

*The Difference is Material  
Ultra-thermally stable coaxial  
cable for the most reliable  
performance possible in  
critical RF and microwave  
applications.*



PhaseTrack II™ represents the most significant breakthrough in coaxial cable technology in decades.

PhaseTrack II™ is based on the unique, thermally stable Times Microwave Systems proprietary TF5™ dielectric material. A proprietary engineered material and process combine to make TF5™ dielectric the most stable dielectric material available, almost completely eliminating the rapid and wildly varying changes of phase with temperature characteristic of other high performance expanded PTFE dielectric flexible RF and microwave coaxial cable assemblies.

PhaseTrack II™ also offers low loss and light weight making it equally well-suited for airborne as well as ground based systems.

# PhaseTrack II Specifications:

<b>Assembly Specifications</b>			
Electrical and Physical Specifications			
Cable Type	PhaseTrack II 200 AA-9525	PhaseTrack II 240 AA-9526	PhaseTrack II 400 AA-9528
Tested Frequency Range	0.5 to 18 GHz	0.5 to 18 GHz	0.5 to 10GHz
Characteristic Impedance	50 Ohms	50 Ohms	50 Ohms
Velocity of Propagation	82%	82%	84%
Phase Stability with Bending:	Less Than 1° / GHz per 360° wrap at minimum bend radius		
Shielding Effectiveness	Better than -90 dB per foot		
Insertion Loss	Loss (dB/100' = k1√ F(MHz) + k2 F(MHz))		
K1	0.349221	0.263520	0.150138
K2	0.000331	0.000331	0.000262
dB/100' @ 2 GHz	16.28	12.45	7.24
dB/100' @ 6 GHz	29.04	22.40	13.20
dB/100' @ 10 GHz	38.23	29.66	17.63
dB/100' @ 18 GHz	52.81	41.31	N/A
Maximum Operating Voltage	2500 Volts (1000 volts with SMA connectors)		
Operating Temperature Range	-40C - +85C / -40F - +185F		
<b>Cable Mechanical Specifications</b>			
Outside Diameter (in)	0.200	0.240	0.400
Minimum Bend Radius (in)	2.0	2.4	4.0
Weight (lbs/foot)	0.036	0.056	0.100

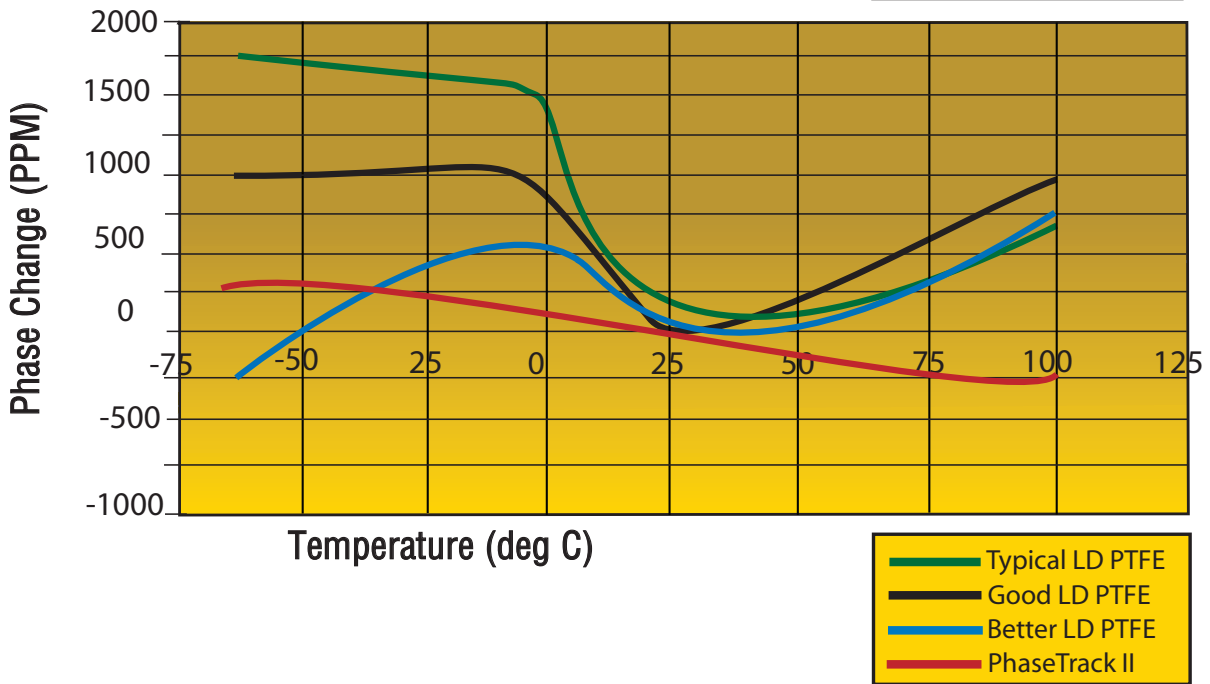
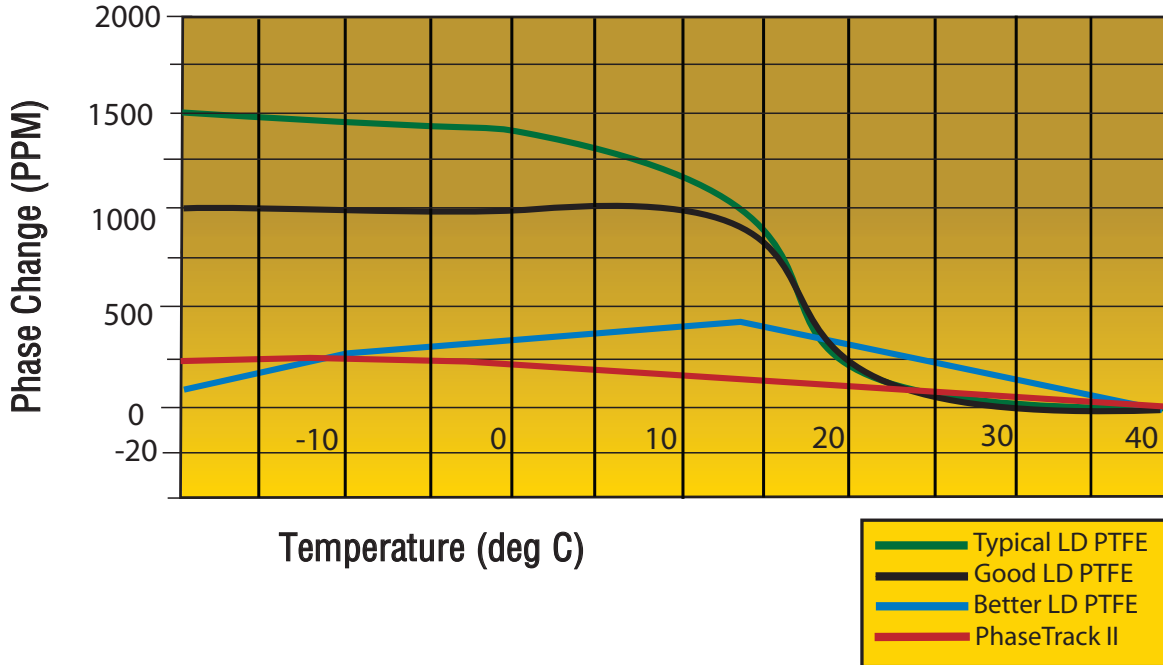
## Features:

