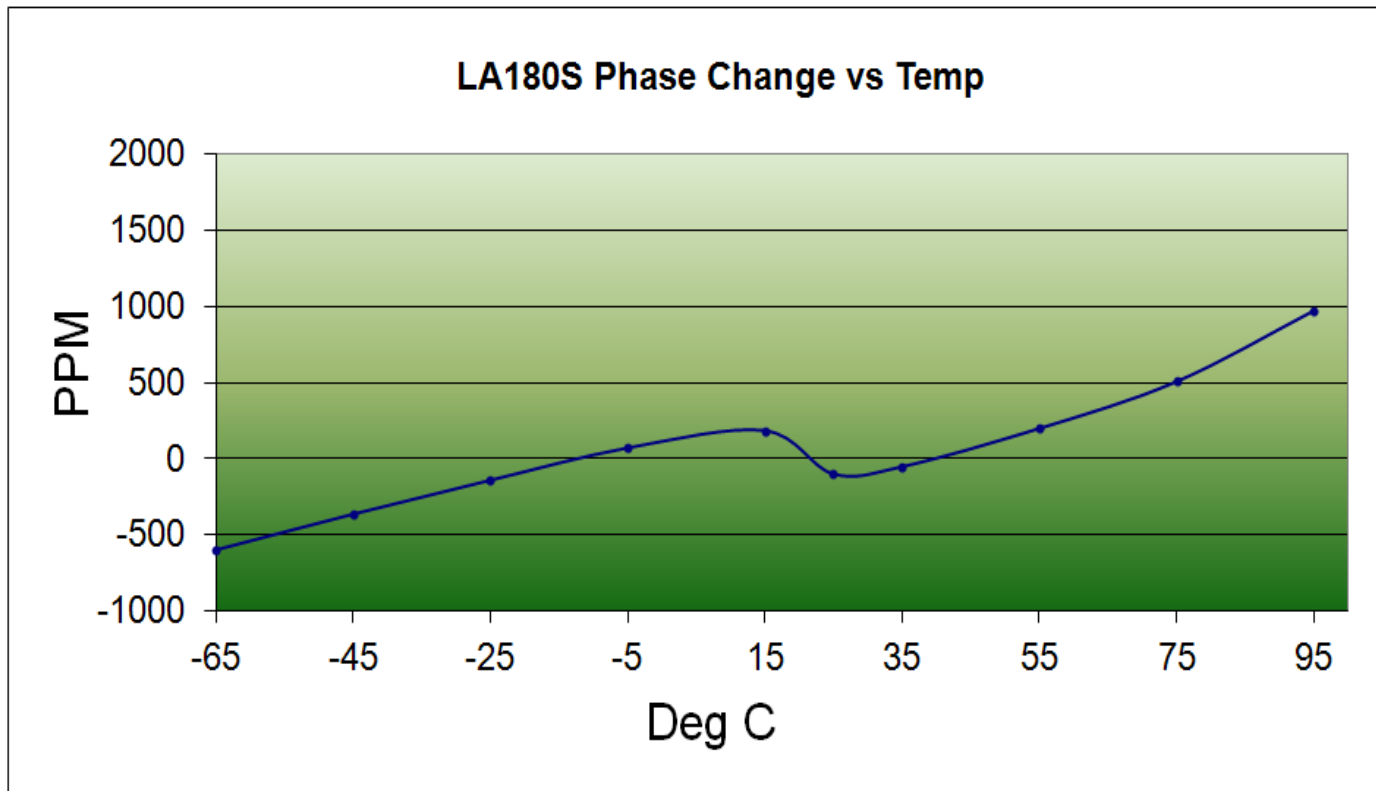
Electrical Performance

Insertion Loss Chart(nom)



