



Problems are frequently encountered while soldering ground pins into plated housings. The use of a single-diameter, snug-fitting bore into which the pin is soldered is the most common error.

When plating is involved, the design must consider the plateability of such small, deep holes, particularly blind holes. With insufficient solderable plating at the bottom of the hole, the solder will fail to wet and displace the flux. This trapped flux outgases, causing bubbles in the solder at the top of the solder joint, preventing the achievement of a quality joint. Such joints will not only be porous but superficial in that solder flow will not be complete between the pin and housing.

Good plating of the hole can be achieved without changing to a through hole by utilizing a stepped pin design which provides a larger pin diameter at the base. Further enlargement of the bore over the upper portion of the pin base will optimize the solder joint capillary while opening the bore further for improved plating throw. Adding a second counter-bore for a solder preform well will additionally improve plating throw and facilitate a neat solder joint.

The addition of a small vent hole through the wall, although not essential, will optimize the plating and provide greater assurance against outgassing problems.

Refer to product [Bulletin #120](#) for such designs. Contact us directly for availability of standard ground pins.