Minimum Through Hole Solder Joint Requirements • Class 2

Association Connecting Electronics Industries

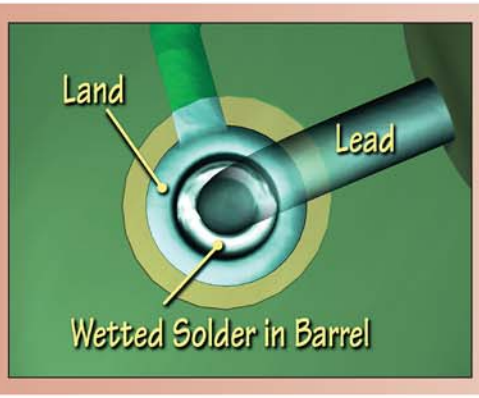
IPC

Shown below are the minimum acceptable conditions for a Class 2 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 2 solder connection failing to meet these **minimum** requirements should be considered **a defect**.

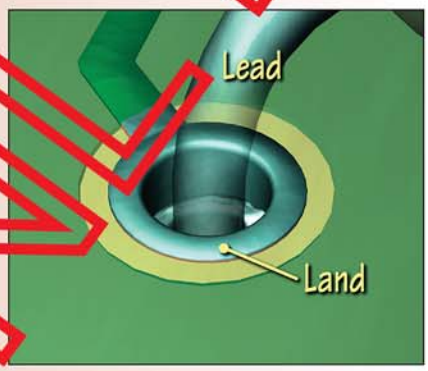
*References: IPC-A-610**F***

COMPONENT SIDE
(PRIMARY, TOP)
SOLDER DESTINATION

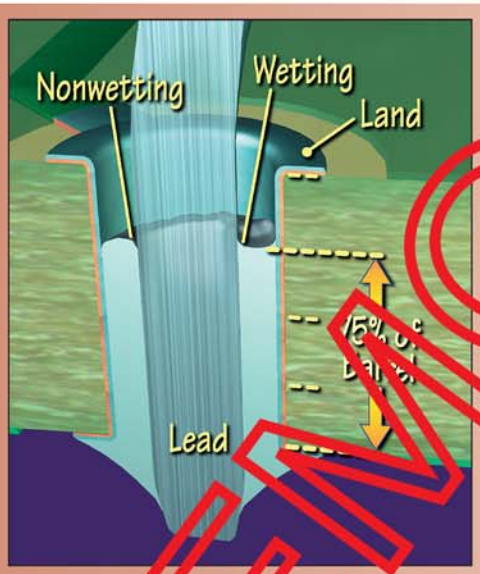


Wetting of component side land = 0%

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



CUTAWAY VIEW
(BARREL)

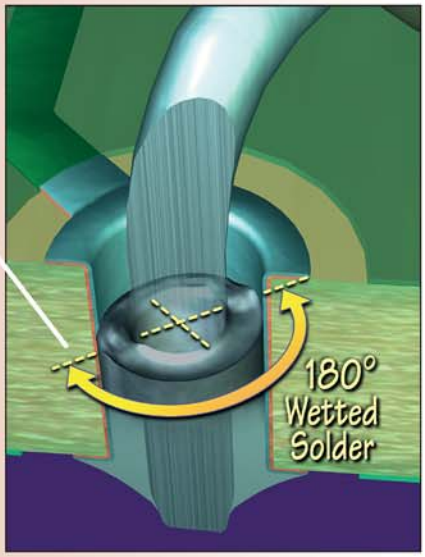


Vertical fill of barrel = 75%

Solder must fill at least 75%, or 3/4 the height of the hole. Vertical fill at a minimum of 50%, or 1.2mm, whichever is less, is acceptable for components of 14 leads or more.

Wetting of component side lead & barrel = 180°

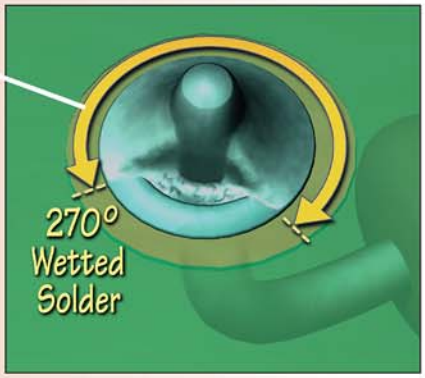
A properly wetted solder fillet must circle at least 180° (or 50%) of the way around the lead and barrel.



SOLDER SIDE
(SECONDARY, BOTTOM)
SOLDER SOURCE

Wetting of solder side lead, land & barrel = 270°

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



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