高頻電纜組/使用中的系統

系統 \ 電纜種類	FA19 HFX	FA19 RX	FA29 RX	FN34 RX	FN25	FN35	FN40	FN55	FN61	FN35 RL	FN40 RL	FE56	FN50	FC-Z	FN24 RL	FN27 RL	FN31 RL	Custom Semi-Rigid
A-4							●											
A-6							●											
A-7							●						●					
A-10						●												
AC-130U					●		●			●	●							
AH-1-SJ																		
AH-64										●								
AV-8B						●												
AWACS						●												
B-1B					●	●		●										
B-52						●							●					
CH-47						●												
E-2C																		●
EA-6B										●					●	●	●	
EF-111						●												
EP-3				●	●			●										
Eurofighter	●																	
F-4							●						●					
F-5						●												
F-8							●											
F-14A							●						●					
F-14D													●					
F-15							●											
F-15J				●														
F-16						●							●					
F-18				●		●				●								
FSX															●	●	●	
KC-10													●	●				
KC-135													●					
Mirage						●												
MPA		●	●						●									
P-3A					●	●							●					
-3B					●	●												
-3C					●	●												
Tornade						●							●					
T-45						●												
T-46A						●												
UH-1						●												
U2		●	●											●				
727														●				
737														●				
747														●				
757														●				
767														●				
777														●				
DC-9														●				
DC-10														●				
MD-11														●				
MD-80														●				
Trident II						●												
Delta III		●																
Delta IV			●															
Atlas V		●																
Sea Launch		●																

Cable Assemblies

DC to 50 GHz

Electronic Warfare

Airborne
Ground & Shipboard
Missiles

Space

Laboratory

General Purpose
Test

Commercial Aviation

Bulk OEM
Lightweight Assemblies

Special Applications

500 different cable designs
5000 different connector designs

Electronic Warfare

- ***Airborne***
  - – High Performance
  - – Very Low Loss
  - – Lightweight
- ***Ground and Shipboard***
- ***Missiles and Precision Guided Weapons***

Space

Laboratory

- ***General Purpose***
  - – Air-Spaced Teflon Dielectric
  - – Solid Teflon Dielectric
- ***Test***
  - – 18 & 26.5 GHz
  - – Phase Stable to 26.5 GHz
  - – Phase Stable to 50 GHz

Commercial Aviation

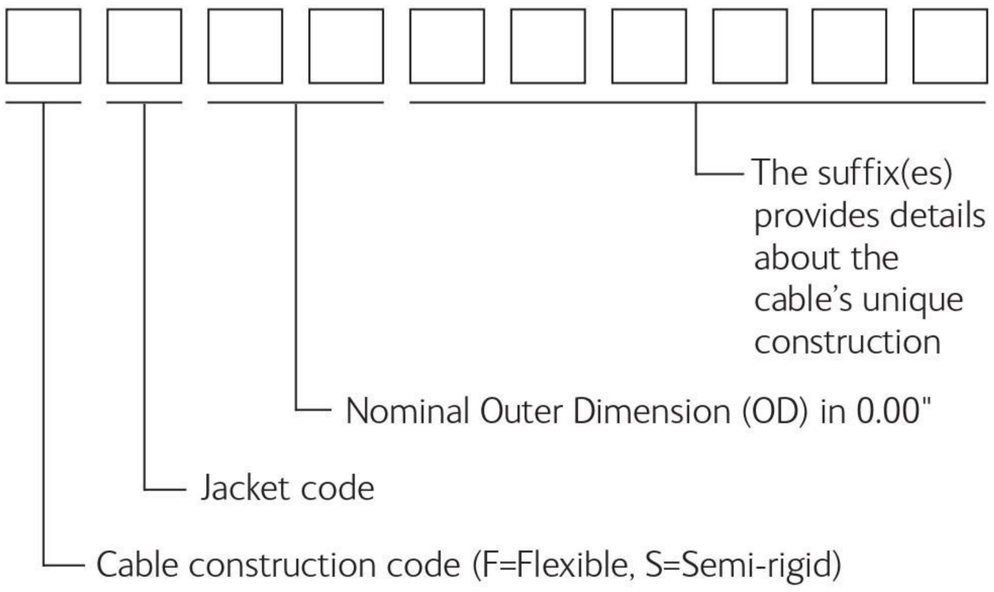
- ***Bulk OEM***
- ***Lightweight Cable Assemblies***

Special Applications

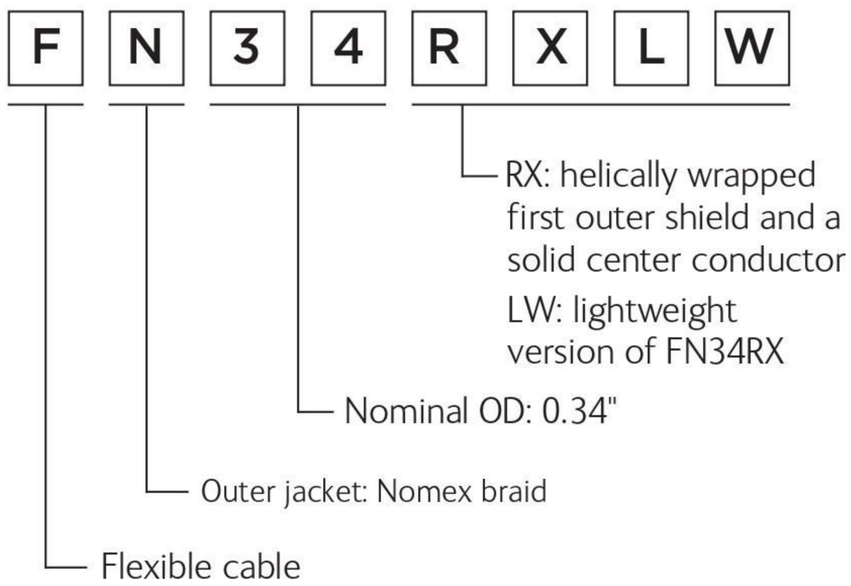
Cable Naming Convention

Cobham offers a wide variety of cable constructions to fit numerous applications. A great deal of information is contained in the cable name. The cable naming convention is presented below. Please contact the factory if the cable you need isn't in the in this catalog.

Guide



Sample



Available Jackets include:

A — PFA Teflon
C — FEP Teflon
E — Elastomer (Polyurethane or Polyolefin)
N — Nomex
S — Silicone
Z — Tefzel

Note: Not all jackets are available on every core.

Some of the more common suffixes are:

Blank (no suffix) — Stranded center conductor
RL (Reduced Loss) — Solid center conductor
X — Helically wrapped first outer shield
RX — Both helically wrapped first shield and solid center conductor
LW — Lightweight version (often aluminum conductors)
WW — Wirewound steel crush resistance layer
SQ — Space Qualified
TX — Thermal Treated RX construction

Note: Not all suffixes are included here. Some suffixes are combined as in FN34RXLW, the lightweight version of FN34RX cable.

Depending on your application, you may have identified the maximum insertion loss that your system will tolerate, or you may have a size or weight limit. Use these facts to select the cable types most suitable for your needs. If you need assistance, please complete the Custom Cable Assembly Requirements form (page 72) and contact us.

