

Minimum Through Hole Solder Joint Requirements • Class 2

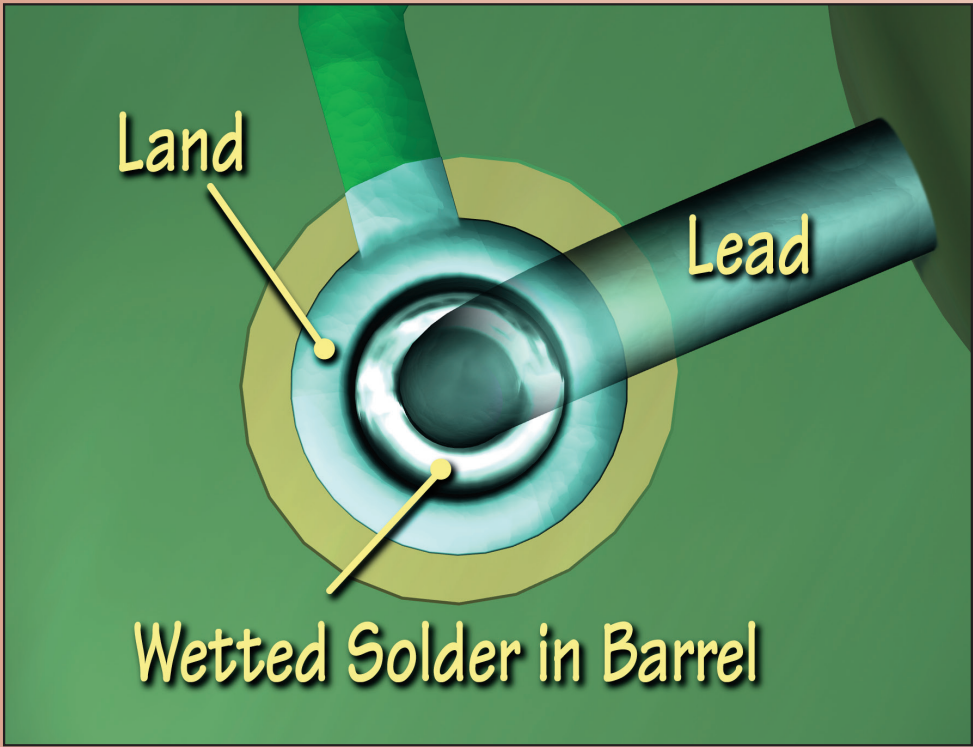


Shown below are the minimum acceptable conditions for a Class 2 Plated-Through Hole Solder Joint. All of the illustrations show the same solder connection from three different views: top, barrel (cutaway), and bottom.

Any Class 2 solder connection failing to meet these **minimum** requirements should be considered a **defect**.