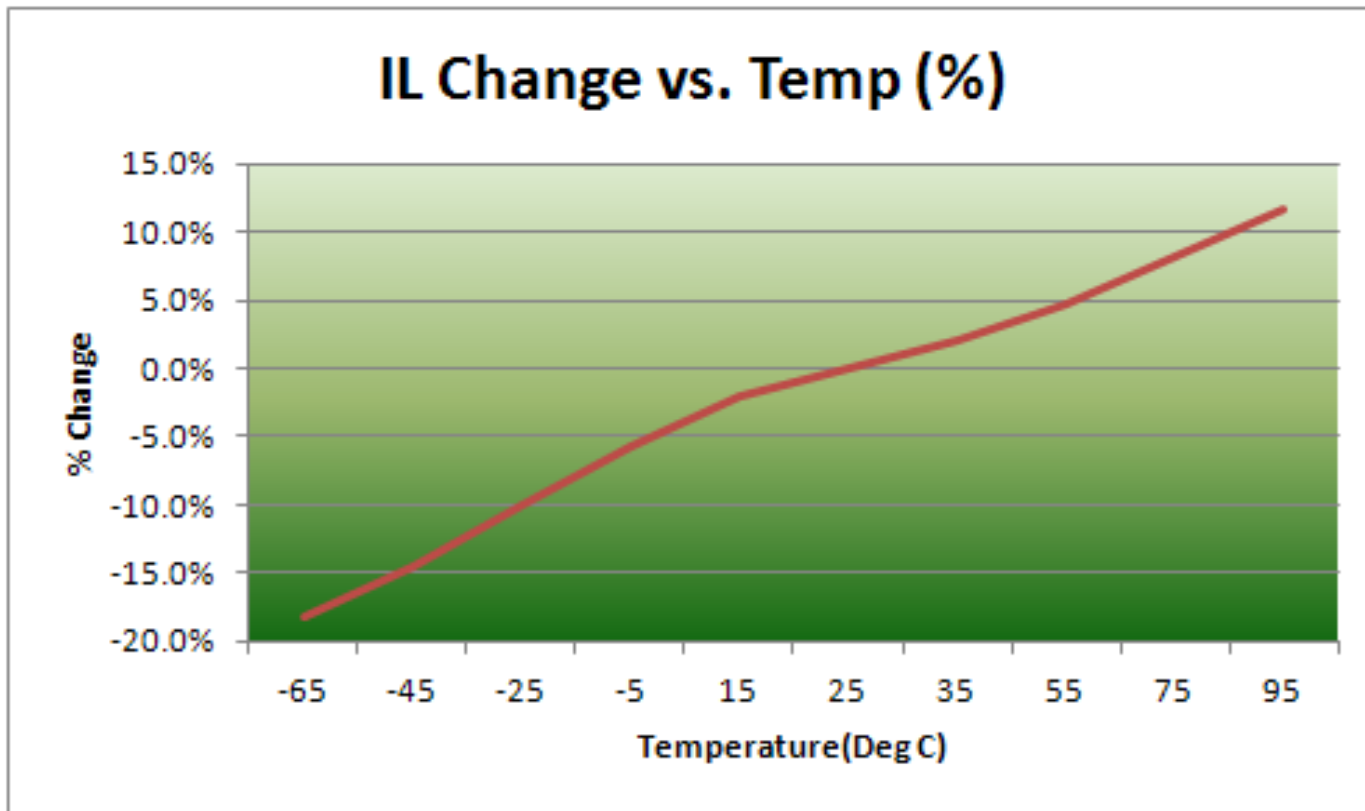
Electrical Performance

Phase Stability vs. Temperature



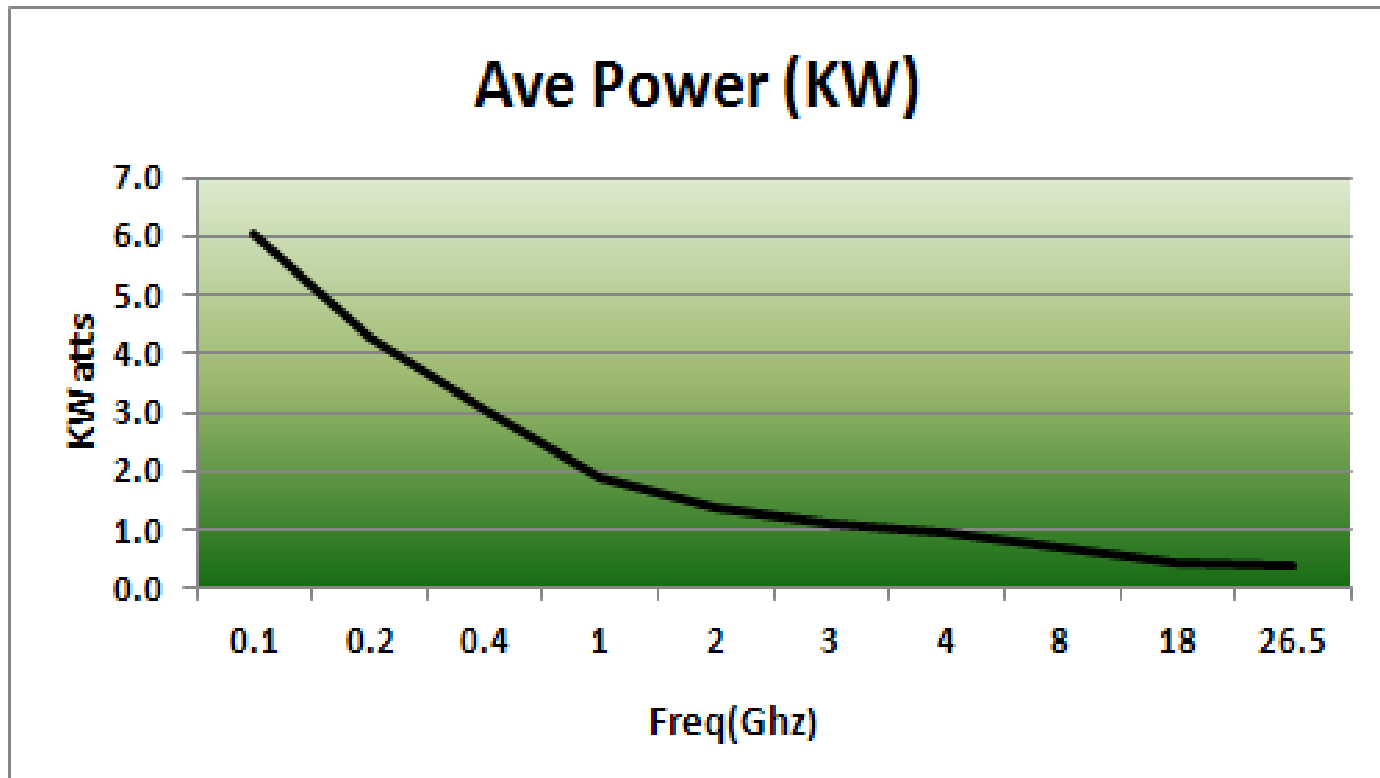
Electrical Performance

IL Stability vs. Temperature



Electrical Performance

Average Power Handling(calculated)



LA190S Advantages

- *Advantage on weight per unit length of cable.*
 - *45% lighter than HP190S*
 - *38% lighter than FSW180-EF*
- *Lower attenuation over similar size cable.*
- *More phase stable due to higher Vp.*
- *Helically wrap flat braid for 100% coverage and better shielding effectiveness.*