

Semi-Rigid Cable Assemblies



INTRODUCTION

Carlisle Interconnect Technologies has decades of experience in producing some of the highest quality Semi-Rigid cable assemblies in the industry. Serving both the Military and Commercial markets, we have the pedigree and top of the line CNC equipment to custom build cables that will meet even the most stringent application requirements. We carry a vast selection of commercial, QPL and custom RF/Microwave connectors along with a variety of cable types and diameter sizes to suit just about any budget or application.

CarlisleIT's semi-rigid assemblies are made by our trained technicians to meet J-STD-001E cable assembly standards, and MIL-C-17 specifications. All assemblies are inspected per IPC-A-610E and 620A to ensure that each one performs as specified. Our semi-rigid cables offer tight physical tolerances, minimal VSWR, and high phase stability to meet your system design requirements. Phase matched assemblies are also available upon request, and are ideal for radar and differential signal transmission applications.

FEATURES

- » Custom designed per drawings
- » Excellent VSWR performance and phase stability
- » Vast selection of Cable and Connector options
- » Computerized forming equipment ensures repeatability and accuracy
- » MIL-STD compliant connectors
- » Phase-matching available

CUSTOM SOLUTIONS

In addition to our standard offering, CarlisleIT has also built a vast library of modified designs from the myriad of custom solutions we have delivered to our customers. We offer a variety of customized options for these semi-rigid cables, which include different connector options, higher frequency coverage, extended electrical and environmental testing, etc. Our team of dedicated engineers can help develop the right solution for your application needs.

Semi-Rigid Cable Assemblies

Mechanical and Electrical Specifications of Popular MIL-DTL-17 Semi-Rigid Cables at Ambient Temperature

Cable (Mil-Spec) Part No.	Nom.	Frequency Range		Power Handling	Maximum Attenuation (dB/FT)					Jacket Material	Center Conductor Material	Minimum Inside Bend Radius (inches)	Connector Options
	O.D.	Operating per Mil Spec. (GHz)	Cut Off (GHz)	@ Max MilSpec	1GHz	5GHz	10GHz	18GHz	20GHz				
	(inches)			Freq. (Watts)									
M17/151-00001	0.047	20	109	6.5	0.4	0.9	1.3	1.8	1.9	Copper	SPCW*	0.125	WMP, SSMP, SMP, SMA
M17/133-RG405	0.085		61	20	0.22	0.5	0.8	1.22	1.3	Copper			SPC**
M17/133-00002										Soft Copper			
M17/133-00006										Tin/ Aluminum			
M17/133-00008													
M17/133-00013	0.141		34	70	0.12	0.29	0.44	0.66	0.64	Copper	SPCW*	0.250	SMA, TMP, BMA, TNC, TYPE N
M17/130-RG402										Soft Copper			
M17/130-00004										Tin/Copper	0.130		
M17/130-00005										Tin/ Aluminum			
M17/130-00009	0.250		18	19	200	0.08	0.21	0.33	0.48	-	Copper	SPC**	0.375
M17/129-RG401													

* = Silver Plated Copper Clad Steel

** = Silver Plated Copper

‡ = All Cables Have a PTFE Dielectric

Ordering Guidelines

For assemblies with best performance, lowest cost and shortest lead time. (Please inquire for custom configurations)

- 1) Select Cable Type:** Select a cable to meet the requirements of the application.
- 2) Select Connectors:** Choose connectors from the vast selection of CarlisleIT connectors. (Smaller diameter cables pair with small connectors such as SMP while larger diameter cables pair better with connectors such as Type N.)
- 3) Dimensions:** To eliminate the build up of tolerances, drawing layouts should be in absolute XYZ format with one connector interface reference plane designated the 0, 0, 0 point. All measurements will be made from this point.
- 4) Bends:** For best performance, do not exceed the minimum inside bend radii specified for a given cable type. To allow for use of computerized forming equipment and to eliminate tooling:
 1. Use the same bend radius within the same assembly.
 2. Avoid radii greater than 0.5"
 3. Allow a minimum of 0.150" of straight cable between bends.
- 5) Markers:** Specify Mil-Spec marker material such as M23053/5 in the color of your choice. CarlisleIT will mark with contrasting white or black ink.
- 6) Drawings:** Ensure drawings are complete with all dimensions, views, material and tolerances as well as any electrical requirements. If requested, CarlisleIT will generate unique part numbers for your assemblies.