

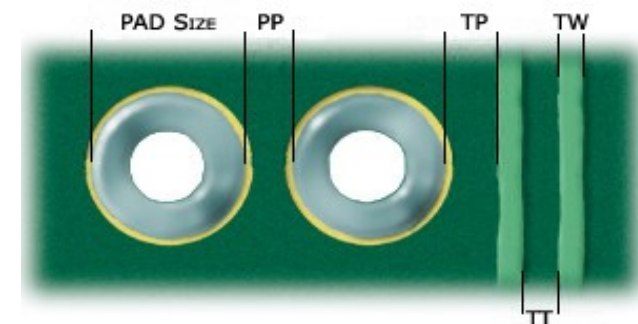
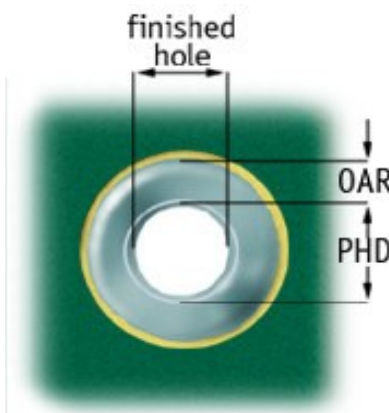


MakeMyPCB - PCB design classification overview

Pattern Class	class 3		class 4		class 5		class 6		class 7		class 8		class 9		class 10		
Service	P+S+O		P+S+O		P+S+O		P+S+O		O		O		O		-		
OTW	0,300	12	0,250	10	0,200	8	0,150	6	0,125	5	0,100	4	0,090	3,5	<0.090	<3.5	mm-mil
OTT-OTP-OPP	0,300	12	0,250	10	0,200	8	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	0,300	12	0,250	10	0,200	8	0,150	6	0,125	5	0,100	4	0,090	3,5	<0.090	<3.5	mm-mil
ITT-ITP-IPP	0,300	12	0,250	10	0,200	8	0,150	6	0,125	5	0,100	4	0,090	3,5	<0.090	<3.5	mm-mil
IAR	0,200	8	0,200	8	0,200	8	0,175	7	0,150	6	0,150	6	0,125	5	<0.125	<5	mm-mil

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

Base Cu		min Pattern values				
Base Cu OL		OTT-OTP-OPP		OTW		
12µm	1/3oz	0,090	3,5	0,090	3,5	mm-mil
18µm	1/2oz	0,125	5	0,100	4	mm-mil
35µm	1oz	0,200	8	0,150	6	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	1/3oz	0,090	3,5	0,090	3,5	mm-mil
18µm	1/2oz	0,100	4	0,100	4	mm-mil
35µm	1oz	0,150	6	0,150	6	mm-mil
70µm	2oz	0,250	10	0,200	8	mm-mil
105µm	3oz	0,300	12	0,250	10	mm-mil

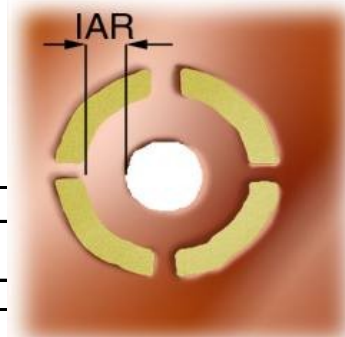


Preceding letters **O** and **I** stand for Outer- and Inner layer
 Example: **OTW** = **O**uter layer **T**rack **W**idth

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))

Smallest **PHD**: Production Hole Diameter or tool size = finished hole size + 0.100mm/4mil for **via's** (finished holesize =<0.45mm/0.018")
 + 0.150mm/6mil for **Plated Through Holes** (>0.45mm/0.018")
 + 0.050mm/2mil for **Non Plated Through Holes**

Drill Class	class A		class B		class C		class D		class E		class F		
Service	P+S+O		P+S+O		P+S+O		O		O		-		
min PHD	0,65	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

PTH	0,50	0,020	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	0,024	0,40	0,016	0,30	0,012	0,20	0,008	0,15	0,006	<0.15	<0.006	mm-inch

The smallest value (PHD) determines the **Drill Classification** of the pcb

Max. board thickness	3,20	0,125	3,20	0,125	2,40	0,093	2,00	0,079	1,60	0,062	mm-inch	Aspect ratio is 1 / 8
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Services Index : **P** = PCB proto **S** = STANDARD pool **O** = On demand