



- ▶ ***Key Locking Thread Insert***
- ▶ ***Self Tapping Screw Insert***
- ▶ ***Wire Thread Screw Insert***

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Company Introduction



ABA Tech Inc was established in **2004** . Since that time our fastening systems have been successfully integrated into numerous applications within many different industries in the world. We provide local support for innovative, high quality fastening systems supplied globally to the strictest environmental and working conditions.

Today We are the leader in modern fastening technology especially in the production of **Key locking thread insert, Self tapping insert ,Wire screw thread insert and Installation tools**, our brand inserts are widely used in a variety of markets including automotive, electrical devices, aerospace and manufacturing equipment.

We have powerful manufacturing capability, our automatic lathes, CNC lathes, CNC machining centers, stamping machines and cold heading machines plus auxiliary equipment like milling machine, grinding machine, EDM and the cooperation of our partners, we are able to support every different components regardless of the prototyping or series production.

Key Locking Thread Insert



1. Introduction :

Key locking thread inserts are available in carbon and stainless steel, both inch and metric series, and are supplied in Thin wall, Heavy Duty styles. Featuring a key-locking action that prevents rotation due to vibration or torsion .

1.1 Features :

- Installed with standard drills and taps
- Easy installation and to remove
- May be used in a variety of materials: aluminum, magnesium, cold rolled steel
- Passivated to enhance corrosion-resistance and finish
- Counter bored internal thread on Inch Series ; counter sunk internal thread on Metric Series

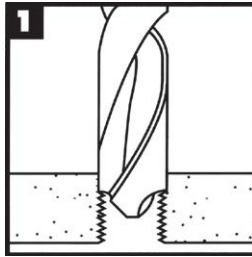
1.2 Applications :

- Trucks, RVs
- Machinery, Small Engines
- Molds, Tool and Die
- MRO Tasks

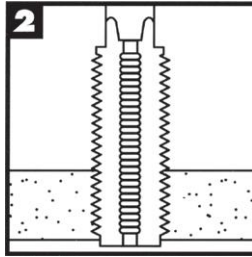
2.Installation & Removal:

Key locking thread inserts are very easy to install and remove , the procedures as follows:

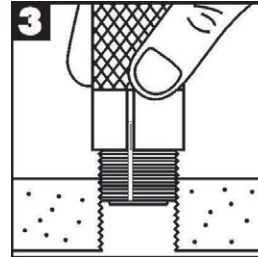
Installation



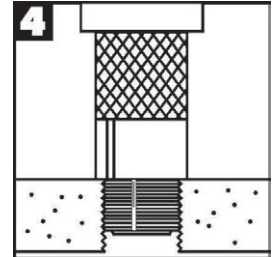
Drill out old threads with a standard drill. Note: Drill is oversize — see charts for proper dimensions. Chamfer the hole with a standard countersink (82°-100°).



Tap new threads with a standard tap. See charts for proper size and depth.



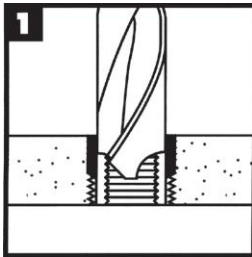
Screw in the insert until slightly below surface.



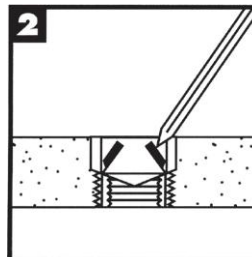
Drive keys down with several hammer taps on the proper installation tool.



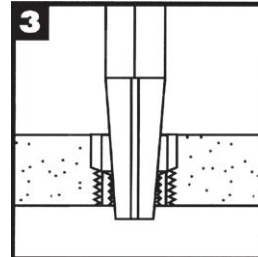
Removal



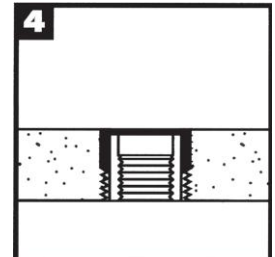
Drill out material between keys and internal thread with standard drill to specified depth



Deflect keys inward and break off.