References: IPC-A-610G

COMPONENT SIDE
(PRIMARY, TOP)
SOLDER DESTINATION

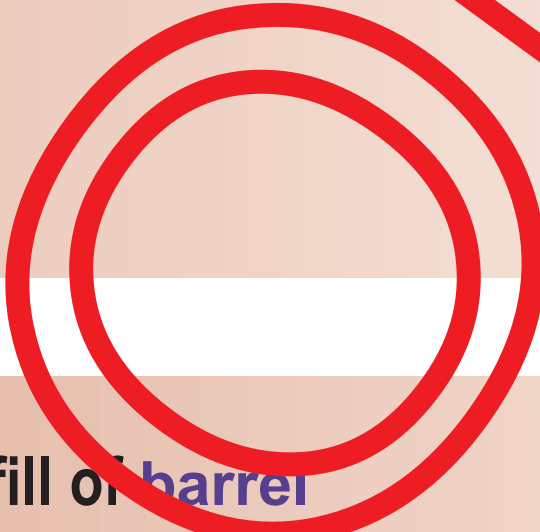
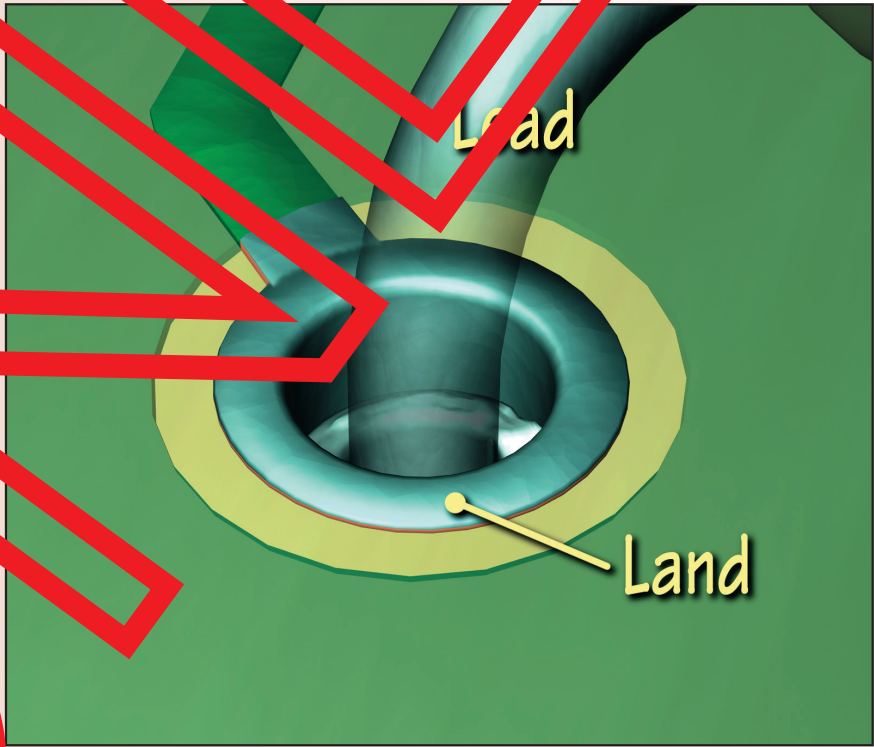


