Semi-Rigid Cable Assemblies

Anti-Torque Connectors

Custom-Formed Semi-Rigid Assembly

Formed Semi-Rigid Delay Line

INTRODUCTION

Amphenol CIT 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 Amphenol CIT-manufactured cable types and sizes to suit just about any budget or application.

Amphenol CIT'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, Amphenol CIT 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 O.D. (inches)	Frequency Range Operating per MIL-SPEC (GHz)	Frequency Range Cut Off (GHz)	Power Handling @ Max MIL-SPEC Freq. (Watts)	Maximum Attenuation (dB/FT) 1 GHz	5 GHz	10 GHz	18 GHz	20 GHz	Jacket Material	Center Conductor Material	Minimum Inside Bend Radius (inches)	Connector Options
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			SMPS, SMPM, SMP, SMA, K, TMP, BMA, TNC, N, 1.85 mm
M17/133-00002													
M17/133-00006										Soft Copper	SPC**		
M17/133-00008													
M17/133-00013										Tin/ Aluminum	SPCW*		
M17/130-RG402	0.141		34	70	0.12	0.29	0.44	0.66	0.64	Copper		0.250	SMA, TMP, BMA, TNC, N, 1.85 mm
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 Amphenol CIT 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. Amphenol CIT 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, Amphenol CIT will generate unique part numbers for your assemblies.

Please inquire for custom configurations.

Amphenol CIT
Cable & Interconnect Technologies

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