

Semi-Rigid Cable Assemblies



Anti-Torque Connectors



Custom-Formed Semi-Rigid Assembly



Formed Semi-Rigid Delay Line

INTRODUCTION

Carlisle Interconnect Technologies (CarlisleIT) 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 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 Carlisle-manufactured cable types and sizes to suit just about any budget or application.

CarlisleIT's Semi-Rigid Assemblies are manufactured by our trained technicians to meet J-STD-001E cable assembly standards and MIL-C-17 specifications. All assemblies are inspected per IPC-A-610 and IPC-A-620 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 and commercial-grade connectors available

CUSTOM SOLUTIONS

In addition to our standard offering, CarlisleIT is proud to offer a vast library of modified designs and customized options which may include:

- » Non-standard connector options
- » Additional testing
- » Phase matching

Our team of on-site 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. (inches)	Operating per MIL-SPEC (GHz)	Cut Off (GHz)	@ Max MIL-SPEC	1 GHz	5 GHz	10 GHz	18 GHz	20 GHz				
				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	SMPS, SMPM, SMP, SMA
M17/133-RG405	0.085		61	20	0.22	0.5	0.8	1.22	1.3	Copper			
M17/133-00002										Soft Copper	SPC**		
M17/133-00006													
M17/133-00008													
M17/133-00013	Tin/Aluminum	SPCW*	0.250	SMA, TMP, BMA, TNC, N, 1.85 mm									
M17/130-RG402	0.141				34	70	0.12	0.29	0.44	0.66	0.64	Copper	
M17/130-00004			Soft Copper										
M17/130-00005			Tin/Copper									0.130	
M17/130-00009		Tin/Aluminum											
M17/129-RG401	0.250	18	19	200	0.08	0.21	0.33	0.48	-	Copper	SPC**	0.375	SMA, TNC, N

* = Silver Plated Copper Clad Steel ** = Silver Plated Copper ‡ = All Cables Have a PTFE Dielectric

ORDERING GUIDELINES

For assemblies with the best performance, lowest cost, and shortest lead time:

- 1) Select Cable Type:** Select a cable to meet the requirements of the application.
- 2) Select Connectors:** Choose from the vast line of CarlisleIT connectors. Note: 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 as 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 mitigate tooling requirements:
 - » Use the same bend radius within the same assembly.
 - » Avoid radii greater than 0.5".
 - » 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.

Please inquire for custom configurations.



See CarlisleIT's line of Cable Assemblies at:
CarlisleIT.com/products/cable-assemblies-harnesses

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