

# LMR<sup>®</sup>-195 Flexible Low Loss Communications Coax

## Ideal for...

- Jumper Assemblies in Wireless Communications Systems
- Short Antenna Feeder runs
- Any application (e.g. WLL, GPS, LMR, WLAN, WiMax, SCADA, Mobile Antennas) requiring an easily routed, low loss RF cable
- Drop-in replacement for RG-58 and RG-142



Part Description					Stock
Part Number	Application	Jacket	Color	Code	
LMR-195	Outdoor	PE	Black	54110	
LMR-195-DB	Outdoor/Watertight	PE	Black	54113	
LMR-195-FR	Indoor/Outdoor Riser CMR	FRPE	Black	54111	
LMR-195-FR-W	Indoor/Outdoor Riser CMR	FRPE	White	54158	
LMR-195-FR-PVC	Indoor/Outdoor Riser CMR	FRPVC	Black	54105	
LMR-195-MA	Mobile Antennas	PVC	Black	54210	
LMR-195-PVC	General Purpose	PVC	Black	54215	
LMR-195-PVC-W	General Purpose	PVC	White	54199	

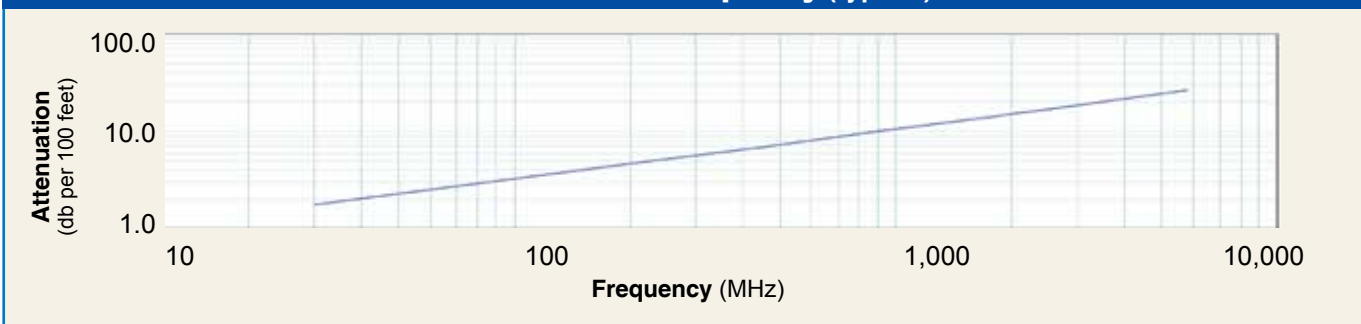
Construction Specifications				
Description	Material	In.	(mm)	
Inner Conductor	Solid BC	0.037	(0.94)	
Dielectric	Foam PE	0.110	(2.79)	
Outer Conductor	Aluminum Tape	0.116	(2.95)	
Overall Braid	Tinned Copper	0.139	(3.53)	
Jacket	(see table)	0.195	(4.95)	

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	

Electrical Specifications				
Performance Property	Units	US	(metric)	
Velocity of Propagation	%	75		
Dielectric Constant	NA	1.56		
Time Delay	nS/ft (nS/m)	1.27	(4.17)	
Impedance	ohms	50		
Capacitance	pF/ft (pF/m)	25.4	(83.3)	
Inductance	uH/ft (uH/m)	0.064	(0.21)	
Shielding Effectiveness	dB	>90		
DC Resistance				
Inner Conductor	ohms/1000ft (/km)	7.6	(24.9)	
Outer Conductor	ohms/1000ft (/km)	4.9	(16.1)	
Voltage Withstand	Volts DC	1000		
Jacket Spark	Volts RMS	3000		
Peak Power	kW	2.5		

Mechanical Specifications				
Performance Property	Units	US	(metric)	
Bend Radius: installation	in. (mm)	0.5	(12.7)	
Bend Radius: repeated	in. (mm)	2.0	(50.8)	
Bending Moment	ft-lb (N-m)	0.2	(0.27)	
Weight	lb/ft (kg/m)	0.021	(0.03)	
Tensile Strength	lb (kg)	40	(18.2)	
Flat Plate Crush	lb/in. (kg/mm)	15	(0.27)	

**Attenuation vs. Frequency (typical)**



Frequency (MHz)	30	50	150	220	450	900	1500	1800	2000	2500	5800	8000
Attenuation dB/100 ft	2.0	2.5	4.4	5.4	7.8	11.1	14.5	16.0	16.9	19.0	29.9	35.7
Attenuation dB/100 m	6.5	8.4	14.6	17.7	25.5	36.5	47.7	52.5	55.4	62.4	98.1	117.1
Avg. Power kW	0.89	0.68	0.39	0.32	0.22	0.16	0.12	0.11	0.10	0.09	0.06	0.04

**Connectors**

Interface	Description	Part Number	Stock Code	VSWR** Freq. (GHz)	Coupling Nut	Inner Contact Attach	Outer Contact Attach	Finish* Body /Pin	Length in (mm)	Width in (mm)	Weight lb (g)
1. N Male	Straight Plug	TC-195-NMH-X	3190-2880	<1.25:1 (2.5)	Knurl	Solder	Crimp	S/G	1.5 (38.1)	0.75 (19.1)	0.073 (33.1)
2. N Male	Right Angle	TC-195-NMH-RA-D	3190-2425	<1.35:1 (6)	Hex/Knurl	Solder	Crimp	A/G	1.3 (32.1)	1.19 (30.1)	0.083 (37.5)
3. SMA Male	Straight Plug	TC-195-SM-SS-X	3190-2878	<1.25:1 (2.5)	Hex	Solder	Crimp	SS/G	1.0 (25.4)	0.32 (8.1)	0.015 (6.8)
4. TNC Male	Straight Plug	TC-195-TM-X	3190-2879	<1.25:1 (2.5)	Knurl	Solder	Crimp	S/G	1.4 (35.6)	0.59 (15.0)	0.045 (20.4)
5. SMA Male	Straight Plug	EZ-195-SM-X	3190-6140	<1.30:1 (6)	Hex	Spring Finger	Crimp	A/G	0.9 (22.0)	0.37 (9.4)	0.019 (8.6)
6. BNC Male	Straight Plug	EZ-195-BM-X	3190-6141	<1.30:1 (4)	Knurl	Spring Finger	Crimp	A/G	1.1 (28.4)	0.60 (14.5)	0.045 (20.4)
7. TNC Male	Reverse Polarity	EZ-195-TM-RP-X	3190-6142	<1.35:1 (6)	Hex	Spring Finger	Crimp	A/G	1.1 (28.3)	0.87 (22.0)	0.045 (20.4)

\* Finish metals: N=Nickel, S=Silver, G=Gold, SS=Stainless Steel, A=Alballoy \*\*VSWR spec based on 3 foot cable with a connector pair



**Install Tools**

Type	Part Number	Stock Code	Description
Crimp Tool	CT-240/200/195/100	3190-667	Crimp tool for LMR-100,195, 200 and 240 connectors
Cutting Tool	CCT-02	3192-165	Cable end flush cut tool
Combination Strip Tool	CST-195/200	3192-102	Prep tool for LMR-195/200
Deburr Tool	DBT-U	3192-001	Removes center conductor rough edges
Replacement Blade Kit	RB-CST	3192-086	Replacement blade kit for all CST cutting tools



**Calculate Attenuation** =  $(0.356859)\sqrt{FMHz} + (0.000470) \cdot FMHz$  (interactive calculator available at [http://www.timesmicrowave.com/cable\\_calculators](http://www.timesmicrowave.com/cable_calculators))  
**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.