Remove insert using an E-Z OUT or similar type tool.

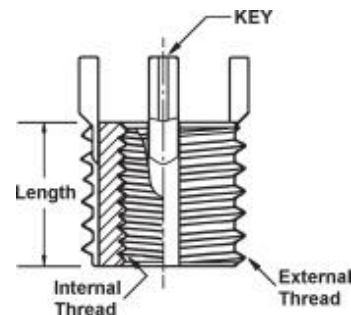


Same size replacement insert may be installed in the original hole.

3. Carbon & Stainless Steel Key Locking Thread Insert

3.1 Material: In Carbon Steel - C1215 or equivalent
In Stainless Steel - 303 or equivalent
Keys - 302 CRES or equivalent

3.2 Finish: Carbon Steel - Zinc Phosphate
Stainless Steel - Passivated



3.3 Technical Parameters :

Thin wall — Metric Series											
Insert					Installation				Removal		
Carbon Steel Part No.	Stainless Steel Part No.	Internal Thread Class 6H	External Thread Class 6g	Length in.	Installation Tool Part No.	Tap Drill Size	C'Sink Diameter +.25/- .00	Thread Tap		Drill	
								Size Class 6H	Min Depth	Size	Depth
25847	26347	M2-0.4	M4-0.7	3.0	24697	3.4	4.1	M4-0.7	4.0	2.8	2.0
25848	26348	M2.5-0.45	M4.5-0.75	3.8	24698	3.9	4.6	M4.5-0.75	5.0	3.0	2.0
25849	26349	M3-0.5	M5-0.8	4.25	24699	4.4	5.1	M5-0.8	5.5	3.5	2.25
25950	26350	M4-0.7	M6-0.75	5.25	24750	5.5	6.1	M6-0.75	6.5	4.6	2.5
25951	26351	M 5-0.8	M8-1.25	8.0	24751	6.9	8.25	M8-1.25	9.5	5.50	4.00
25952	26352	M6-1	M10-1.25	10.0	24752	8.8	10.25	M10-1.25	11.5	7.50	4.75
25953	26353	M8-1.25	M12-1.25	12.0	24753	10.8	12.25	M12-1.25	13.5	9.50	4.75
26153	26553	M8-1									
25955	26355	M10-1.5	M14-1.5	14.0	24755	12.8	14.25	M14-1.5	15.5	11.50	4.75
26155	26555	M10-1.25									
25956	26356	M12-1.75	M16-1.5	16.0	24756	14.75	16.25	M16-1.5	17.5	13.50	4.75
26156	26556	M12-1.25									

Heavy Duty — Metric Series											
Insert					Installation				Removal		
Carbon Steel Part No.	Stainless Steel Part No.	Internal Thread Class 6H	External Thread Class 6g	Length in.	Installation Tool Part No.	Tap Drill Size	C'Sink Diameter +.25/- .00	Thread Tap		Drill	
								Size Class 6H	Min. Depth	Size	Depth
25963	26363	M4-.7	M8-1.25	8.0	24763	6.90	8.25	M8-1.25	9.5	5.50	4.00
25964	26364	M5-.8	M10-1.25	10.0	24764	8.80	10.25	M10-1.25	12.5	7.50	4.75
25965	26365	M6-1	M12-1.25	12.0	24765	10.80	12.25	M12-1.25	14.5	9.50	4.75
25966	26366	M8-1.25	M14-1.5	14.0	24766	12.80	14.25	M14-1.5	16.5	11.50	4.75
26166	26566	M8-1									
25967	26367	M10-1.5	M16-1.5	16.0	24767	14.75	16.25	M16-1.5	18.5	13.50	4.75
26167	26567	M10-1.25									
23596	26369	M12-1.75	M18-1.5	18.0	24769	16.75	18.25	M18-1.5	20.5	15.50	4.75
26169	26569	M12-1.25									
25970	26370	M14-2	M20-1.5	20.0	24770	18.75	20.25	M20-1.5	22.5	17.50	4.75
26170	26570	M14-1.5									
25971	26371	M16-2	M22-1.5	22.0	24771	20.50	22.25	M22-1.5	24.5	17.75	6.35
26171	26571	M16-1.5									
26172	26572	M18-1.5	M24-1.5	24.0	24772	22.50	24.25	M24-1.5	26.5	19.75	6.35
25973	26373	M20-2.5	M30-2	30.0	24773	28.00	30.25	M30-2	34.5	25.75	6.35
26173	26573	M20-1.5									
26174	26574	M22-1.5	M32-2	32.0	24774	30.00	32.25	M32-2	36.5	27.75	6.35
25975	26375	M24-3	M33-2	33.0	24775	31.00	33.25	M33-2	37.5	28.75	6.35
26175	26575	M24-2									