Cable Type	OD (in)	Jacket Mat	Wgt (lb/ft)	F_{CO} (GHz)	Fass'y (GHz)	Maximum Insertion Loss: dB/100 ft. 0.1 GHz	1 GHz	2 GHz	4 GHz	8 GHz	12 GHz	18 GHz	26.5 GHz	40 GHz	App Code
FA05LX	0.05	PFA	0.004	130	18	18	54.2	76.8	108.8	154.3	189.5	232.7			LL, G, M, S
FA07LX	0.07	PFA	0.0065	100	18	10	30.2	42.8	60.8	86.5	106.3	130.9			LL, G, M, S
FC07SZ	0.07	FEP	0.005	50	10	9.7	29.4	41.7	59.4	84.9					G, CA, M
FT08	0.08	PTFE	0.0064	50	3	10.7	32.3	45.8							M, SP
FA09HFX	0.09	PFA	0.0105	65	18	8.7	26.2	37.2	52.8	75.1	92.5	113.9			M
FA09LX	0.09	PFA	0.01	65	20	7.2	21.8	30.9	44	62.7	77.2	95.2			LL, G, M, S
FA09X	0.09	PFA	0.0104	65	18	8.7	26.2	37.2	52.8	75.1	92.5	113.9			SP, G, M, S
FC09Z	0.09	FEP	0.0081	50	10	9.3	28.2	40	57	81.5					CA
FG09	0.09	TGF	0.0076	74	18	9.7	29.4	41.7	59.4	84.9	104.8	129.5			M, SP
FZ09LX	0.09	Tefzel	0.0106	65	18	7.2	21.8	30.9	44	62.7	77.2	95.2			M, S
FZ09LXW	0.09	Tefzel	0.0106	65	18	7.2	21.8	30.9	44	62.7	77.2	95.2			M, S
FE10ST	0.1	PST	0.0085	74	18	9.7	29.4	41.7	59.4	84.9	104.8	129.5			G

Legend

CA = Commercial Aviation
G = General
GR/SH = Ground/Ship
HP = High Performance
LL = Low Loss
LW = Light Weight
M = Missile
S = Space
SP = Special Purpose
T = Test

Jacket Materials:

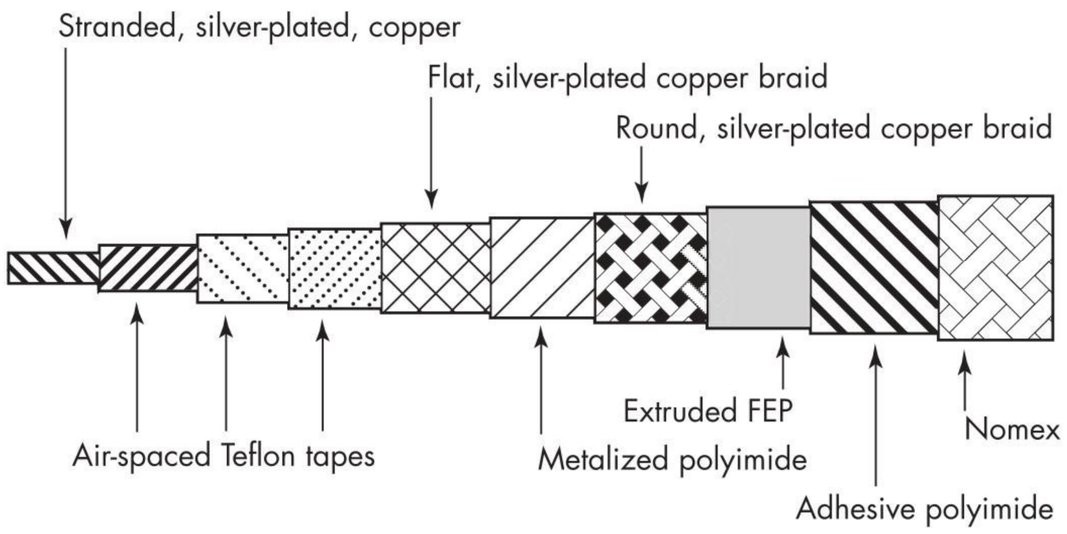
PFA = DuPont™ Teflon® PFA
FEP = DuPont Teflon TEP
ETFE = DuPont Tefzel ETFE
Siltem = Siloxane PEI Block Copolymer (GE)
Nomex = m-Aramid fiber (GE)

Long-term survivability in harsh environments

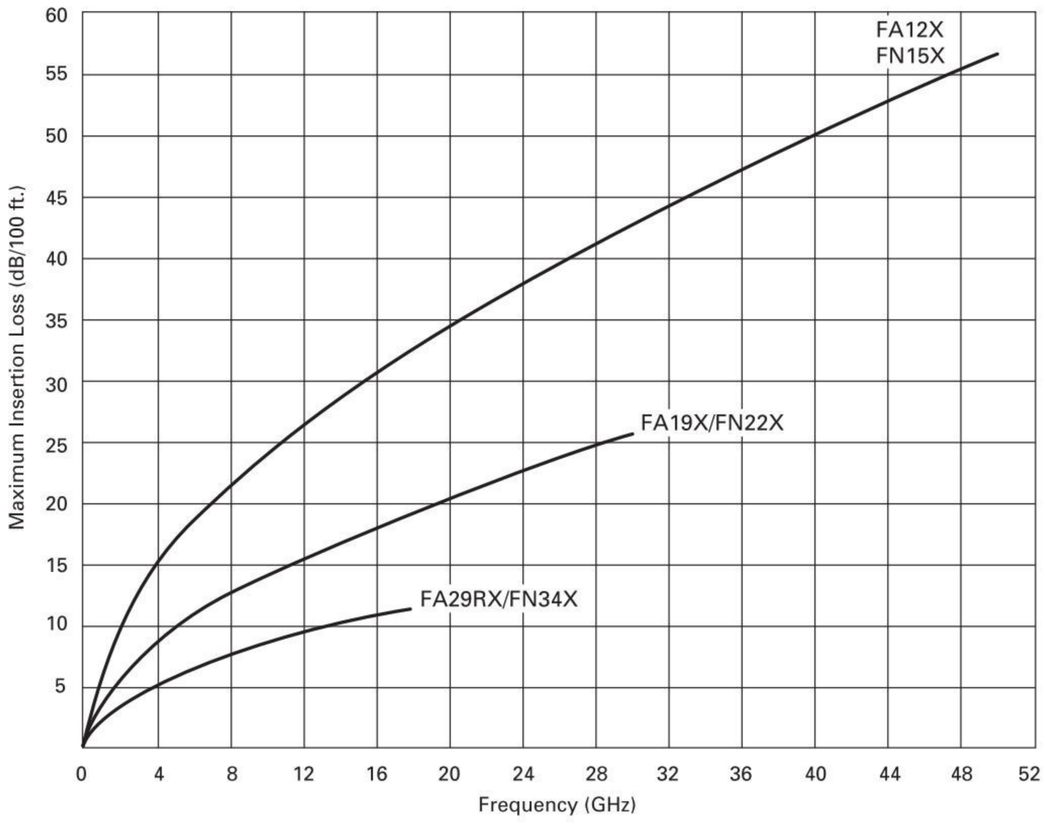
Many applications—especially airborne EW—require a cable assembly that can withstand a broad range of harsh environmental hazards and still provide a high-quality RF/microwave interconnect over a long period of time. Our high performance cable assemblies, designed specifically to survive in these environments, offer the optimum in electrical, mechanical, and environmental specifications to meet the most demanding applications.

