

# M-FLEX®

Flexible Cable

[www.tt-telecom.ru](http://www.tt-telecom.ru)



M-FLEX Microwave coaxial cables are a family of flexible cables designed to accept connectors designed for Semi-Rigid cable. Unlike other single or double braided "RG" type flexible cables, M-FLEX cables are true microwave cables capable of operating to frequencies of 26.5 GHz. The extended frequency range is the result of a precision helically wrapped silver plated copper foil inner shield. This inner shield allows for outstanding flexibility while providing 100% coverage.

This precision approach results in unsurpassed improvements in shielding, durability and lower cost compared to similar products. M-FLEX is constructed from an improved solid PTFE dielectric core underneath a precision wound layer of metalized tape for nearly ideal microwave shielding. Strength and protection are then added via a round wire braid and FEP outer jacket. The result is a cable with true microwave performance and excellent mechanical characteristics. M-FLEX is also easy to use since it strips with standard tools and accepts standard solder-on connectors designed for Semi-Rigid cable.

## M-FLEX FEATURES & BENEFITS

### High Performance

- ▶ Helical shield for improved loss and phase stability
- ▶ Same line size as Semi-Rigid cable to optimize assembly loss and VSWR
- ▶ RF Shielding greater than 90 dB to minimize cross talk and maximize system performance

### Easy to Use

- ▶ Fully flexible for ease of installation
- ▶ Uses standard machines for cutting and stripping, no added investment in time or equipment
- ▶ Designed for standard solder-on connectors, which are readily available and easy to use

### Availability

- ▶ Stock
- ▶ Packaged on spools in lengths of 50 to 1000 feet to meet a wide variety of volume requirements
- ▶ Metric lengths available for added flexibility
- ▶ Low-smoke, zero halogen jacket options to meet specific requirements
- ▶ Pre-assembled with connectors upon request for added convenience

Micro-Coax Description		TGE055D	HFE100D	HFE160D
<b>Dimensions</b>	Units			
Cable Diameter	inch	0.055 ± 0.004	0.100 ± 0.004	0.160 ± 0.004
	millimeter	1.397 ± 0.102	2.540 ± 0.102	4.064 ± 0.102
Outer Shield Diameter	inch	0.044 ± 0.003	0.082 ± 0.003	0.138 ± 0.003
	millimeter	1.118 ± 0.076	2.083 ± 0.076	3.505 ± 0.076
Dielectric Diameter	inch	0.034 ± 0.001	0.066 ± 0.002	0.118 ± 0.002
	millimeter	0.864 ± 0.025	1.676 ± 0.051	2.997 ± 0.051
Center Conductor Diameter	inch	0.0113 ± 0.0005	0.0201 ± 0.0005	0.0359 ± 0.0005
	millimeter	0.287 ± 0.0127	0.5105 ± 0.0127	0.9119 ± 0.0127
Length (Minimum)	feet	25	25	25
	meter	7.6	7.6	7.6

**Materials**

Outer Jacket	Blue PFA	Light Aqua FEP	Light Aqua FEP
Outer Shield	SPC	SPC	SPC
Inner Shield	SPC	SPC	SPC
Dielectric	PTFE	PTFE	PTFE
Center Conductor	SPCW	SPCW	SPCW
RoHS Compliant	Yes	Yes	Yes

**Mechanical Characteristics**

Temperature Range	°C	-65 to 125	-65 to 125	-65 to 125
Inside Bend Radius (Minimum)	inch	0.125	0.250	0.500
	millimeter	3.175	6.350	12.700
Weight	lbs/100 ft	0.35	1.14	2.90
	kg/100 m	0.53	1.71	4.35

**Electrical Characteristics**

Characteristic Impedance	ohm	50	50	50
Capacitance	pF/ft	29	29	29
	pF/m	95	95	95
Velocity of Propagation	%	70	70	70
Shielding Effectiveness	dB	> 70	> 90	> 90
Maximum Voltage	VRMS @ 60 Hz	1000	1500	1900
Signal Delay	ns/ft	1.45	1.45	1.45
	ns/m	4.76	4.76	4.76
Frequency Range	GHz	DC - 26.5	DC - 18	DC - 18
Attenuation (dB/100 ft, Typical)	0.5 GHz	25.9	13.4	7.6
	1.0 GHz	37.0	19.2	10.9
	5.0 GHz	84.8	45.2	26.8
	10.0 GHz	122.5	66.4	40.4
	18.0 GHz	168.1	92.9	58.0
	26.5 GHz	207.9	116.7	74.2
Power (Watts CW @ 20 °C, Maximum)	0.5 GHz	98.1	307.6	788.3
	1.0 GHz	59.0	215.5	548.5
	5.0 GHz	30.2	92.7	229.8
	10.0 GHz	21.0	53.8	155.1
	18.0 GHz	15.4	46.0	109.8
	26.5 GHz	12.5	37.0	86.9