Wetting of component side

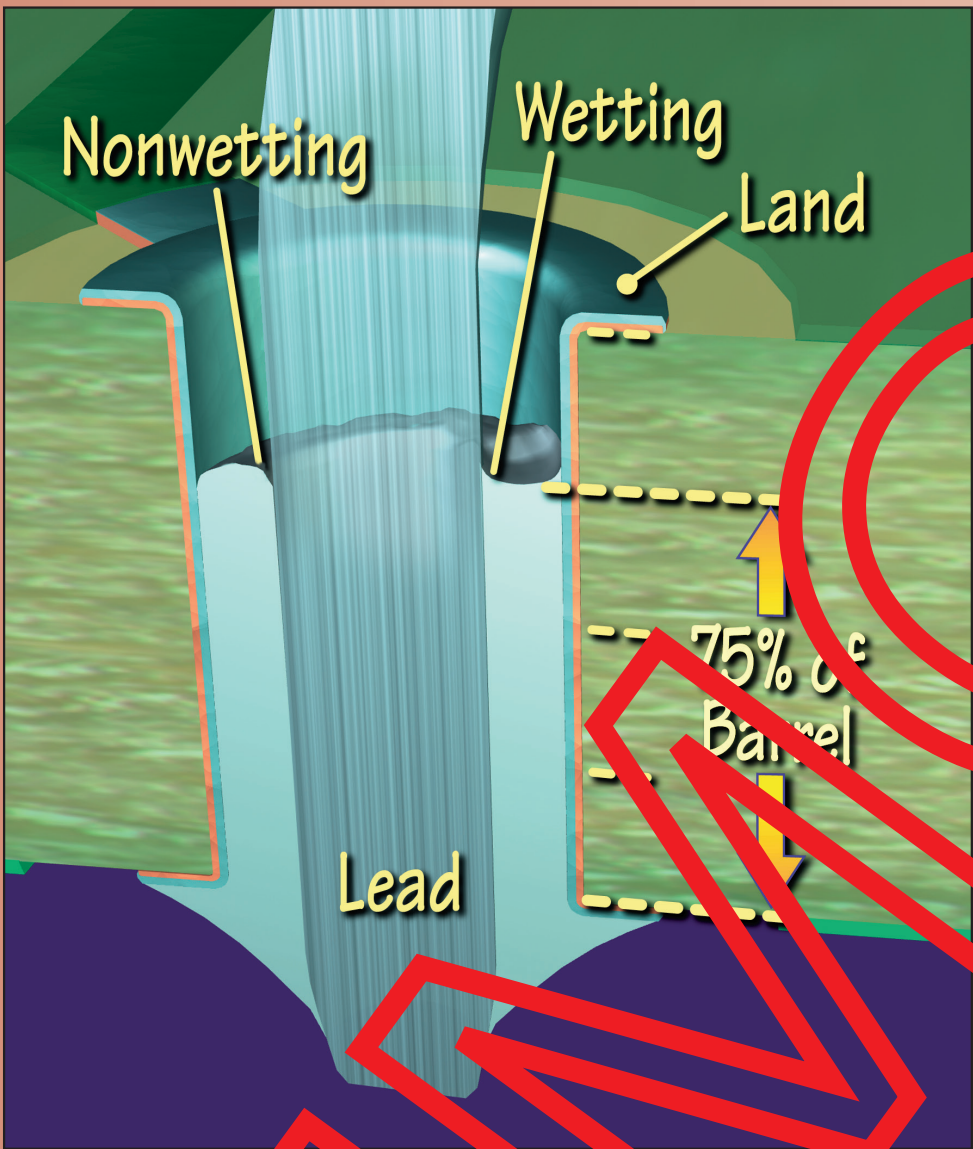
land = 0%

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

Ref: 7.3.5.3



CUTAWAY VIEW
(BARREL)



Vertical fill of barrel

Vertical fill criteria is based on the number of component leads, and if the assembly is connected to a thermal plane.

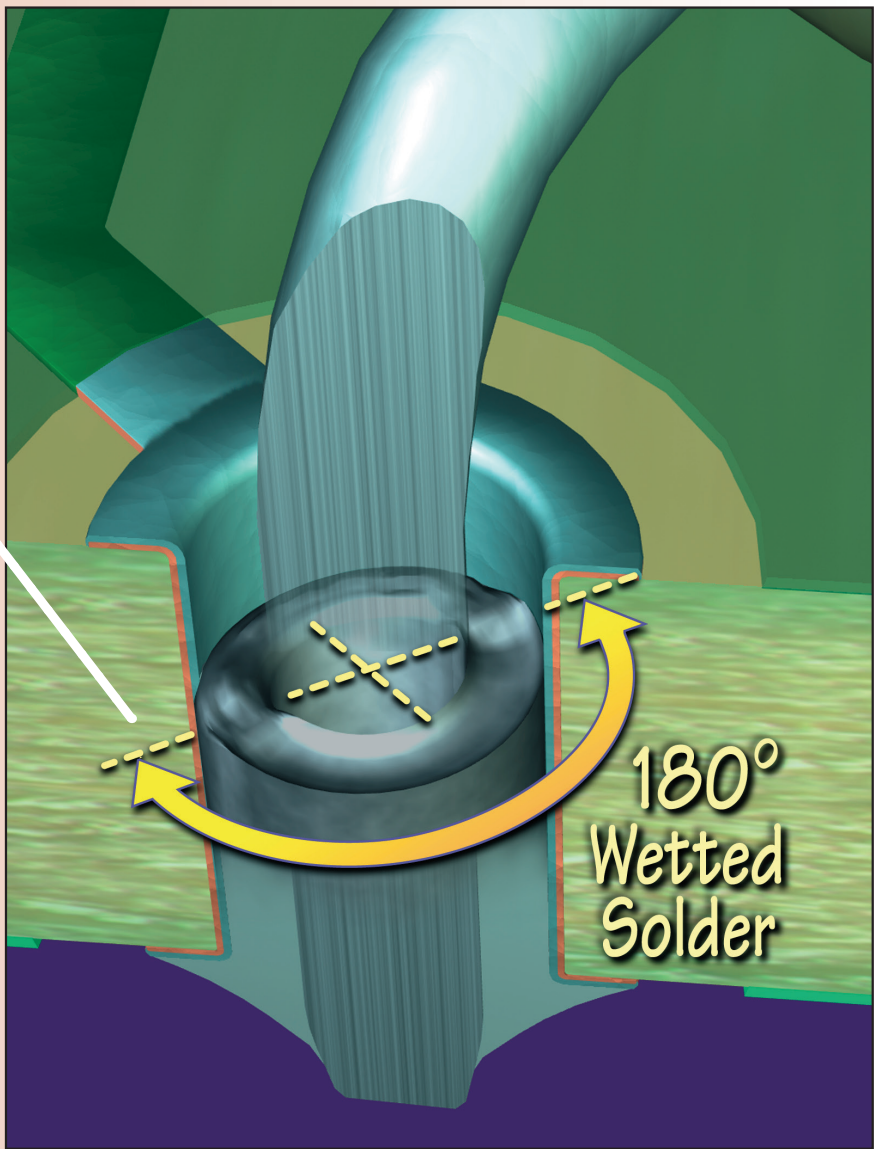
- Less than 14 leads: 75% fill required
- Less than 14 leads – with thermal plane: 50% fill required
- 14 leads or more: 50% fill required

