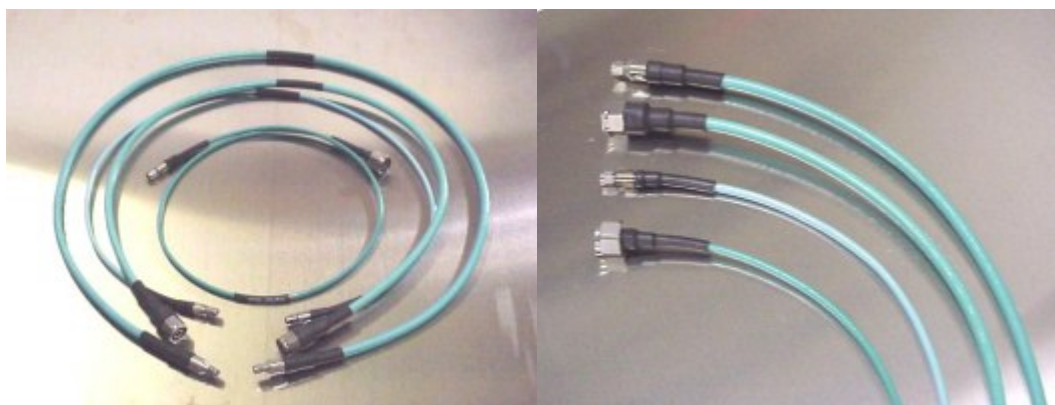


Flexible Coax Cable, Cable and Connector Specifications

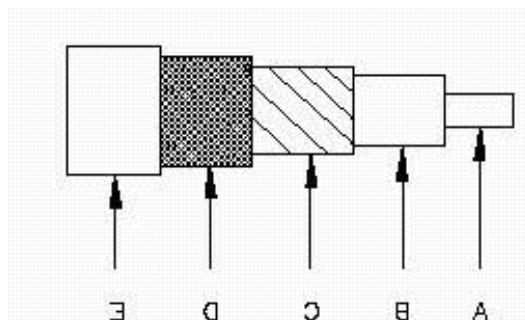
Advanced Technical Materials (ATM) manufactures high performance microwave cable that utilizes only the very best materials, incorporating proprietary manufacturing methods, which yield very low Insertion Loss characteristics, high power capability and is Amplitude and Phase Stable on a level not readily available in the microwave industry. This product line has five different sizes of cable designed to operate from DC-60 GHz. Please call us and discuss your needs with one of our design engineers.



ATM utilizes a solid, silver plated copper center conductor and Expanded PTFE dielectric material which allows for very low Insertion Loss and high power handling capability. The outer conductor is a flat, silver plated copper foil wrapped helically around the dielectric and mechanically locked to the dielectric core to promote superior phase and amplitude stability, as well as, very low VSWR performance. A silver plated copper, braided shield is then added to increase the axial tensile quality of the cable and further enhance RF leakage characteristics. The outer jacket is a tough, high temperature thermoplastic that can withstand temperatures from -65° to +200° Celsius.

All this adds up to a very superior microwave cable product that can meet the most demanding requirements. This product can be sold in bulk cable form, or as fully guaranteed cable assemblies. ATM tests all cable and assemblies 100% for Impedance, Insertion Loss and VSWR, other electrical requirements can be tested for in our well equipped Test Lab. ATM works for our customers to provide great service, excellent pricing and fast deliveries, with the highest possible quality available in the microwave cable industry. Give ATM your toughest interconnection requirements and let us show you how we can help you save money and solve your interconnect problems.

- A) Silver Plated Copper Center Conductor
- B) Expanded PTFE Dielectric Core
- C) Silver Plated Copper Outer Conductor
- D) Silver Plated Copper Outer Shield
- E) FEP Outer Jacket, Black



Ordering Information

Raw Cable lengths

Design a Model # to fit your requirements using the [Cable Type reference table](#) below for cable type. All Model numbers begin with CFR - Cable, unless otherwise specified, will be supplied in multiple lengths to make up quantity ordered. Click here for typical lengths of a given cable type. Minimum ordering length is 25 Ft.

