

Recommendations on reliable via connections

Adding filled zones to via lands

Objective: Ensuring reliable via connections through requirement-compliant design

The end product requirements regarding the annular ring on **innerlayer** according to IPC-A-600 are only applicable if the design provides modified land shapes for via lands according to IPC-2221 Section 9.1.1:

Annular ring requirements on innerlayer	IPC-A-600	
	Class 2	Class 3
with filled zones	≤ 90° hole breakout, if land/conductor junction is not reduced by more than 20% of the minimum value	≥ 25 μm
without filled zones	≥ 25 μm	≥ 25 μm

Methods:

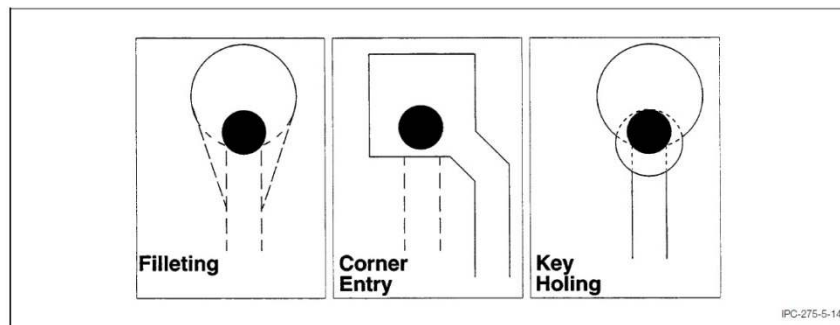


Figure 9-1 Examples of modified land shapes

Parameter recommendations:

If the design does not provide modified land shapes (e.g. no teardrops) as shown in the example (Fig. 9-1), the rule "≤ 90° hole breakout allowed if the land/ conductor junction is not reduced by more than 20% of the minimum value" should be applied with regard to the annular ring requirement for class 2 products.

Other alternatives such as adjusting the layout or reducing the hole diameter increase process costs and must be agreed between the user and the supplier (AABUS).