

Threaded Inserts / Tools for Inserts

Tangless Inserts / Self-Tapping Inserts

Slotted

When large quantities are needed, box package sales is more economical. P274

Threaded Inserts

Material: SUS304

Part Number	* (L) After Insertion	Pitch	Tap Pilot Hole Dia. (Reference)	Unit Price	Volume Discount Rate
HLTS	3 4.5 6	0.5	3.11~3.20	1~9 pc(s)	10~19 20~49 50~100
HLSS	4 6 8	0.7	4.16~4.29		
HLTS	5 7.5 10	0.8	5.18~5.33		
HLSS	6 9 12	1.0	6.22~6.40		
HLTS	8 12 16	1.25	8.28~8.48		
HLSS	10 15 20	1.5	10.33~10.56		
HLTS	12 18 24	1.75	12.38~12.64		
HLSS	16 24 32	2.0	16.44~16.73		

Taps for Threaded Inserts

Coarse	Fine	Finish
HLTX	HLSX	Coarse Tapping
HLTY	HLSY	Medium Tapping
HLTZ	HLSZ	Finish Tapping

(M3-5) (M6 or More)

Material: SKH Hardness: G1 ~ 64HRC

Part Number	* (L) After Insertion	Pitch	Tap Pilot Hole Dia. (Reference)	Unit Price	Volume Discount Rate
HLSS	8 16 24	1.0	8.28~8.48	1~9 pc(s)	10~19 20~49 50~100
HLSS	10 15 20	1.0	10.33~10.56		
HLSS	10 15 20	1.25	12.38~12.64		
HLSS	12 18 24	1.5	12.38~12.64		

Threaded Insert Installation Tools

Material: SKH Hardness: G1 ~ 64HRC

Taps for Threaded Inserts

Part Number	No.	Applicable Threaded Insert M	L	D	K	Unit Price	Volume Discount Rate
HLTX	3	3	55	5	4	1~9 pc(s)	10~20
HLTY	4	4	61	5.5	4.5		
HLTZ	5	5	67	6	5		
HLTX	6	6	65	6.2	5		
HLTY	8	8	75	7	5.5		
HLTZ	10	10	82	8.5	6.5		
HLTX	12	12	88	10.5	8		
HLTY	16	16	105	14	11		

Threaded Insert Tang Break-Off Tools

Material: SCM435 Surface Treatment: Black Oxide

Threaded Insert Installation Tools

Part Number	No.	Pitch	L	D	K	Unit Price	Volume Discount Rate
HLSX	8	1.0	75	7	5.5	1~9 pc(s)	10~20
HLSY	10	1.0	82	8.5	6.5		
HLSZ	12	1.25	88	10.5	8		

Threaded Insert Removal Tools

Material: S45C Surface Treatment: Black Oxide

Tang Break-Off Tools

Part Number	No.	Applicable Threaded Insert M	L	A	Unit Price	Volume Discount Rate
HLTP	3	3	80		1~9 pc(s)	10~20
HLTP	4	4	150			
HLTP	5	5				
HLTP	6	6	165	103		
HLTP	8	8	175			
HLTP	10	10	180			
HLTP	12	12	200	124		
HLTP	16	16	210			

Threaded Insert Removal Tools

Part Number	No.	Applicable Threaded Insert M	L	A	Unit Price	Volume Discount Rate
HLTN	3	3	6	1.8	1~9 pc(s)	10~20
HLTN	4	4	9	2.6		
HLTN	5	5	10	3.5		
HLTN	6	6	10	4.2		
HLTN	8	8	12	5.5		
HLTN	10	10	14	7.5		
HLTN	12	12	16	8.5		
HLTN	16	16	20	12		

Ordering Example: Part Number - L - Pitch
 HLTS3 - 4.5
 HLTX5
 HLS10 - 15 - 1.25
 HLSX - 8 - 1.0

How to Handle Threaded Inserts

1. Drill a pilot hole in the workpiece within the appropriate limit of tap pilot hole diameters shown in the above table. (Hole Depth > Length after Insertion + 2.5xP (Pitch))
2. Tap with "Taps for Threaded Inserts" (Coarse, Medium, Finish Tapping in that order), and completely remove metal chips.
3. Insert Threaded Inserts to tip of sleeve of the Insert Tool (with tang on the tip side), and clip on the tang at the mandrel slot (Fig. 1). Turn the handle and insert Threaded Insert into the guide of thread part on the tool tip. Set it so that the threaded insert does not protrude more than the sleeve tip (leaving 1 or 2 pitches).
4. Turn the handle to install Threaded Inserts by positioning the insert tool perpendicular to the work (Fig. 2). Check the insertion condition from the opening of the sleeve tip. Remove the tool from the work when insertion is complete. *Inserting while pressing the handle hard in the insertion direction causes damages such as skipped threads. Always turn the handle lightly in the horizontal direction. Do not reverse the rotation during the insertion as that will cause damages.
5. After the insertion is complete, insert the tang break-off tool, and break off the tang from the notch by striking the head sharply with a hammer (Fig. 3).
6. When removing Threaded Inserts, press an Insert Removal Tool onto the insert, and slowly turn counterclockwise to remove it (Fig. 4). When reinserting the Threaded Insert into the removed hole, use special tap again before inserting.

