



Common Sub-miniature D hermetic connectors are typically made from steel, Kovar or stainless steel. While these connectors are solderable to like or possibly, CTE similar materials, they are not reliable when soldered to aluminum. It is not possible to achieve a reliable hermetic solder joint between these materials and aluminum, due to their significant size and the difference in CTE of these materials compared to aluminum. The stainless steel has the highest CTE but still differs from aluminum sufficiently to prevent a reliable solder joint on such large devices. The problem increases with the connector size.

Furthermore, these parts are typically not designed to facilitate a reliable solder joint, which compounds the problem. Shear joints should be avoided. Basically, the reliable use of these connectors is limited to soldering to materials with matched CTEs which in most cases means identical materials.

Subminiature D hermetic connectors are available from SHP, Inc., which are designed for compatibility with the housing material and therefore will have a high reliability solder joint. In addition, these connectors provide controlled solder joints, which have the required ductility to insure long cyclic life in severe thermal environments. These connectors are available in materials compatible with Kovar, steel, stainless, brass, aluminum and others.