MIL-T-81490 and MIL-DTL-87104 define a series of rigorous requirements for a coaxial cable assembly acceptable to the military in critical EW applications. A total of 29 unique tests, including vibration, chemical exposure, abrasion resistance, and connector retention are performed to qualify our high performance cable assemblies.

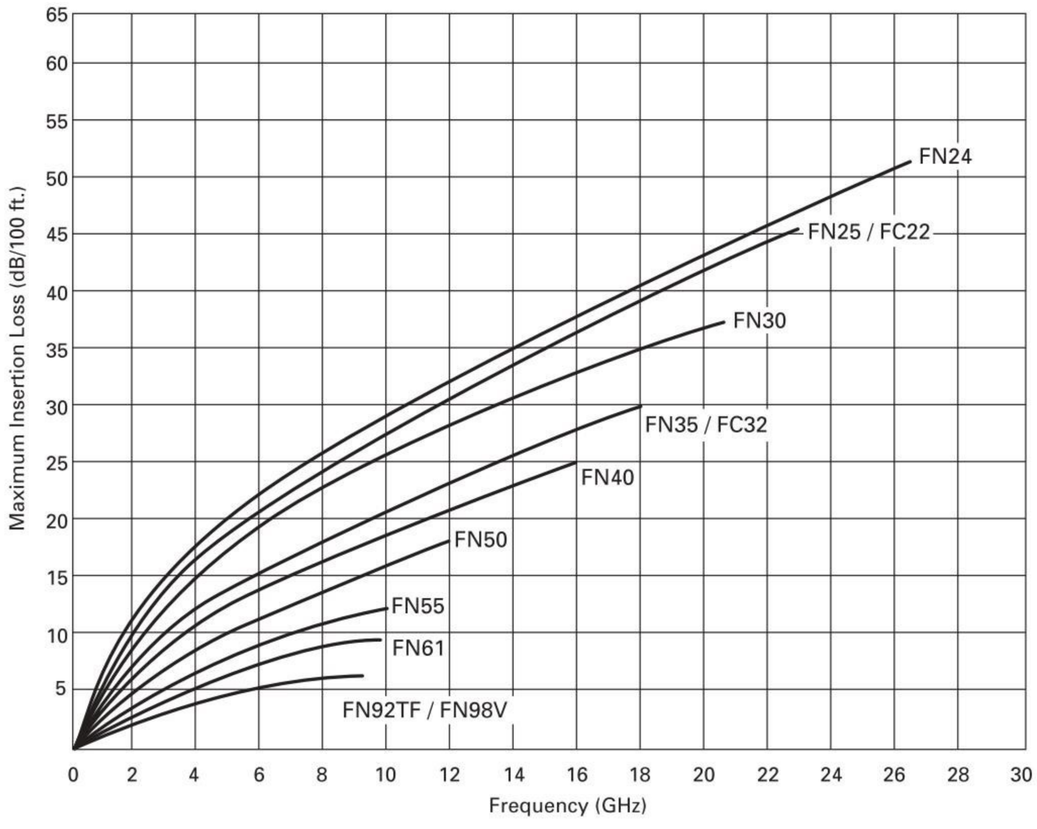
Construction details for FN––



Cable Insertion Loss – Graph 1



Cable Insertion Loss – Graph 2

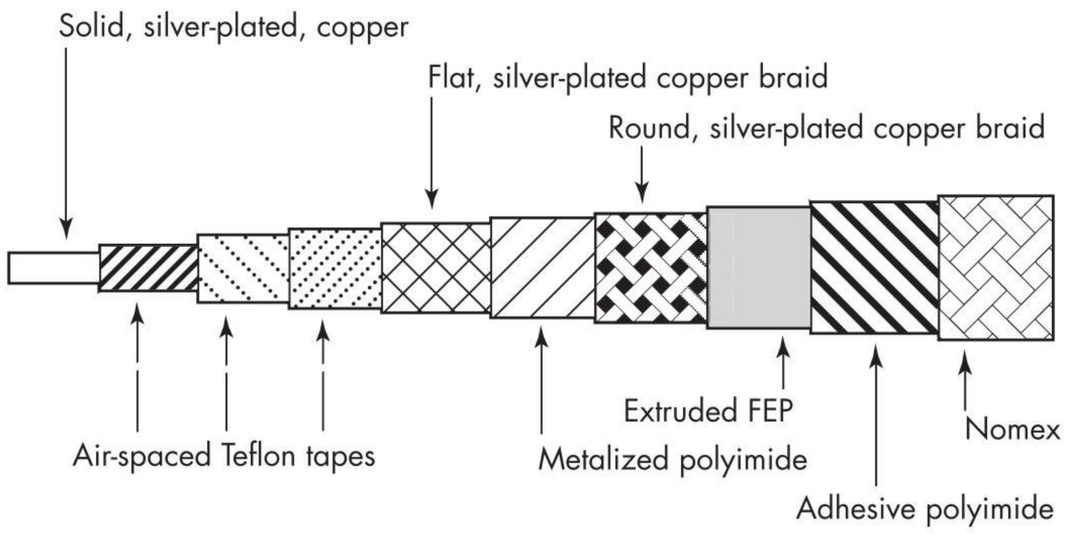


Electronic Warfare: Airborne – Very Low Loss

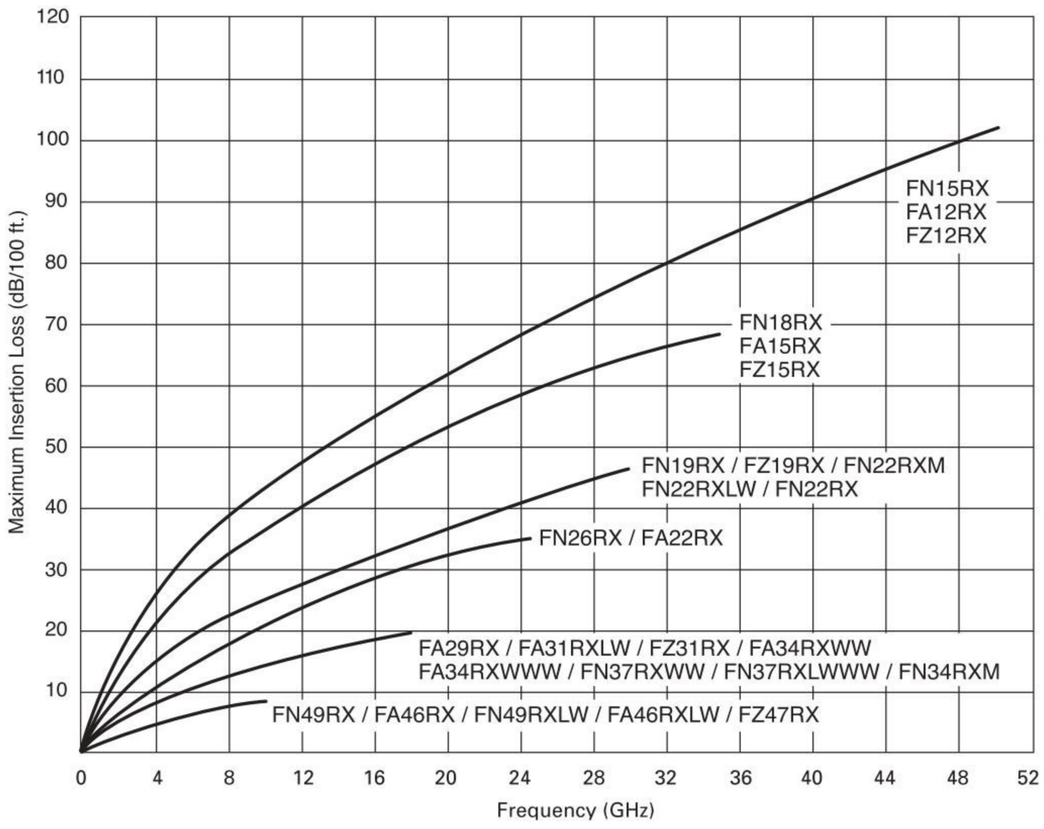
In many applications, increased signal strength may equate to higher system performance. For those situations, we offer these high performance cable assemblies with solid center conductors to provide an even lower loss interconnect than our stranded center conductor cable assemblies.

Just like our high performance EW cable assemblies, the very low loss family meets the requirements of the major military specifications MIL-T-81490 and MIL-C-871 04, which will meet the demanding requirements of your application.

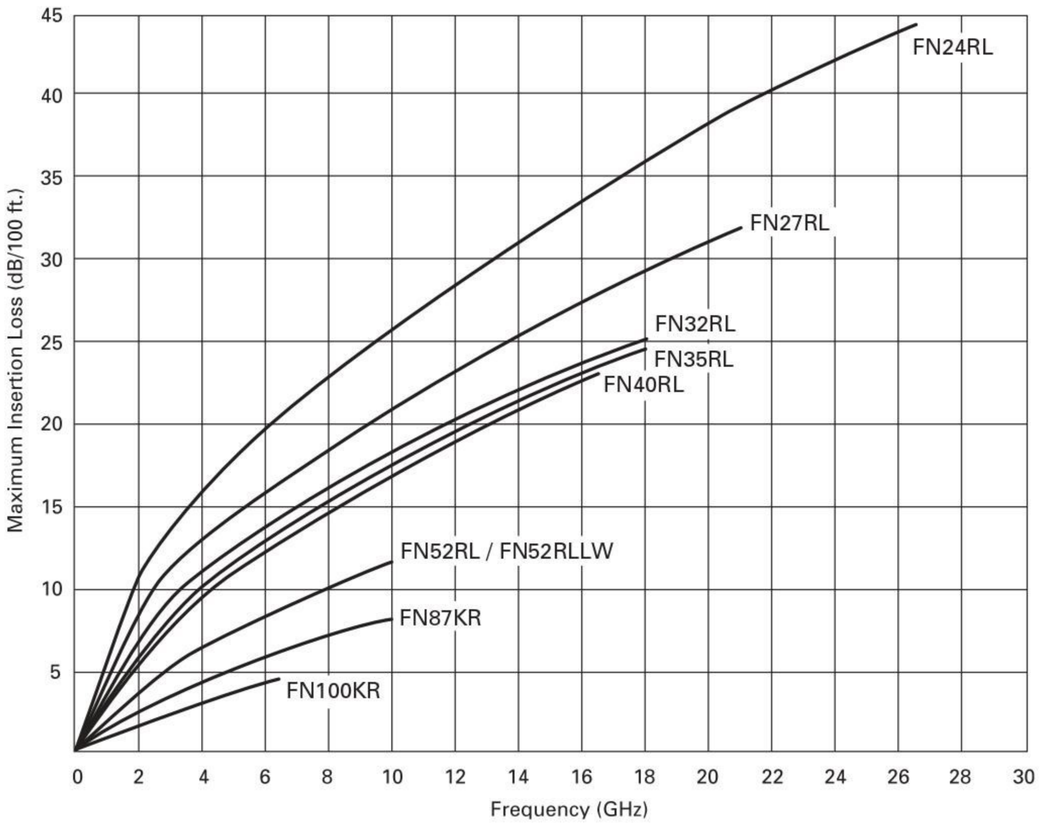
Construction details for FN––RL



Cable Insertion Loss – Graph 1



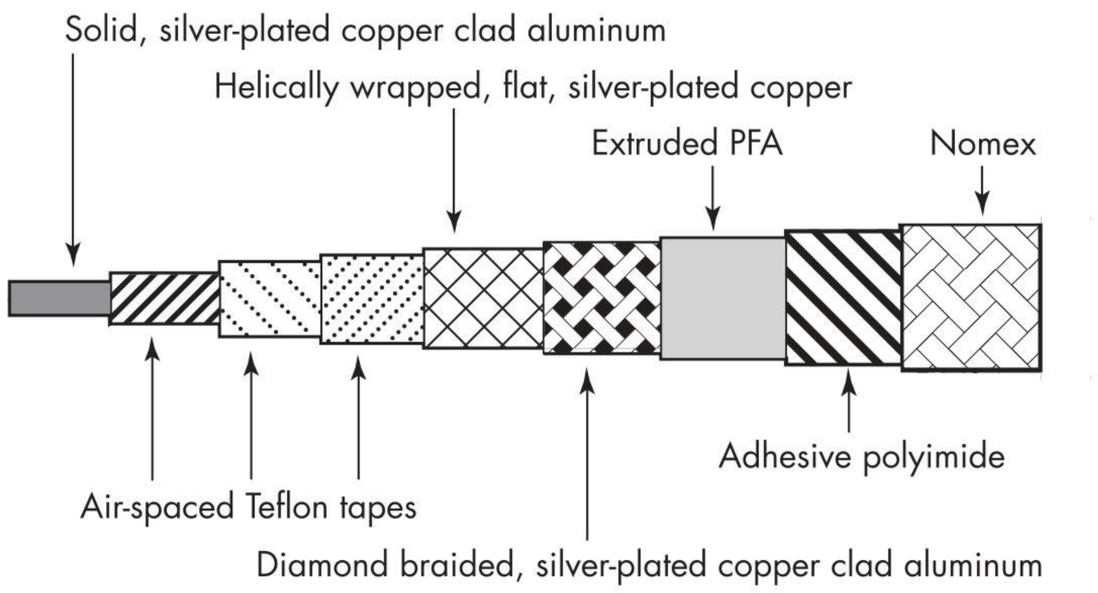
Cable Insertion Loss – Graph 2



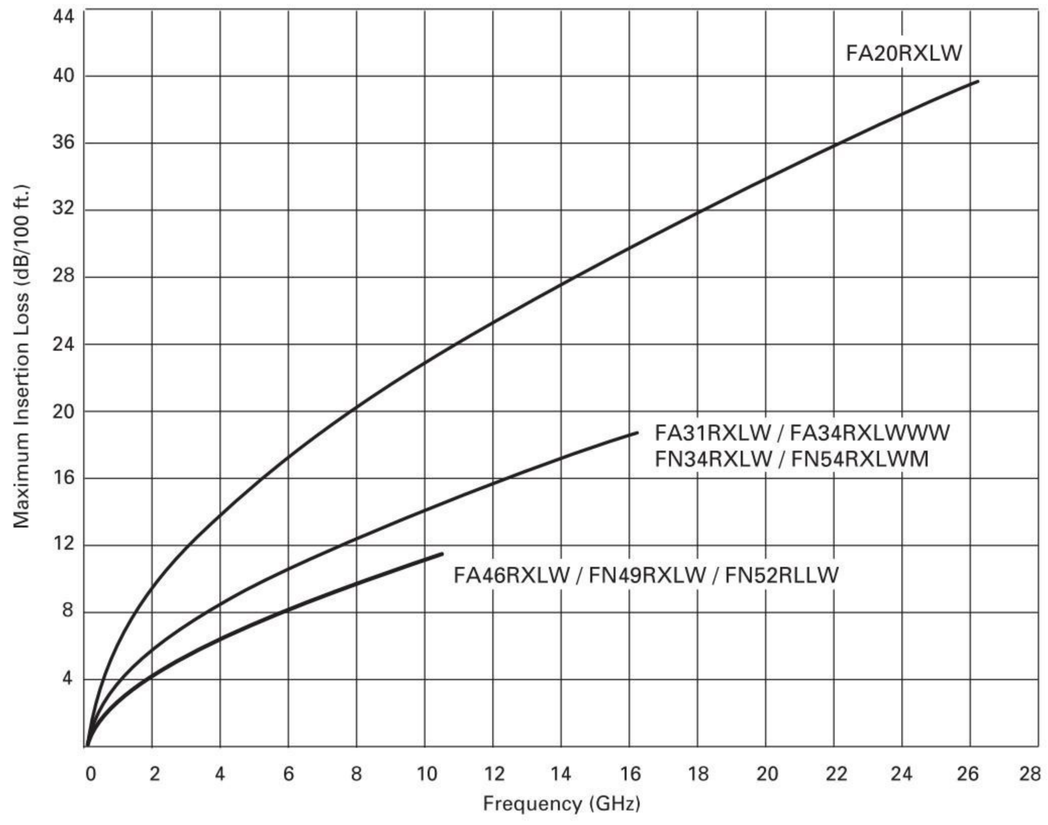
Electronic Warfare: Airborne – Lightweight

The FN34RX assembly is a DC to 18 GHz, 0.34" diameter cable, operational at temperatures up to +200° C. This reduced weight FN34RXLW uses a silver-plated, copper-clad aluminum center conductor and silver-plated aluminum shielding. It has a greater than 32 percent weight reduction with no impact on electrical performance.

Construction details for FN––RXLW



