

# Minimum Through Hole Solder Joint Requirements • Class 3




Shown below are the minimum acceptable conditions for a Class 3 Plated-Through Hole Solder Joint. All of the illustrations show the same solder connection from three different views: top, barrel (cutaway), and bottom.

Any Class 3 solder connection failing to meet these minimum requirements should be considered a **defect**.

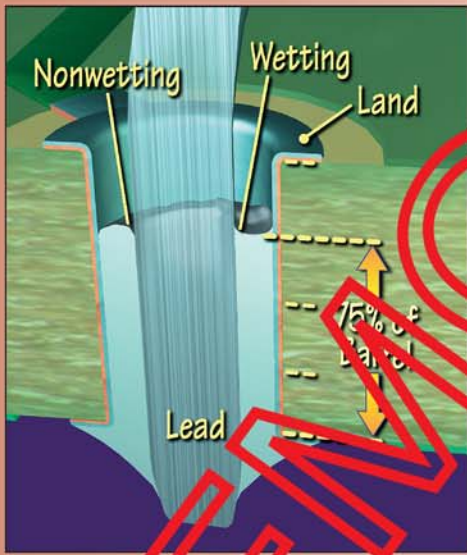
References: IPC-A-610F

**COMPONENT SIDE (PRIMARY, TOP) SOLDER DESTINATION**



**Wetting of component side land = 0%**

A properly wetted solder joint on the solder destination or component side land is not required.



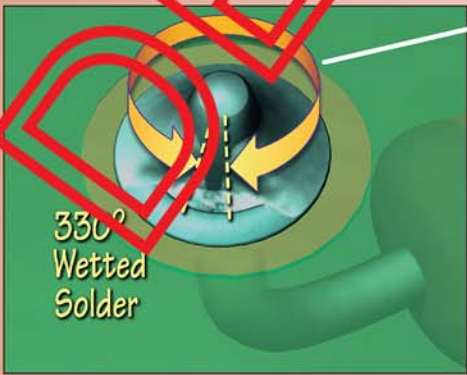
**Vertical fill of barrel = 75%**

Solder must fill at least 75%, or 3/4 the height of the hole.

**Wetting of component side lead & barrel = 270°**

A properly wetted solder fillet must circle at least 270° (or 75%) of the way around the lead and barrel.

**CUTAWAY VIEW (BARREL)**




**Wetting of solder side lead & barrel = 330°**

The wetting on lead and barrel must be at least 330° (approx. 90%).

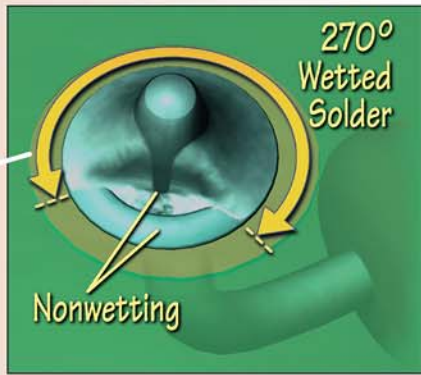
**Wetting of solder side land = 270°**

A properly wetted fillet must extend at least 270° (or 75%) of the way around the land on the solder source side of the board.

**SOLDER SIDE (SECONDARY, BOTTOM) SOLDER SOURCE**



**270° Wetted Solder**



**270° Wetted Solder**

**Nonwetting**