



The benefits of SHP feedthrus are numerous.

Consider these extremely important factors applicable to the SHP series feedthrus.

1. The solder joint thickness is controlled and optimized to assure solder strain under temperature extremes to approximately 10% of that with a conventional feedthru. This equates to extensive cyclical life of the solder joint.
2. The controlled solder joint thickness provides an ideal capillary for soft solders. This ensures optimal flow of solder in the joint, leaving the joint free of gaseous bubbles.
3. The significantly increased volume of solder decreases gold embrittlement by a magnitude. The resulting level of gold contamination can be below the allowable limits required for reliable solder joints. Special plating considerations can provide absolute control over the gold content to meet specific gold contamination limits if required. This precludes the need for pre-tinning or wicking off of excess gold, a costly and sometimes problematic process.
4. The thick solder joint greatly depresses the effect of tolerances on solder- volume requirements from part to part allowing a single solder preform to be effective 100% of the time. Volume variations with conventional feedthru installations exceed 400% while the aluminum compatible design runs about 40%. In the latter case, any excess solder is retained in the preform well.
5. The solder joint is exposed and able to be inspected visually.
6. Movement of the feedthru in the Z axis relative to the housing under thermal cyclic environments is prevented by the flange at the bottom of the solder joint. Conventional straight-barrel feedthrus installed in counter bores move with the solder under thermal cycling providing two possible problems:
 - a. Unacceptable strain on the feedthru center pin to glass seal or the termination to the circuit
 - b. An inductive change when the cavity at the base of the feedthru changes due to the outward movement of the feedthru in the c' bore

Contact SHP for in-depth discussion on these significant benefits.