Cable Insertion Loss

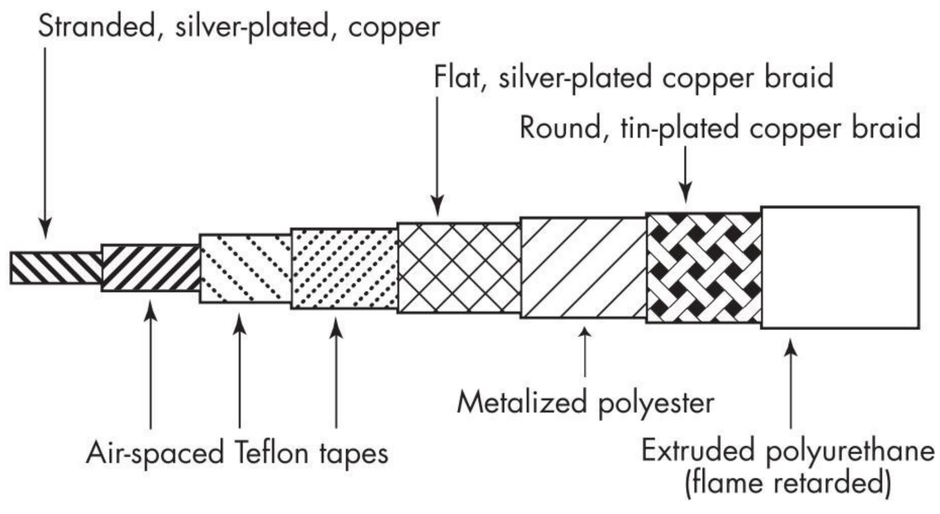


Electronic Warfare: Airborne – Lightweight Military Ground and Shipboard

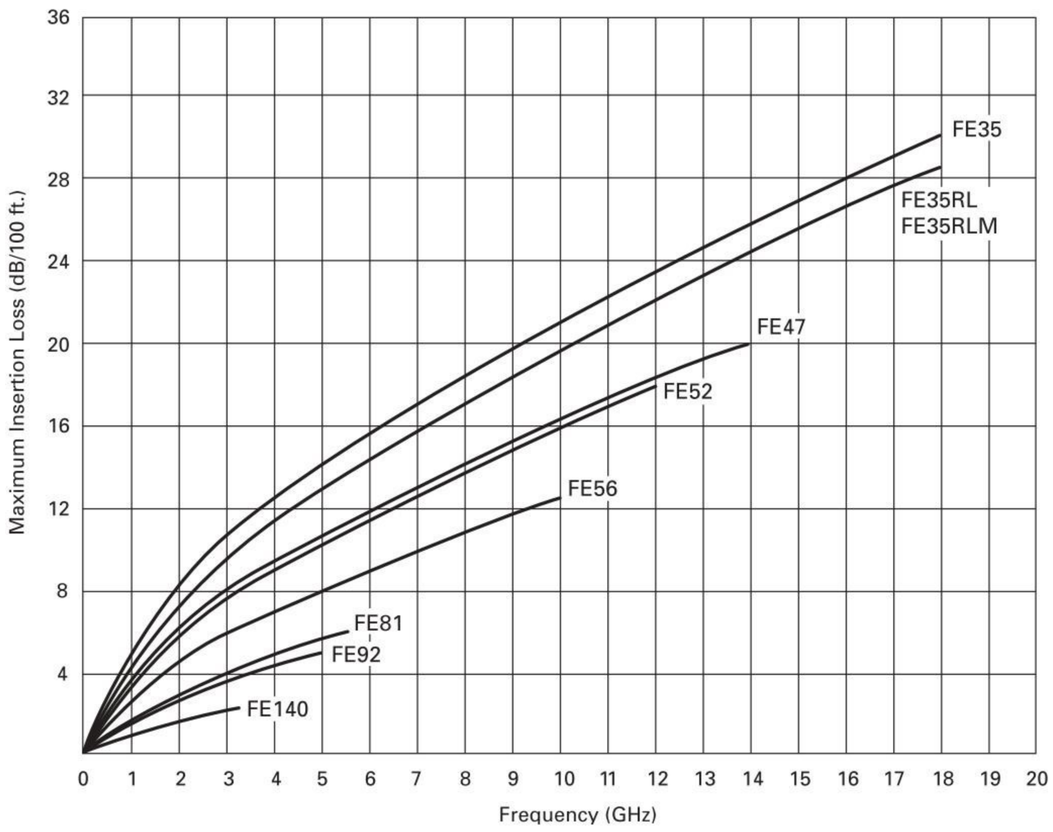
Coaxial cable runs for mast applications require a flexible cable that permits flexing during installation, service, and sometimes the actual operation of the system. Braided electrical shields and PTFE tape-wrapped dielectric make a cable assembly flexible and pliable. These allow repeated flexures without damage. When long, continuous runs of coaxial cable (up to 1800 ft) are needed to connect an antenna and a transmit/receive module, the unique construction of our mast cables permits the cable to be mounted on a reel for re-deployable systems. We also supply cable assembly on the reel with pulling grips and hangers ready to use in your system.

