

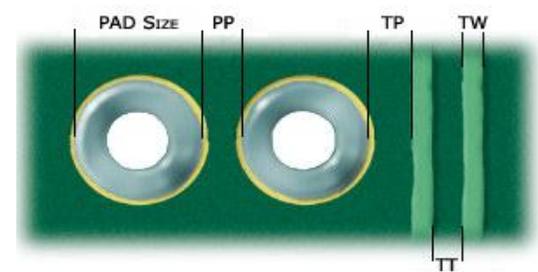
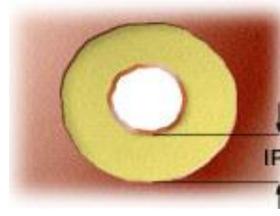
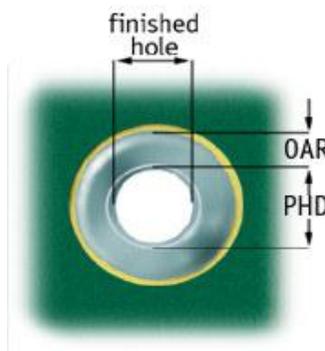


Eurocircuits - PCB design classification overview

Pattern Class	class 3		class 4		class 5		class 6		class 7		class 8		class 9		class 10		
Service	P+S+R+I		P+S+R+I		P+S+R+I		P+S+R+I		S+R		S+R		S+R		-		
OTW	0.250	10	0.200	8	0.175	7	0.150	6	0.125	5	0.100	4	0.090	3.5	<0.090	<3.5	mm-mil
OTT-OTP-OPP	0.250	10	0.200	8	0.175	7	0.150	6	0.125	5	0.100	4	0.090	3.5	<0.090	<3.5	mm-mil
OAR	0.200	8	0.150	6	0.150	6	0.125	5	0.125	5	0.100	4	0.100	4	<0.100	<4	mm-mil
ITW	0.250	10	0.200	8	0.175	7	0.150	6	0.125	5	0.100	4	0.090	3.5	<0.090	<3.5	mm-mil
ITT-ITP-IPP	0.250	10	0.200	8	0.175	7	0.150	6	0.125	5	0.100	4	0.090	3.5	<0.090	<3.5	mm-mil
IAR	0.200	8	0.150	6	0.150	6	0.125	5	0.125	5	0.125	5	0.125	5	<0.125	<5	mm-mil
IPI	0.275	11	0.225	9	0.225	9	0.200	8	0.200	8	0.200	8	0.200	8	<0.200	<8	mm-mil

The smallest value (OTW, OTT-OTP-OPP, OAR, ITW, ITT-ITP-IPP, IAR, IPI) determines the **Pattern Class** of the board

Base Cu		min Pattern values					
Base Cu OL		OTT-OTP-OPP			OTW		
12µm	1/2oz	0.090	3.5	0.090	3.5	mm-mil	
18µm	1/2oz	0.125	5	0.090	3.5	mm-mil	
35µm	1oz	0.175	7	0.125	5	mm-mil	
70µm	2oz	0.250	10	0.200	8	mm-mil	
105µm	3oz	0.300	12	0.250	10	mm-mil	
Base Cu IL		ITT-ITP-IPP			ITW		
12µm	1/2oz	0.090	3.5	0.090	3.5	mm-mil	
18µm	1/2oz	0.100	4	0.090	3.5	mm-mil	
35µm	1oz	0.125	5	0.125	5	mm-mil	
70µm	2oz	0.250	10	0.200	8	mm-mil	
105µm	3oz	0.300	12	0.250	10	mm-mil	



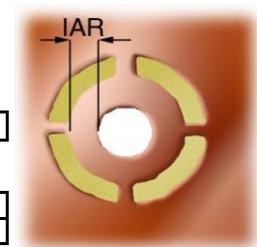
Preceding letters **O** and **I** stand for Outer- and Inner layer
Example: **OTW** = Outer layer Track Width

OAR : smallest OAR (Outer layer Annular Ring = 1/2 (Outer layer pad diameter - PHD))
IAR : smallest IAR (Inner layer Annular Ring = 1/2 (Inner layer pad diameter - PHD))

IPI (Inner layer Pad Insulation) : Clearance between edge PHD of any unconnected hole(PTH/NPTH) and any nearest copper

Smallest **PHD** : Production Hole Diameter or tool size = finished hole size + 0.10mm/4mil for Plated Through Holes
+ 0.00mm/0mil for Non Plated Through Holes

Drill Class	class A		class B		class C		class D		class E		class F		
Service	P+S+R+I		P+S+R		P+S+R		S+R		S+R		-		
min PHD	0.60	0.026	0.45	0.018	0.35	0.014	0.25	0.010	0.20	0.008	<0.20	<0.008	mm-inch
PTH	0.50	0.022	0.35	0.014	0.25	0.010	0.15	0.006	0.10	0.004	<0.10	<0.004	mm-inch
NPTH	0.60	0.026	0.45	0.018	0.35	0.014	0.25	0.010	0.20	0.008	<0.20	<0.008	mm-inch



Corresponding finished holes sizes

The smallest value (PHD) determines the **Drill Class** of the PCB

Max. PCB thickness to Drill Class	3.20		3.20		2.40		2.00		1.60		mm-inch		Aspect ratio is 1 / 8
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Note A: VIA holes are Plated Through Holes, default defined as <=0.45mm (18mil) for all services or <= as defined by the customer in the order details.

VIA holes have a maximum negative tolerance of 0.30mm (12mil)

Note B: This classification table can only be put into praxis on PCB designs that have a **Plating Index of 0.40 or higher**. This is calculated in the PCB Visualizer analysis and displayed in the PCB Visualizer order details.

Services Index : P = PCB proto S = STANDARD pool R = RF pool I = IMS pool