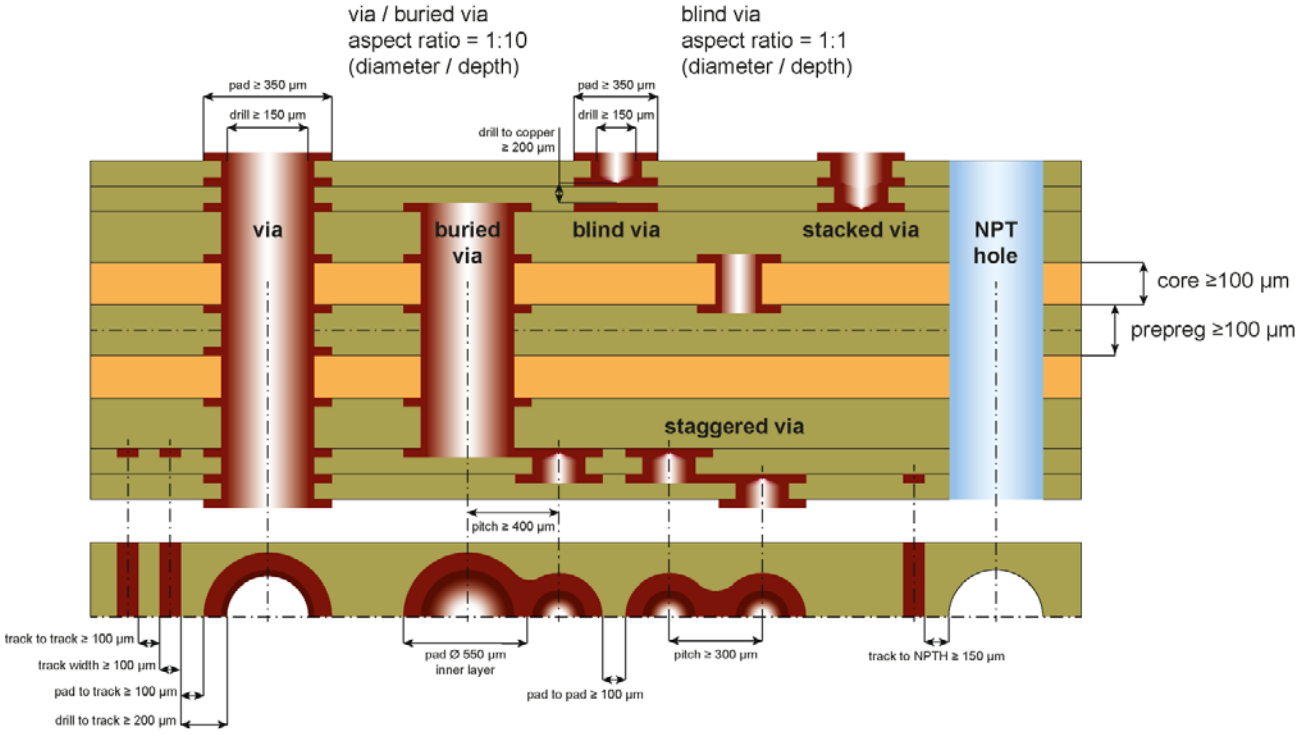
# Design Rules

## Drilling & Plating

### Annular Ring

An annular ring is the circumferential copper ring around a plated contact.




## Via & Blind & Burried & Aspect Ratio

### Via

Through holes connecting individual layers of PCBs, which do not use for the assembly of PTO components. In practice, these are typically small diameter holes up to about 0.6 mm. From the viewpoint of VIA holes, the Aspect Ratio parameter is the most important parameter. This is the ratio of drilling depth to drill bit diameter.

| **VIA holes can be divided into three categories:** | |
|---|---|
| Standard VIA: | There are holes connecting all layers of PCB. In this case, the smallest drill can be 0.15 mm with aspect ratio 1:10 |
| Buried Via | Buried vias are used to create connections of the inner layers, which have no contact with the outer layers. In this case you can use minimal drill size 0.15mm with aspect ratio 1:10 |
| Blind Via | Blind vias are used to connect one outer layer with at least one inner layer. The holes for each connection level must be defined as a separate drill file. In this case you can use minimal drill size 0.15mm with aspect ratio 1:1 |

**For example:**
Driling tool diameter 0.15 mm if Aspect Ratio 1:10 can drill into depth 1.5 mm
Driling tool diameter 0.15 mm if Aspect Ratio 1:1 can drill into depth 0.15 mm