

【Question】



I am using a spiral point tap with a standard tap limit to tap SPC material. After tapping with a M4 × 0.7 P2 spiral point tap, the internal thread has a 10 μm thick plating applied. When I use a GP-6H GO thread plug gage, the thread is not the correct size. What type of tap should I use for this application?

When a 10 μm plating thickness is applied, the pitch diameter of the internal thread will become smaller by about 40 μm. In the case of an M4 × 0.7 thread with a 10 μm plating thickness, a P4 limit tap should be used to produce 40 μm larger thread. Please purchase a Yamawa spiral point tap specified as "P 4" instead of using a P2 limit tap. For more information, look at the cutting tap edition of the "Bags of Wisdom Series when you are in trouble", related to plating thickness and oversize tap conditions.



【Related Documents】

Oversize tap limit for plating thickness and accuracy of main dimension.

(Unit: μm)

Size	Tap limit and accuracy		Oversize amount of standard tap limit	Approximate thickness of corresponding plating	Size	Tap limit and accuracy		Oversize amount of standard tap limit	Approximate thickness of corresponding plating
	Limit	Accuracy				Limit	Accuracy		
M1.4X0.3	P1	+10~+25	Standard level	-	M4X0.7	P2	+20~+40	Standard level	-
	P2	+25~+30	+15	~4		P3	+40~+60	+20	~5
	P3	+40~+55	+30	~8		P4	+60~+80	+40	~10
M1.7X0.35	P1	+10~+25	Standard level	-	M5X0.8	P2	+20~+40	Standard level	-
	P2	+25~+30	+15	~4		P3	+40~+60	+20	~5
	P3	+40~+55	+30	~8		P4	+60~+80	+40	~10
M2X0.4	P1	+10~+25	Standard level	-	M6X1	P2	+20~+40	Standard level	-
	P2	+25~+30	+15	~4		P3	+40~+60	+20	~5
	P3	+40~+55	+30	~8		P4	+60~+80	+40	~10
	P4	+55~+60	+45	~12	M8X1.25	P2	+20~+40	Standard level	-
M2.3X0.4	P1	+10~+25	Standard level	-		P3	+40~+60	+20	~5
	P2	+25~+30	+15	~4		P4	+60~+80	+40	~10
	P3	+40~+55	+30	~8	M10X1.5	P2	+20~+40	Standard level	-
P4	+55~+60	+45	~12	P3		+40~+60	+20	~5	
M2.5X0.45	P1	+10~+25	Standard level	-		P4	+60~+80	+40	~10
	P2	+25~+30	+15	~4	M12X1.75	P2	+20~+40	Standard level	-
	P3	+40~+55	+30	~8		P3	+40~+60	+20	~5
P4	+55~+60	+45	~12	P4		+60~+80	+40	~10	
M3X0.5	P1	+10~+25	Standard level	-		M16X2	P2	+20~+40	Standard level
	P2	+25~+30	+15	~4	P3		+40~+60	+20	~5
	P3	+40~+55	+30	~8	P4		+60~+80	+40	~10
	P4	+55~+60	+45	~12	P5		+80~+100	+60	~15

Although the standard tap limit differs between a spiral flute tap (SP) and a spiral point tap (PO), the guide is written based on the minimum limit as the base.



The range of plating thickness that can be handled with a standard tap limit is about 8 to 10 μm. When applying a larger plating thickness, it may be necessary to produce a special tap with an accuracy precisely adjusted to the plating thickness.