

Thermal Vacuum (TVAC) Test Leads



- Low Loss
- High Power Handling
- Phase & Amplitude Stable
- Low Outgassing
- Multipaction Resistant (Vented Connectors)

Times Microwave Systems provides a wide variety of customized cable assemblies for Thermal Vacuum Test, that meets with the below critical requirements:

Outgassing

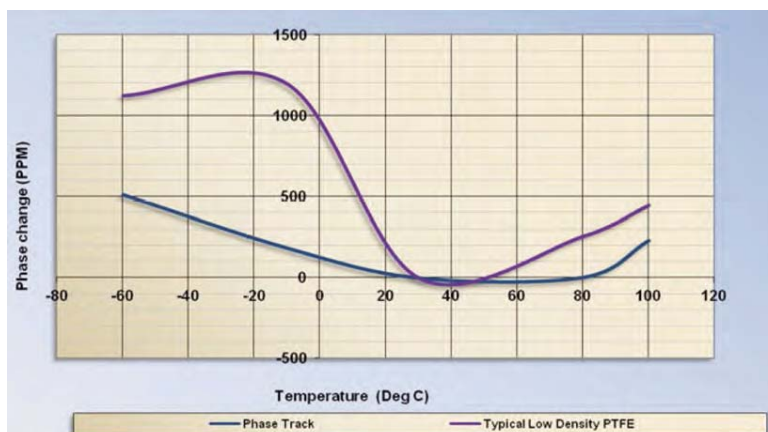
Cable assemblies must utilize low outgassing materials in a vacuum environment. It is imperative that non-polymeric materials are used in the cable assembly. TMS (Times Microwave Systems) proprietary material conditioning and vacuum testing of assemblies ensures outgassing is minimized in space flight and thermal vacuum rated test cable assemblies. All TMS assemblies meet the NASA standards outlined in ASTM E-595 for outgassing characteristics.

Multipaction

A multipactor discharge can vaporize some of the dielectric material within the coaxial line and create ionized gas particles. If the coaxial line is not properly vented, these collected gas particles can initiate an ionization breakdown within the structure. This condition can cause catastrophic electrical failure of the cable assembly. In many cases, the use of overlapping interface dielectrics will also help to minimize this condition from occurring. TMS offers most major connector interfaces, SMA, TNC, 2.92mm types for associated cable groups.

Phase Critical

PhaseTrack® is designed for applications demanding minimal phase change over temperature. All PhaseTrack cables use proprietary TF4™ dielectric that does not have the abrupt shift in the phase (phase knee) that occurs with solid or tape wrapped PTFE based products under normal room ambient temperature conditions.



Here are the cables and connectors for reference:

| Cable | AA number Stock Code | Diameter in (mm) | Weight lb/ft (kg/m) | Temp. Range F (C) | Min.Bend Radius in (mm) | Atten @3GHz dB/100ft (100m) | Atten @18GHz dB/100ft (100m) | Atten @40GHz dB/100ft (100m) | Connectors Available |
|--------|-------------------------|------------------------|---------------------------|-------------------------|-------------------------------|-----------------------------------|------------------------------------|------------------------------------|-------------------------|
| PT-150 | AA-11238 52072 | 0.145 (3.68) | 0.024 (0.035) | -67 +342 (-55 +150) | 0.75 (19.00) | 25.41 (83.40) | 70.50 (231.24) | - | SM/SMR SF/SFR |
| PT-210 | AA-9239 52056 | 0.220 (5.59) | 0.046 (0.067) | -67 +342 (-55 +150) | 1.125 (28.58) | 14.99 (49.20) | 48.40 (158.75) | - | SM/SMR TM |
| MG-160 | AA-11258 510-0050 | 0.156 (3.96) | 0.026 (0.038) | -67 +342 (-55 +150) | 0.75 (19.00) | 20.60 (67.60) | 52.01 (170.56) | 79.47 (260.7) | KM |
| MG-300 | AA-9857 510-0017 | 0.302 (7.67) | 0.093 (0.139) | -67 +342 (-55 +150) | 1.75 (44.45) | 7.64 (25.10) | - | - | TM |

TVAC Ordering Information

