

Testmate -175, -230, -230R and -340R coaxial test cables provide reliable electrical performance for daily dependability in test lab and production environments as well as in fixed system interconnection applications:

- *High Volume Test Lab and Production Line Test Operations*
- *Field Installation, Test and Verification*
- *Quality and Maintenance Test Programs*
- *Upgrade or Replacement of Damaged or Obsolete RF Test Cables*
- *Fixed System RF/Microwave Interconnection*



Testmate-175



Testmate-230



Testmate-230R



Testmate-340R

All Testmate cables include proprietary triple shielding systems with unique high quality Times Microwave Systems' connectors. Testmate-175 has a high temperature (up to 175°C) fluoropolymer jacket with an overall stainless steel armor, while Testmate-230, -230R and -340R have heavy duty polyurethane jackets. Testmate-230R and -340R incorporate front end connectors that are removable and can be interchanged with a variety of different connector types.

Features & Benefits:

- Low Attenuation
- Long Term Electrical Stability
- Rugged Construction
- Weatherproof
- **Testmate-175** — Operates to 40 GHz
Testmate-230, -230R, -340R — Operate to 18 GHz
- **Testmate-175** — Uses High Performance 2.9mm (K) Connectors
- **Testmate-230** — Uses High Performance SMA and N Connectors
- **Testmate-230R, -340R** — Use High Performance TNC, SMA, N and 7mm Connectors that are Field Interchangeable

Specifications

	Testmate - 175	Testmate - 230	Testmate - 230R	Testmate - 340R
Outside Diameter	0.175 inch	0.3 inch	0.3 inch	0.5 inch
Minimum Bend Radius	1.00 inch	1.5 inches	1.5 inches	2.0 inches
Tested Frequency Range	0.5 to 40 GHz	0.5 to 18 GHz	0.5 to 18 GHz	0.5 to 18 GHz
Characteristic Impedance	50 Ohms	50 Ohms	50 Ohms	50 Ohms
VSWR	2.0 – 12.4 GHz 1.30:1 max 12.4 – 40.0 GHz 1.40:1 max	1.35:1 maximum	1.35:1 maximum	1.35:1 maximum
Phase Stability	5° at 18 GHz when wrapped around an 8" diameter mandrel			5° at 18 GHz when wrapped around a 12" diameter mandrel
Shielding Effectiveness	Better than -100dB	Better than -100dB	Better than -100dB	Better than -100dB
Maximum Operating Voltage	1000 Volts	2500 Volts (1000 Volts with SMA)	2500 Volts (1000 Volts with SMA)	2500 Volts (1000 Volts with SMA)
Operating Temperature Range	-55 to +150°C	-55 to +90°C	-55 to +90°C	-55 to +90°C

Cable and Connector Insertion Loss vs. Frequency

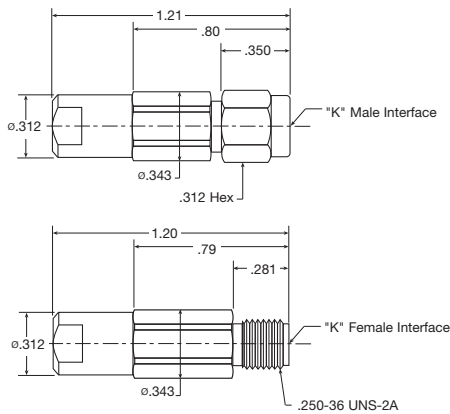
	Maximum Cable Insertion Loss @ 23°C dB/foot (dB/meter)			Connector Loss dB/pair
Frequency (MHz)	Testmate - 175	Testmate - 230 & 230R	Testmate - 340R	Testmate - 175, 230 230R & 340R
500	0.09 (0.28)	0.07 (0.22)	0.04 (0.13)	0.075
1,000	0.12 (0.40)	0.10 (0.32)	0.06 (0.19)	0.10
2,000	0.17 (0.57)	0.14 (0.45)	0.08 (0.27)	0.15
4,000	0.25 (0.81)	0.20 (0.64)	0.12 (0.38)	0.20
6,000	0.30 (1.00)	0.24 (0.79)	0.14 (0.47)	0.22
8,000	0.35 (1.16)	0.28 (0.92)	0.17 (0.55)	0.25
10,000	0.40 (1.30)	0.32 (1.03)	0.19 (0.62)	0.27
12,000	0.44 (1.43)	0.35 (1.14)	0.21 (0.68)	0.28
14,000	0.47 (1.55)	0.38 (1.23)	0.23 (0.74)	0.30
16,000	0.51 (1.66)	0.40 (1.32)	0.24 (0.80)	0.31
18,000	0.54 (1.77)	0.43 (1.41)	0.26 (0.85)	0.33
26,000	0.65 (2.15)	N/A	N/A	0.41
40,000	0.82 (2.70)	N/A	N/A	0.51
Cable Insertion Loss at Intermediate Frequencies = $[k_1 \times \text{SqRt (FMHz)}] + [k_2 \times \text{FMHz}]$, where FMHz is the frequency in MHz*				
dB per 100 Feet (dB per 100 meters)				
K1	.3822 (1.2536)	.29984 (.9835)	.1742 (.5715)	
K2	.000146 (.000480)	.000146 (.000480)	.000146 (.000480)	

