



Cable Assembly Guidelines

DESIGN CONSIDERATIONS FOR FLEXIBLE ASSEMBLIES

There are a number of things that, when kept in mind while specifying flexible cable assemblies, can cut costs and ensure the best possible performance:

- 1) Crimp type connectors are faster and less expensive to assemble than clamp types and provide better strain relief at the cable junction. Crimp connectors grip five to ten times more length of braid than clamp connectors do, an important consideration given the small cross-sectional area of most coaxial cable braid wires.
- 2) Nickel-plated or passivated connectors provide the same electrical performance as gold-plated connectors but at a lower price.
- 3) Cable terminations (see pages 7-1 to 7-4) can often eliminate the need for (and expense of) a cable connector/receptacle combination in applications where one end of the cable will not need to be disconnected during service.
- 4) Cables with wrapped-tape dielectrics and/or jackets are generally more expensive to buy and always more expensive to assemble than cables with extruded dielectrics and jackets.
- 5) Soldering the braid of flexible cables to connectors should ALWAYS be avoided. The heat used in soldering will damage even cables with Teflon dielectrics, and will destroy cables with polyethylene dielectrics. All AEP connectors grip the cable with strength greater than the breaking strength of the cable braid, so soldering is also redundant.
- 6) Excessively tight tolerances will increase cost. Additionally, if enough slack is not designed into the specification, you may run the risk of having cables that will be under constant mechanical stress when installed, thereby degrading the electrical performance over time.
- 7) All screw-on connectors have some play in the coupling nuts, so lengths should be dimensioned to the reference plane. In general, length should be dimensioned to the following points:
 - Straight plugs and jacks: To reference plane.
 - Bulkhead jacks: To bulkhead mounting surface.
 - Right angle connectors: To centerline of mating side.

The standard flexible cable assemblies shown on the following pages all have nickel-plated crimp type connectors, and have heat-shrink tubing installed at the cable junction.

DESIGN CONSIDERATIONS FOR SEMI-RIGID ASSEMBLIES

Since semi-rigid assemblies are generally used at higher frequencies than flexible assemblies, the design and construction elements are more critical. We make our own bending and trimming equipment, and use induction heating only (not resistance pliers) for soldering cable jackets. We can make semi-rigid assemblies using any connectors on cable sizes from 0.047" to 0.250", made and tested to meet your specifications, 100% guaranteed.

Keeping the following in mind can cut cost and ensure the best possible performance in semi-rigid assemblies: