

LMR lite®-400 Flexible Low Loss Communications Coax

Ideal for...

- Drop-in replacement for RG-8/9913 Air-Dielectric type Cable
- Jumper Assemblies in Wireless Communications Systems
- Short Antenna Feeder runs
- Any application (e.g. WLL, GPS, LMR, WLAN, WISP, WiMax, SCADA, Mobile Antennas) requiring an easily routed, low loss RF cable



• **LMR-LW400** is a lightweight low loss coaxial cable that employs an aluminum braid shield instead of the traditional tinned copper shield. LMR-LW400 has been designed and engineered with a combination of electrical, physical and mechanical properties that reduce weight and cost.

• **Flexibility** and bendability that are hallmarks of LMR-400 are also the same for LMR-LW400. The flexible outer conductor enables the tightest bend radius available for any cable of similar size and performance.

• **Low Loss** is another hallmark feature of LMR-LW400. Size for size LMR® has the lowest loss of any flexible cable and comparable loss to semi rigid hard-line cables.

• **RF Shielding** is 50 dB greater than typical single shielded coax (40 dB). The multi-ply bonded foil outer conductor is rated conservatively at > 90 dB (i.e. >180 dB between two adjacent cables).

• **Weatherability:** LMR-LW400 cables designed for outdoor exposure incorporate the best materials for UV resistance and have life expectancy in excess of 20 years.

• **Connectors:** LMR-LW400 uses the same connectors, tools and installation accessories as standard LMR®. A wide variety of connectors are available for LMR-LW400 including all common interface types, reverse polarity, and a choice of solder

or non-solder center pins. Most LMR connectors employ crimp outer attachment using standard hex crimp sizes.

• **Cable Assemblies:** All LMR-LW400 cable types are available as pre-terminated cable assemblies.

Part Description				
Part No.	Application	Jacket Color	Stock Code	
LMR-LW-400	Outdoor	PE Black	45001	

PE = Polyethylene

Construction Specifications			
Description	Material	In.	(mm)
Inner Conductor	Solid BCCAI	0.108	(2.74)
Dielectric	Foam PE	0.285	(7.24)
Outer Conductor	Aluminum Tape	0.291	(7.39)
Overall Braid	Aluminum	0.320	(8.13)
Jacket	(See table above)	0.405	(10.29)