Thread Screw Fastener Expert Since 2004

Thin wall — Inch Series											
Insert					Installation					Removal	
Carbon Steel Part No.	Stainless Steel Part No.	Internal Thread Class 3B	External Thread (Mod.) Class 2A	Length in.	Installation Tool Part No.	Tap Drill Size	C'Sink Diameter +.010/- .000	Thread Tap		Drill	
								Size Class 2B	Min. Depth	Size	Depth
25921	26321	10-24	5/16-18	0.31	24721	I	0.32	5/16-18	0.37	7/32	1/8
26121	26521	10-32									
25922	26322	1/4-20	3/8-16	0.37	24722	Q	0.38	3/8-16	0.43	9/32	3/16
26122	26522	1/4-28									
25923	26323	5/16-18	7/16-14	0.43	24723	X	0.44	7/16-14	0.50	11/32	3/16
26123	26523	5/16-24									
25924	26324	3/8-16	1/2-13	0.50	24724	29/64	0.51	1/2-13	0.56	13/32	3/16
26124	26524	3/8-24									
25925	26325	7/16-14	9/16-12	0.56	24725	33/64	0.57	9/16-12	0.62	15/32	3/16
26125	26525	7/16-20									
25926	26326	1/2-13	5/8-11	0.62	24726	37/64	0.63	5/8-11	0.68	17/32	3/16
26126	26526	1/2-20									
Heavy Duty — Inch Series											
Insert					Installation					Removal	
Carbon Steel Part No.	Stainless Steel Part No.	Internal Thread Class 3B	External Thread (Mod.) Class 2A	Length in.	Installation Tool Part No.	Tap Drill Size	C'Sink Diameter +.010/- .000	Thread Tap		Drill	
								Size Class 2B	Min. Depth	Size	Depth
25900	26300	8-32	5/16-18	0.31	24700	I	0.32	5/16-18	0.37	7/32	1/8
25901	26301	10-24	3/8-16	0.31	24701	Q	0.38	3/8-16	0.37	9/32	1/8
26101	26501	10-32									
25902	26302	1/4-20	7/16-14	0.37	24702	X	0.44	7/16-14	0.43	11/32	3/16
26102	26502	1/4-28									
25903	26303	5/16-18	1/2-13	0.43	24703	29/64	0.51	1/2-13	0.50	13/32	3/16
26103	26503	5/16-24									
25904	26304	3/8-16	9/16-12	0.50	24704	33/64	0.57	9/16-12	0.56	15/32	3/16
26104	26504	3/8-24									
25905	26305	7/16-14	5/8-11	0.62	24705	37/64	0.63	5/8-11	0.68	17/32	3/16
26105	26505	7/16-20									
25906	26306	1/2-13	3/4-16	0.62	24706	45/64	0.76	3/4-16	0.68	21/32	3/16
26106	26506	1/2-20									
25907	26307	9/16-12	3/4-16	0.81	24707	45/64	0.76	3/4-16	0.94	21/32	3/16
26107	26507	9/16-18									
25908	26308	5/8-11	7/8-14	0.87	24708	53/64	0.88	7/8-14	1.00	25/32	5/16
26108	26508	5/8-18									
25909	26309	3/4-10*	11/8-12	1.12	24709	1 1/16	1.14	1 1/8-12	1.31	31/32	5/16
26109	26509	3/4-16*									
25910	26310	7/8-9*	11/4-12	1.25	24710	1 3/16	1.27	1 1/4-12	1.44	1 3/32	5/16
26110	26510	7/8-14*									
25911	26311	1-8*	13/8-12	1.37	24711	1 5/16	1.39	1 3/8-12	1.56	1 7/32	5/16
26111	26511	1-12*									
26112	—	1-14*									