Total quantity shipped will be +/-10% of total ordered.

*TYPICAL PART#:	CFR - 210
BASIC MODEL#:	
CABLE TYPE:	
* VALUES SHOWN ARE EXAMPLE ONLY. SUBSTITUTE DESIRED COMPONENTS FOR THOSE SHOWN.	

Cable Assemblies
































Design a Model # to fit your requirements using the [Cable Type reference table](#) below for cable type, and the [Connector Type reference table](#) below for Connectors.

All model numbers begin with CF.

Note: Option for Armored cable exists. Add suffix "A" to basic cable type. Ex.:

CF-210A-72-SM-NM

*TYPICAL PART#:	CF - 210 - 72 - SM - NM
BASIC MODEL#:	
CABLE TYPE:	
LENGTH (INCHES)	
CONNECTOR 1:	
CONNECTOR 2:	
* VALUES SHOWN ARE EXAMPLE ONLY. SUBSTITUTE DESIRED COMPONENTS FOR THOSE SHOWN.	

	MALE	NMB							
TYPE-N 90° (RT. ANGLE)	FEMALE	NFR							
	MALE	NMR							
TNC	FEMALE	TF							
	MALE	TM							
TNC BULKHEAD	FEMALE	TFB							
	MALE	TMB							
TNC 90° (RT. ANGLE)	FEMALE	TFR							
	MALE	TMR							
APC-7	N/A	APC7							
SC	FEMALE	SCF							
	MALE	SCM							
SC BULKHEAD	FEMALE	SCFB							
	MALE	SCMB							
SC 90° (RT. ANGLE)	FEMALE	SCFR							
	MALE	SCMR							
7/16"	FEMALE	7/16M							
	MALE	7/16F							
Connector Type		Connector Code	100	135	160	210	300	500	
			Cable Type						

Cable Specifications

Flexible Cable Types

Cable Type:	100	135	160	210	300	500
Frequency Operation (GHz)	DC - 62	DC - 46	DC - 35	DC - 33	DC - 18	DC - 11
Size O.D. (inches)	0.110	0.145	0.170	0.220	0.310	0.500
Impedance (ohms)	50	50	50	50	50	50
Dielectric Type	SPTFE	EPTFE	SPTFE	EPTFE	EPTFE	PE
Capacitance (pF/ft)	29	24	29	24	24	23
Time Delay (ns/ft)	1.4	1.2	1.4	1.2	1.2	1.15
Velocity (%)	70	84	70	84	84	85
RF Leakage	>100dB to 18 GHz	>100dB to 18GHz 80dB to 40 GHz	>100dB to 18GHz	>100dB to 18 GHz	>100dB to 18 GHz	>100dB to 11 GHz
Cut Off Frequency (GHz)	62	46	35	33	18	11
Weight (lbs/100ft)	1.9	3	6.5	7	12.5	15
Min Bend Radius (in)	0.25	0.5	0.75	1.0	1.75	2
Temp Range (min/max °C)	-65°/+200°	-65°/+200°	-65° to +200° C	-65°/+200°	-65°/+200°	-65°/+120°

Please consult factory on specifications regarding phase stability of our cables.

Typical Assembly* VSWR: (All applicable cable types)	DC - 12 GHz:		1.30 : 1			
	DC - 18 GHz		1.35 : 1			
	DC - 26.5 GHz		1.40 : 1			
	DC - 40 GHz		1.45 : 1			
	DC - 50 GHz		1.50 : 1			
	DC - 60 GHz		1.60 : 1			
*Spec. includes Connectors						
Total Cable Assembly Loss for 12" Assembly @ 10 GHz (dB)	0.75	0.48	0.61	0.46	0.39	0.35
Total Cable Assembly Loss: (dB)	CF100	CF135	CF160	CF210	CF300	CF500