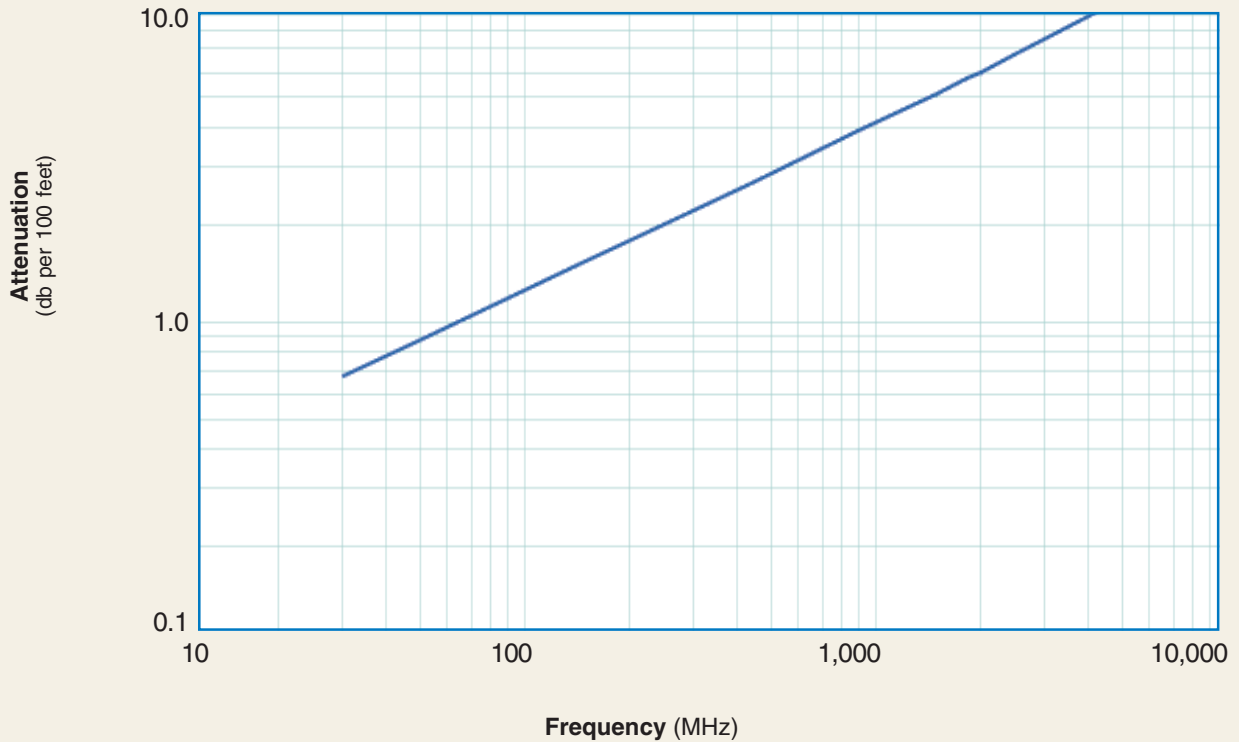
Mechanical Specifications			
Performance Property	Units	US	(metric)
Bend Radius: installation	in. (mm)	1.00	(25.4)
Bend Radius: repeated	in. (mm)	4.0	(101.6)
Bending Moment	ft-lb (N-m)	0.5	(0.50)
Weight	lb/ft (kg/m)	.050	(0.165)
Tensile Strength	lb (kg)	160	(72.6)
Flat Plate Crush	lb/in. (kg/mm)	40	(0.71)

Environmental Specifications		
Performance Property	°F	°C
Installation Temperature Range	-40/+185	-40/+85
Storage Temperature Range	-94/+185	-70/+85
Operating Temperature Range	-40/+185	-40/+85

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Electrical Specifications			
Performance Property	Units	US	(metric)
Cutoff Frequency	GHz		16.2
Velocity of Propagation	%		85
Dielectric Constant	NA		1.38
Time Delay	nS/ft (nS/m)	1.20	(3.92)
Impedance	ohms		50
Capacitance	pF/ft (pF/m)	23.9	(78.4)
Inductance	uH/ft (uH/m)	0.060	(0.20)
Shielding Effectiveness	dB		>90
DC Resistance			
Inner Conductor	ohms/1000ft (/km)	1.39	(4.6)
Outer Conductor	ohms/1000ft (/km)	6.1	(20.0)
Voltage Withstand	Volts DC		2500
Jacket Spark	Volts RMS		8000
Peak Power	kW		16

Attenuation vs. Frequency (typical)



Frequency (MHz)	30	50	150	220	450	900	1500	1800	2000	2500	5800
Attenuation dB/100 ft	0.7	0.9	1.5	1.9	2.7	3.9	5.1	5.7	6.0	6.8	10.8
Attenuation dB/100 m	2.2	2.9	5.0	6.1	8.9	12.8	16.8	18.6	19.6	22.2	35.5
Avg. Power kW	3.33	2.57	1.47	1.20	0.83	0.58	0.44	0.40	0.37	0.33	0.21

Calculate Attenuation = $(0.122290) \cdot \sqrt{\text{FMHz}} + (0.000260) \cdot \text{FMHz}$ (interactive calculator available at <http://www.timesmicrowave/telecom>)

Attenuation:

VSWR=1.0 ; Ambient = +25°C (77°F)

Power:

VSWR=1.0; Ambient = +40°C; Inner Conductor = 100°C (212°F); Sea Level; dry air; atmospheric pressure; no solar loading