- Superior electrical length stability and tracking over a wide temperature range.
- Consistent and predictable phase change.
- Monotonic phase vs. temperature.
- TF5™ ultra thermally stable dielectric material.
- Thermally-mechanically balanced cable design.
- Light weight cable available in many sizes.
- Ideal for airborne, naval and ground based applications.

## Benefits:

- Significantly improved system performance through reduced absolute phase change.
- Superior minimal phase tracking performance from cable to cable.
- Simplified system error correction software.
- Reduced need for constant phase calibration of system interconnects.
- Increased system availability.
- Cost effective cable assembly solution.

## Phase Change vs. Temperature



### Applications:

*PhaseTrack II* cable assemblies are designed to operate over the entire frequency range to 18GHz for applications demanding minimal change of electrical length over a dynamic range of temperatures combined with lowest insertion loss and lightest weight. Applications include AESA Radar, ICBM Tracking Radar, Interferometry Based Broadband ELINT Systems, Phased Array Radar and Synthetic Aperture Radar.

## **About *TIMES MICROWAVE SYSTEMS***

Times Microwave Systems, was founded in 1948 as the Times Wire and Cable Company. Today, the company specializes in the design and manufacture of high performance flexible, semi-flexible and semi-rigid coaxial cable, connectors and cable assemblies. With over 60 years of leadership in the design, development, and manufacture of coaxial products for defense microwave systems, Times Microwave Systems is the acknowledged leader, offering high tech solutions for today's most demanding applications.

Cable assemblies from Times Microwave Systems are used as interconnects for microwave transmitters, receivers, and antennas on airframes, missiles, ships, satellites, and ground based communications systems, and as leads for test and instrumentation applications.

As a highly specialized and technically focused company, Times Microwave Systems has been able to continually meet the challenges of specialty engineered transmission lines for both the military and commercial applications, drawing upon our:

- Thousands of unique cable and connector designs
- Exceptional RF and microwave design capability
- Precise material and process controls
- Unique in-house testing capabilities including RF shielding/leakage, vibration, moisture/vapor sealing, phase noise and flammability
- Years of MIL-T-81490, MIL-C-87104, and MIL-PRF-39012 experience
- ISO 9001 Certification

With over 60 years of Times Microwave Systems aerospace cable and connector technology experience and unparalleled design expertise, Times Microwave Systems' staff of Field Applications Engineers can help to provide the right solution for your interconnect applications.



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