Shipboard versions of this cable, identified by the part number code LSX, are designed for low smoke and halogen free jackets. Both ground-based and shipboard cables also can be supplied with a solid center conductor for lower loss.

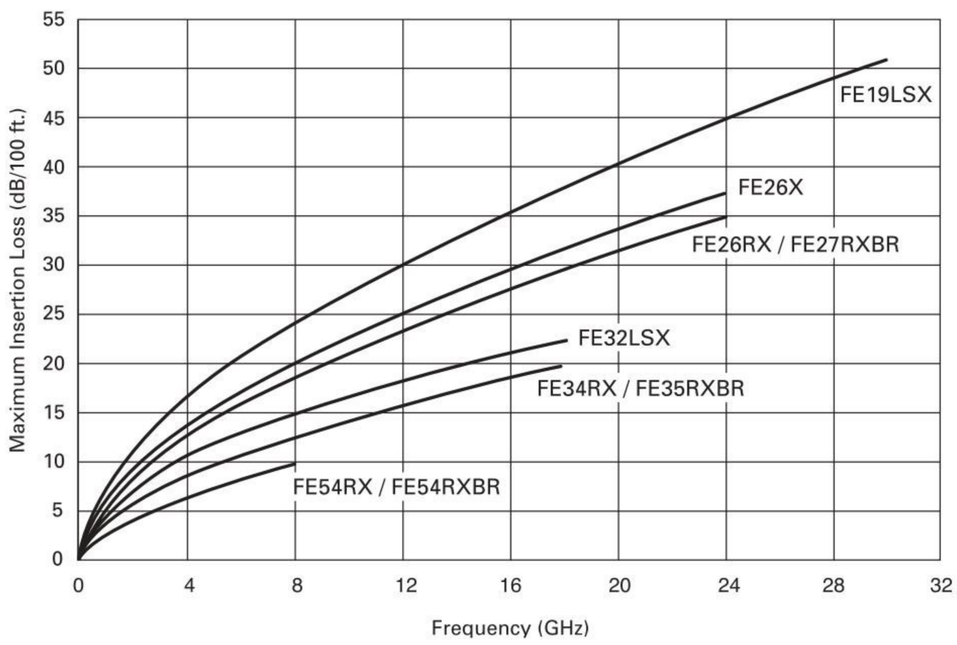
Construction details for FE––



Cable Insertion Loss – Graph 1



Cable Insertion Loss – Graph 2



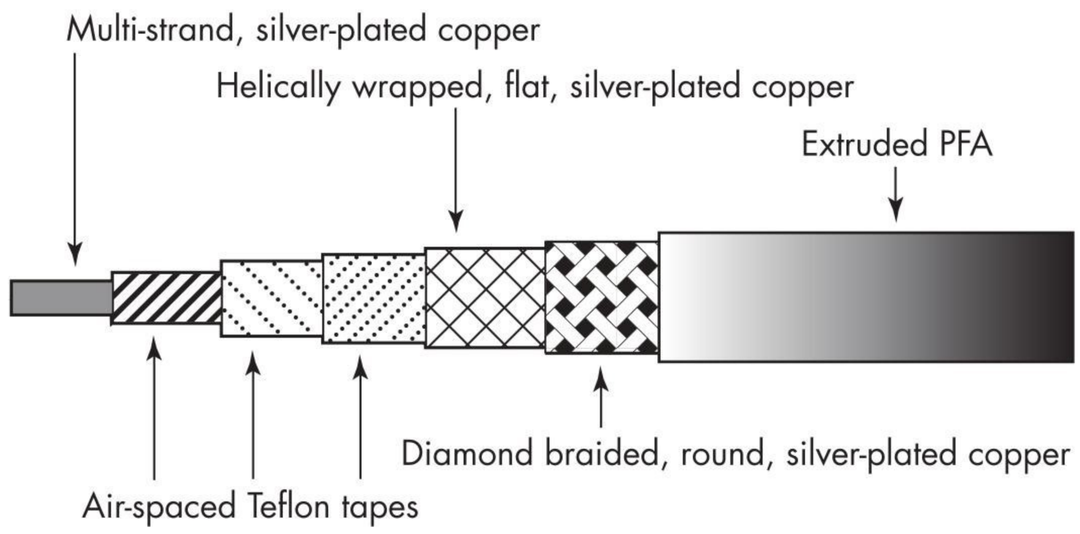
Electronic Warfare: Missiles and Precision Guided Weapons

Many cables in this group feature unique constructions to assure long flexure life under constant scanning conditions. Most of these products are helically shielded designs to provide excellent VSWR, very low loss, improved phase stability versus temperature, lightweight, and low bending force.

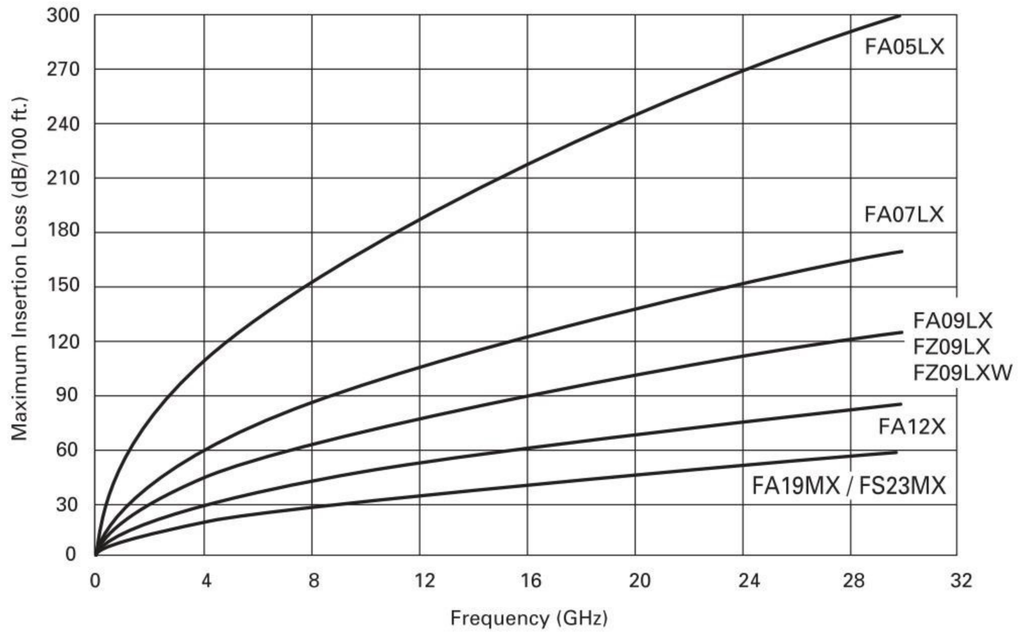
These products are ideally suited for interconnecting modules within subsystems or devices within modules in very densely packed locations. Their versatile designs can substantially improve system performance and reliability. Although intended for missile applications, many of these cables are appropriate for high performance military aircraft

Cables are available in both phase matched and insertion loss matched sets. Cobham cables meet or exceed stringent environmental requirements.