Wetting of component side

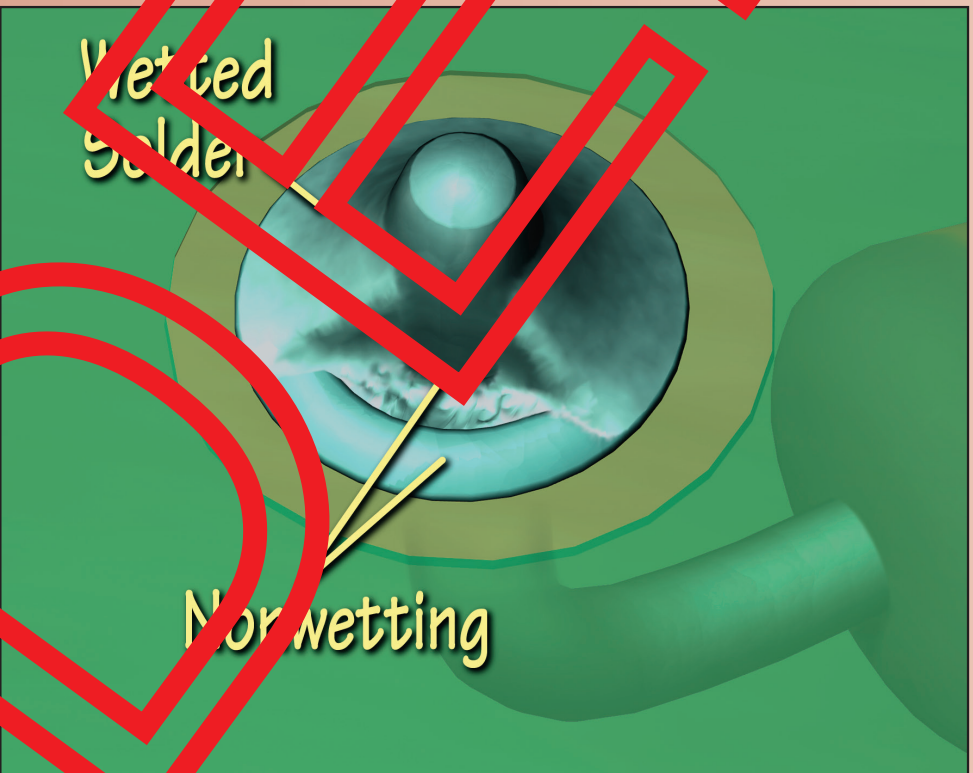
lead & barrel = 180°

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

Ref: 7.3.5.2



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.

Ref: 7.3.5.4, 7.3.5.5

