

Minimum inner layer wire and gap

This is a parameter used in manufacturing, i.e. a value demonstrating the technological capability of the PCB manufacturer.

The width and gap of a wire or line directly depends on the thickness of the copper foil in the inner layer. Necessary relations are provided in the following table:

Foil thickness	Min wire and gap
12 μ	0,05mm/1,96mils
18 μ	0,075mm/2,95mils
35 μ	0,125mm/4,92 mils
70 μ	0,25mm/9,84 mils

When designing, particularly in the case of wave impedance, it must be kept in mind that during production wire width decreases minimally by the thickness of the copper foil.

IPC6012 permits an up to 30% shrinkage of the wire width – this means that a wire which is 0.1 mm in the design may be 0.076 mm, i.e. 20% thinner on a ready- to-use board!

In the case of pad processing with high line width precision, we recommend compensating for necessary wire widths during design. For that you have to increase the wire width by the shrinkage % if possible.