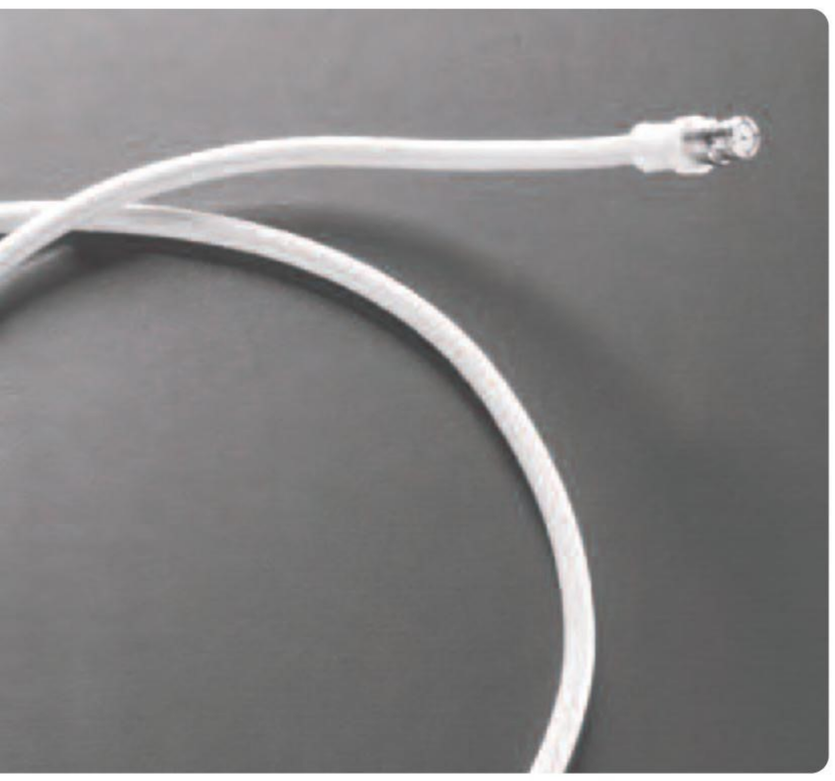
Construction details for FA--MX



Cable Insertion Loss



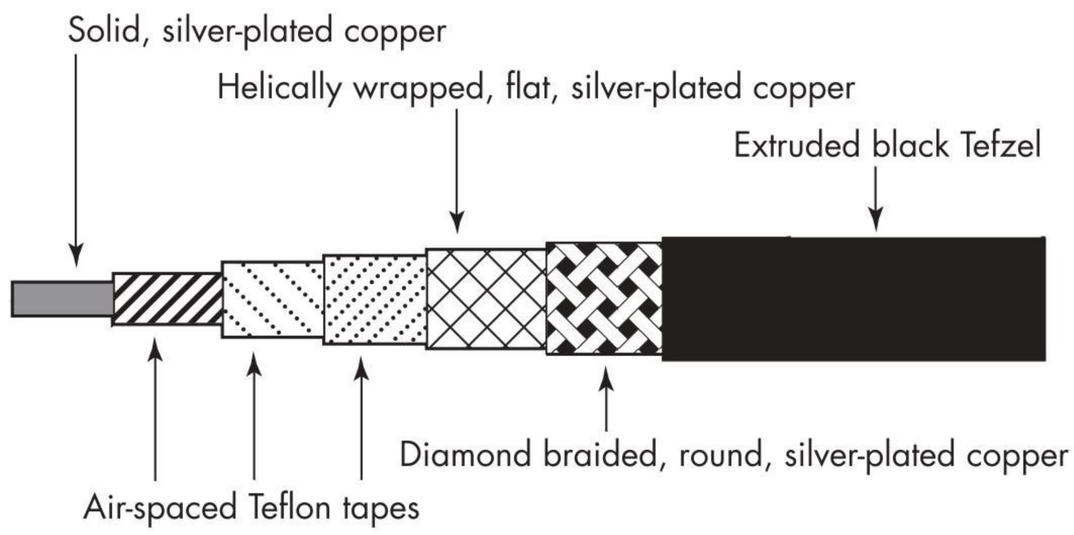
Space



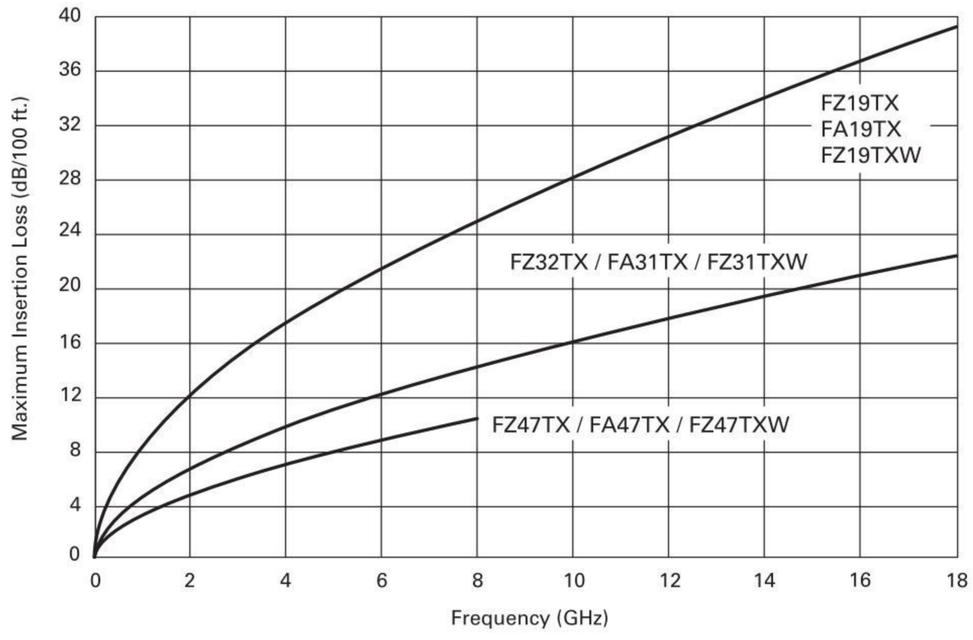
Cables for space applications are helically shielded designs to provide very low loss and improved phase stability versus temperature. Ideally suited for interconnecting modules within subsystems or devices within modules, this versatile design can substantially improve system performance. In addition, helically shielded cables for a given cable size are: light weight, with best phase tracking and lowest bending force. They are available with a Tefzel® radiation resistant jacket (FZ).

Cobham offers a large selection of space cable sizes and connector Interfaces that are available in both phase matched and insertion loss matched sets with unique multipaction-free connectors. Cobham space cables meet or exceed the most stringent requirements.