Temperature Coefficient of Insertion Loss = 0.15%/°C

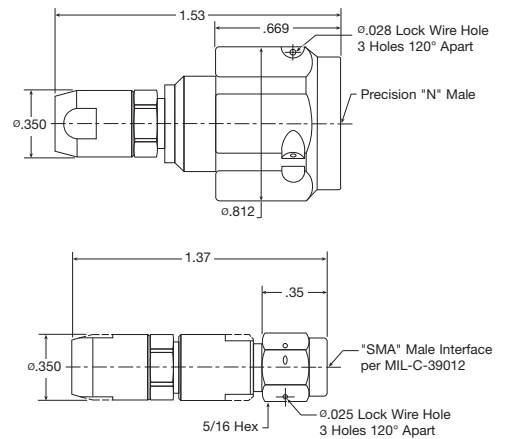
*or use Performance Calculator at www.timesmicrowave.com

Testmate Connectors:

Testmate -175 Connector Types Available 2.9mm (K) Male & Female



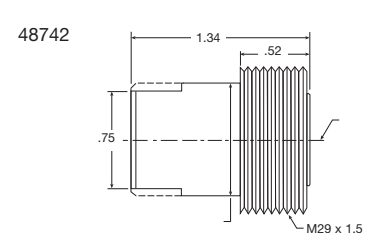
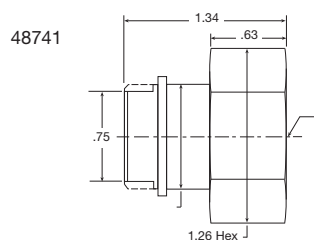
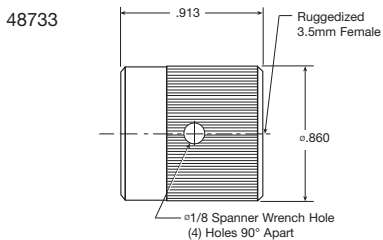
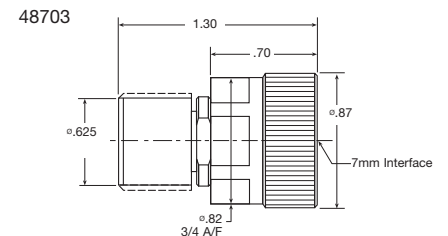
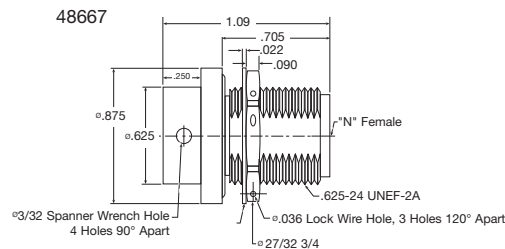
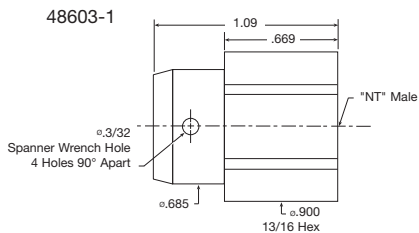
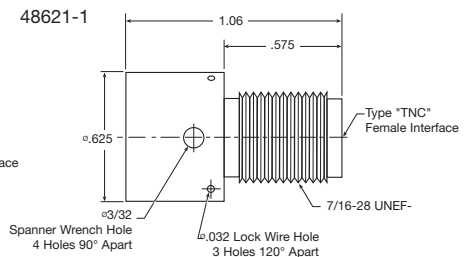
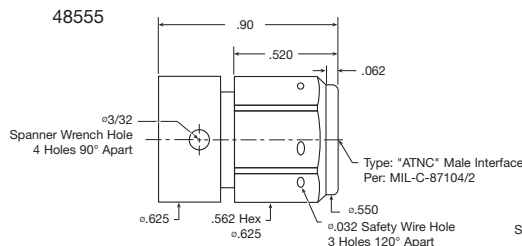
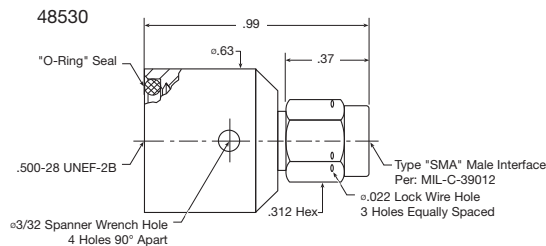
Testmate-230 Connector Types Available N & SMA Male