Average Power						
Cable Type:	100	135	160	210	300	500
@ Frequency:	Avg. Power (W)					
1.0 GHz	375	540	625	800	1900	2500
2.0 GHz	250	400	435	600	1400	1600
3.0 GHz	150	300	330	475	1100	1200
6.0 GHz	100	210	225	320	650	700
12.0 GHz	70	160	175	210	520	600 to 11GHz
18.0 GHz	50	100	100	160	400	



Advanced Technical Materials
49 Rider Avenue Patchogue, NY 11779
Ph: 631-289-0363 Fax: 631-289-0358

CF-135 Flexible Microwave Cable

Frequency Operation: DC-40 GHz

Velocity of Propagation: 84%

RF Leakage: > 100 dB to 18 GHz, 80 dB to 40 GHz

Impedance: (Ohms): 50

Capacitance: 24 pF/Foot

Delay: 1.2 nS/Foot

Phase vs. Temperature: -400 ppm -65° to +120° Celsius

Phase vs. Flexure: +/-5° Change w/ 360° Loop to 40 GHz**

Temperature Range: -65° to +200° Celsius

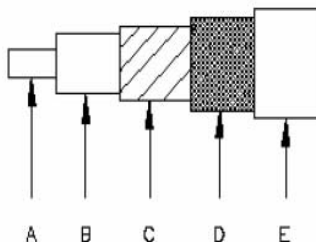
Cable Diameter: 0.145"

Minimum Bend Radius: 0.5"

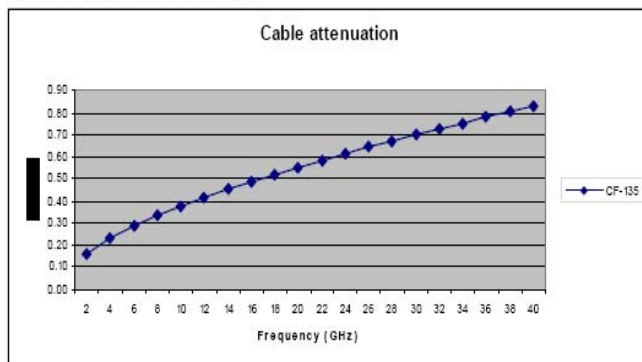
Weight: .03 lbs./Foot

Power: 100 W, CW to 18 GHz

** 3' long cable assembly w/captivated 2.92mm connectors



- A.) Silver Plated Copper Center Conductor
- B.) Expanded PTFE Dielectric Core
- C.) Silver Plated Copper Outer Conductor
- D.) Silver Plated Copper Outer Shield
- E.) FEP Outer Jacket, Teal





Advanced Technical Materials

49 Rider Avenue Patchogue, NY 11772

Ph: 631-289-0363 Fax: 631-289-0358

CF-300 Flexible Microwave Cable

Frequency Operation: DC-18 GHz

Velocity of Propagation: 84%

RF Leakage: > 100 dB to 18 GHz

Impedance: (Ohms): 50

Capacitance: 24 pF/Foot

Delay: 1.2 nS/Foot

Phase vs. Temperature: -400 ppm -65° to +120° Celsius

Phase vs. Flexure: +/-5° Change w/360° loop to 18 GHz**

Temperature Range: -65° to +200° Celsius

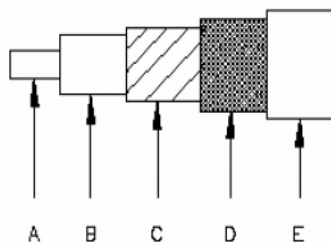
Cable Diameter: 0.30"

Minimum Bend Radius: 2.0"

Weight: .125 lbs./Foot

Power: 400 W, CW to 18 GHz

** 3' long cable assembly w/captivated SMA connectors



Materials

A: Solid, Silver Plated Center Conductor

B: Expanded PTFE Dielectric Core

C: Silver Plated Copper Outer Conductor

D: Silver Plated Copper Outer Shield

E: FEP Outer Jacket, Teal

Diameter-Nominal

.088"

.242"

.252"

.272"

.300"