Construction details for FZ––RX



Cable Insertion Loss

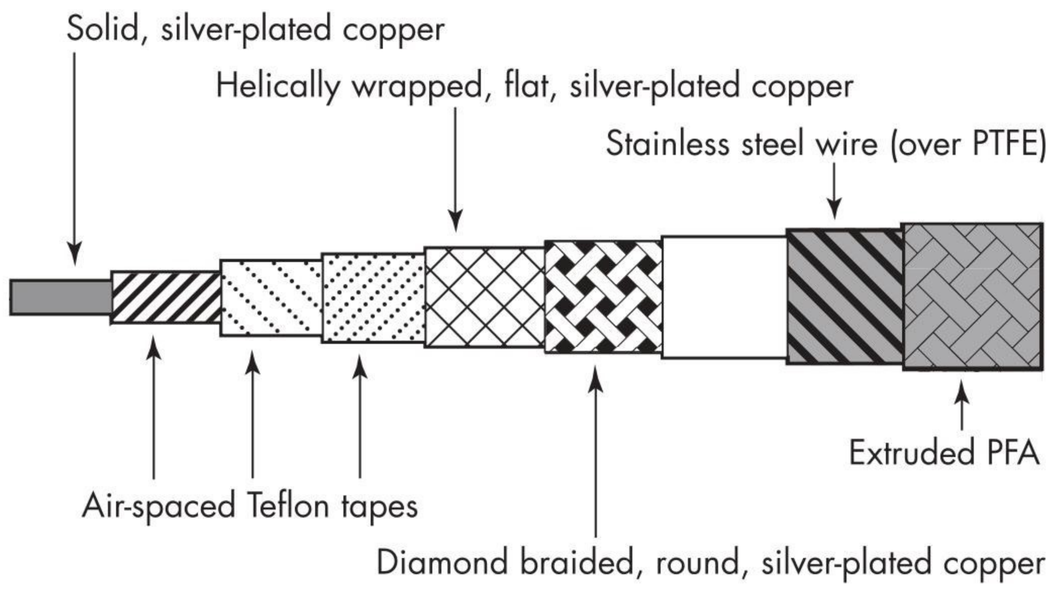


Lab: General Purpose – Air-Spaced Teflon

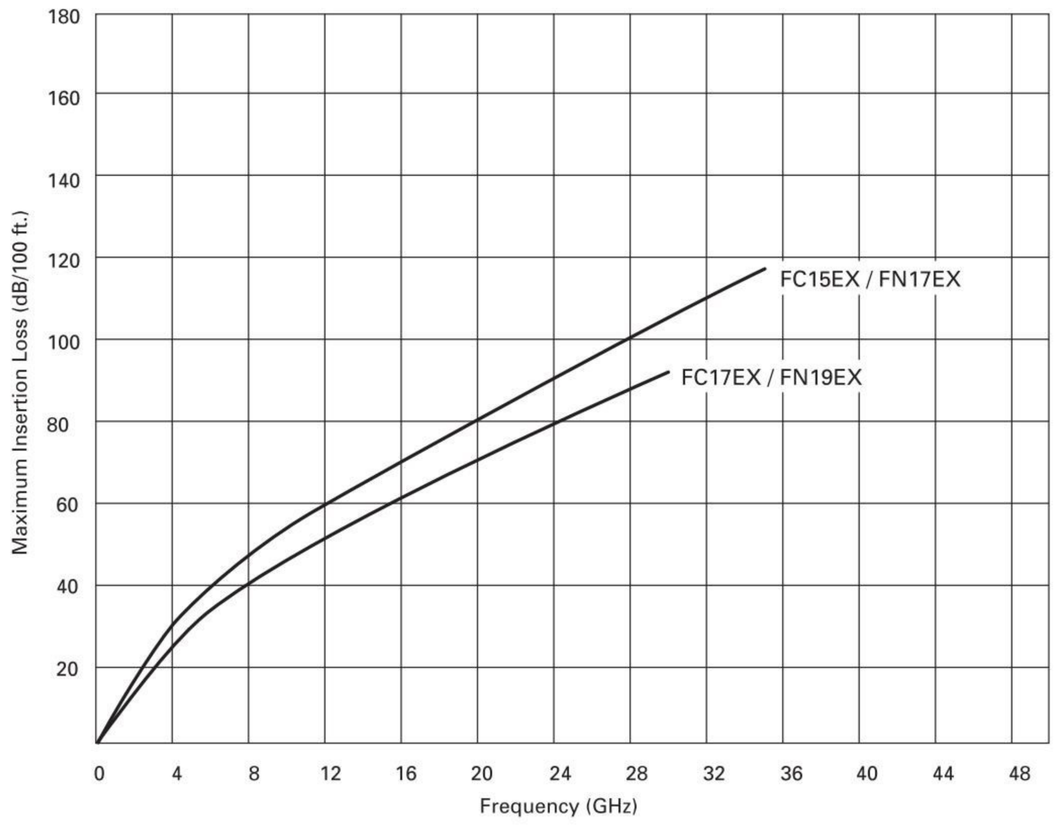
These FEP and/or Nomex-jacketed cables are tougher than other general purpose products for more severe environments. Nomex is a mil-qualified material required on electronic warfare-type cables to protect them from abrasion.

General purpose cable assemblies offer excellent performance: low insertion loss and low VSWR over a broad frequency range. Our proprietary double- and triple-shielded constructions offers high shielding effectiveness without a significant increase in cost or weight. All this in a flexible cable that will provide reliable performance, even after 100,000 flexures.

Construction details for FA--RXWW



Cable Insertion Loss

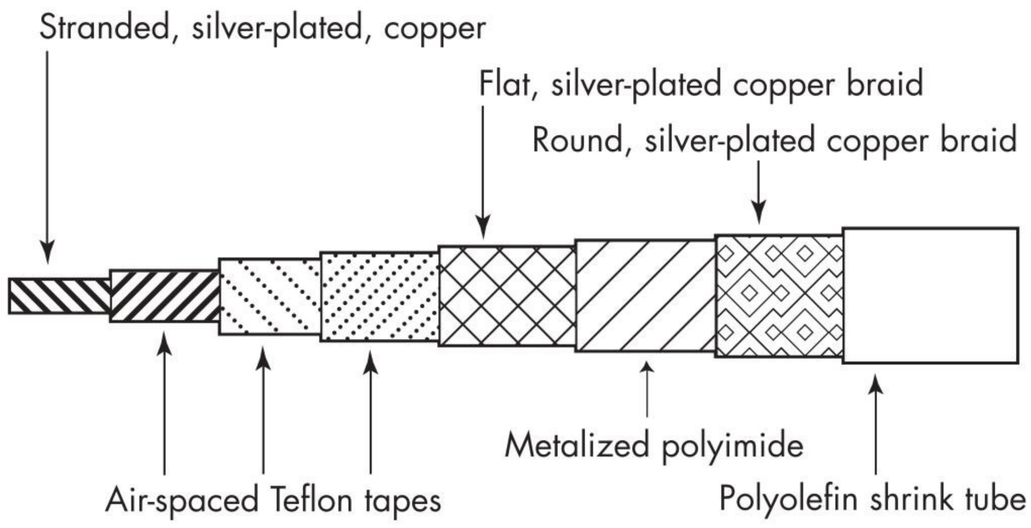


Lab: General Purpose – Air-Spaced Teflon

These assemblies provide the same high quality of workmanship, materials, and performance as our high performance cable assemblies but are designed for less-demanding environments; hence, they cost less.

An added benefit is that one of our durable, flexible cable assemblies can replace the need for hundreds of unique semi-rigid designs, saving design and production time as well as inventory cost.

Construction details for FE––ST



Cable Insertion Loss