Testmate - 230R & Testmate - 340R Connector Types Available

Connector Designator	Connector Type	Outline Drawing Number	Spanner Tool Part Number or Open End Wrench Size
48530	SMA Plug Front End	SD48530	TN3176-2
48555	TNC Plug Front End	SD48555	TN3176-2
48621-1	TNC Jack Front End	SD48621-1	TN3176-2
48603-1	N Plug Front End	SD48603-1	TN3176-2
48667	N Jack Front End	SD48667	TN3176-2
48703	7mm Front End	SD48703	TN3176-2
48733	3.5mm(f) NMD	SD48733	TN3176-2
48741	7/16 DIN Plug Front End	SD48741	3/4"
48742	7/16 DIN Jack Front End	SD48742	3/4"

Replacing Front Ends — Requires one 1/2" open end wrench for the cable side along with either the Spanner Tool or 3/4" open end wrench listed for the connector.



All dimensions shown in inches.

ORDERING INFORMATION

A Complete Part Number is specified as: **TM175/L/C1/C2**

Where **L** = Length (in inches or millimeters, see below)
 C1 = Connector 1 Designator
 C2 = Connector 2 Designator

Examples:

Testmate-175 — a 1 meter (1,000mm) long Cable Assembly with a 2.9mm (K) female on each end would have the Part Number **TM175/mm1000/KF/KF**

Testmate- 230 — a 72 inch long Cable Assembly with a N male on one end and a SMA male on the other end would have the Part Number **TM230/in72/NM/SM**

Testmate- 230R — a 36 inch long Cable Assembly with a replaceable SMA male on one end and a replaceable TNC male on the other end would have the Part Number **TM230R/in36/48530/48555**

Testmate- 340R — a 430 millimeter long Cable Assembly with a replaceable SMA male on one end and a replaceable TNC male on the other end would have the Part Number **TM340R/mm430/48530/48555**

Marking: Cable Assemblies are marked in the center or on each end, depending on cable assembly length as follows:

Times Microwave Systems
MFG: 68999
TM175/xxx/xx/xx

Standard Lengths Available:

Testmate-175 — 1 meter
Testmate-230 — 24", 36", 48", 72"
Testmate-230R & -340R — 24", 36", 72"

Length Tolerances:

+/- .25" (6.4mm) for Cable Assemblies less than 5' (1524mm)
+/- .5" (13mm) for Cable Assemblies between 5' (1524mm) and 10' (3048mm)
+/- .5% for Cable Assemblies greater than 10' (3048mm)

Testing: Each Cable Assembly is tested for Insertion Loss and VSWR over the Test Frequency Range.



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