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Tangless Inserts

Material: SUS304

Part Number	* (L) After Insertion	Tap Pilot Hole Dia. (Reference)	Unit Price	Volume Discount Rate
TLTS	2.5 3 4 5	2.60~2.65	1~49 pc(s)	50~100
TLTS	3 4 4.5 6	3.12~3.20		
TLTS	4 4 6 8	4.17~4.30		
TLTS	5 5 7.5 10	5.16~5.33		
TLTS	6 6 9 12	6.25~6.42		
TLTS	8 8 12 16	8.31~8.52		
TLTS	10 10 15 20	10.37~10.62		

Tangless Insert Hand Taps

Material: SKH Hardness: G1 ~ 64HRC

Hand Taps for Tangless Inserts

Part Number	No.	Applicable Threaded Insert M	L	D	K	Unit Price	Volume Discount Rate
TLTK	2.5	2.5	46	4	3.2	1~3 pc(s)	4 pcs.
TLTK	3	3	52	4	3.2		
TLTK	4	4	60	5.5	4.5		
TLTK	5	5	62	6	4.5		
TLTK	6	6	70	6.2	5		
TLTK	8	8	75	7	5.5		
TLTK	10	10	82	8.5	6.5		

Tangless Insert Insertions / Removal Tools

Material: SKH Hardness: G1 ~ 64HRC

Insertions / Removal Tools

Part Number	No.	D	L	Unit Price	Volume Discount Rate
TLTP	2.5	6.0	69.0	1~3 pc(s)	4 pcs.
TLTP	3	6.8	68.5		
TLTP	4	9.0	75.8		
TLTN	5	9.7	78.6		
TLTN	6	11.0	78.1		
TLTN	8	13.0	98.4		
TLTN	10	15.5	104.4		

Self-Tapping Inserts Slotted

Material: SUS303

Part Number	L	Tap Pilot Hole Dia. (Reference)		D	ENT	ENTs	
		Softer	Harder				
ENT ENTs	3	4.5	4.6	4.7	5	0.5	
	4	5.9	6.0	6.1	6.2	0.75	
	5	7.2	7.3	7.5	7.6	1.0	
	6	8.8	9.0	9.2	9.4	1.0	
	8	10.8	11.0	11.2	11.4	1.5	
	10	12.8	13.0	13.2	13.4	1.5	
	12	14.8	15.0	15.2	15.4	1.5	
	Unit Price: 1~99 pc(s), 100~300 1~99 pc(s), 100~300 Volume Discount Rate: 100~300 1~99 pc(s), 100~300						

Self-Tapping Inserts Hand Tools for Self-Tapping Inserts

Material: SUM22L

Hand Tools for Self-Tapping Inserts

Part Number	No.	Applicable Threaded Insert M	L	B1	B2	Unit Price	Volume Discount Rate
ENTP	3	3	55	5	7	1~9 pc(s)	10~20
ENTP	4	4	60	5	7		
ENTP	5	5	75	8	13		
ENTP	6	6	75	8	13		
ENTP	8	8	75	8	13		
ENTP	10	10	95	12.5	19		
ENTP	12	12	95	12.5	19		

Ordering Example: Part Number - L
 TLTS2.5 - 5
 ENT3 - 6
 ENTP5
 TLTP10

- ### Features of Self-Tapping Inserts
- Slotted tap inserts with both external and internal threads.
 - This fastener components reinforce relatively low mechanical thread strength and allow skipping of the pre-tapping.
- ### Machining Procedure and Precautions for Use
1. Drill a pilot hole in the workpiece within the appropriate limit of tap pilot hole diameters shown in the above table. When the tapped material has high hardness, drill a pilot hole of slightly larger diameter within the range.
 2. With the slot facing down, fit the self-tapping insert all the way onto the tip of the hand tool (Fig. 1). Put the insert vertically into the pilot hole by turning the tool handle. (Fig. 2)
 - * If the pilot hole diameter is too small, it may cause a lag in pitch or looseness, and can damage tools.
 - * At the start of tapping (1 to 2 pitches), check to see if the tools are aligned straight with the pilot hole.
 - * If the insert is going in slanted, stop turning the tool and re-align. Realignment after inserting almost halfway (1/3 to 1/2) is too late. Do not reverse the rotation during the insertion as that will cause damages.
 3. When the insert has arrived at a predetermined depth, tighten the hex part of the tool with a wrench, and then turn the handle counterclockwise to separate the tool from the workpiece. (Fig. 3)
 - * Further turning a tool when already in contact with the workpiece can damage the self-tapping part of the insert and result in a loose fit.
 4. Before the first use, please select a proper pilot hole dia. through trials.

When the tapped material has high hardness, drill a pilot hole of slightly larger diameter within the range.

Do not use this for difficult-to-cut high strength Aluminum (Duralumin etc.). For orders larger than indicated quantity, please check with WOS.

- ### How to Use a Bolt and a Nut
- Use a hex nut and a Self-Tapping Insert in a double-nut arrangement as shown below.
 - Do not obstruct the first thread or the 3-holes with the bolt. After the insertion is complete, loosen the hex nut while holding the bolt head.