Self Tapping Thread Screw Insert

302/307/308 Type With Cutting Slot & Bores



1. Introduction

Self tapping insert 302(with cutting slot) is recommended for most application cases. In certain materials, this insert demonstrates a minimal inward springing action, so creating a certain screw locking effect. If this effect is not required, we recommend using Self tapping insert 307/308.

Self tapping insert 307/308(with cutting bores) was developed for materials with difficult cutting properties. This insert has a thick wall and the cutting force is distributed over three cutting edges.

1.1 Features :

- Self tapping insert has a large effective shearing surface, so ensuring a higher degree of pull-out strength.
- Self tapping insert is driven subsequently into the finished work piece. This means a higher casting machine output, no rejects due to incorrectly cast-in insert components, no moulding sand trapped in the thread.
- A pre-cast or pre-drilled retaining hole with normal tolerance requirements is sufficient for driving in the self tapping insert. The thread is always precisely positioned.
- Self tapping insert is insensitive to small areas of shrinkage. The self tapping insert prevents damage caused by torn threads.

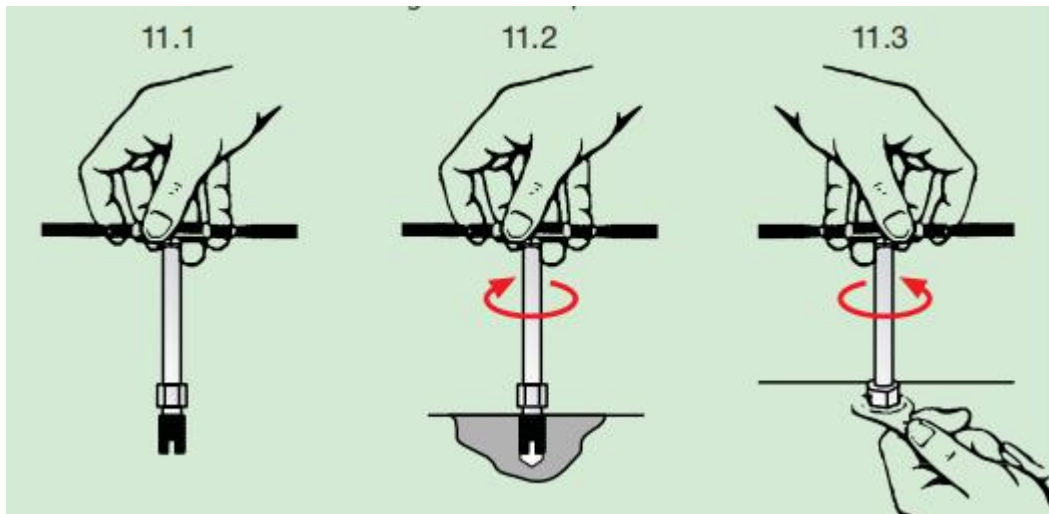
1.2 Applications :

- Automotive
- Plant and equipment construction

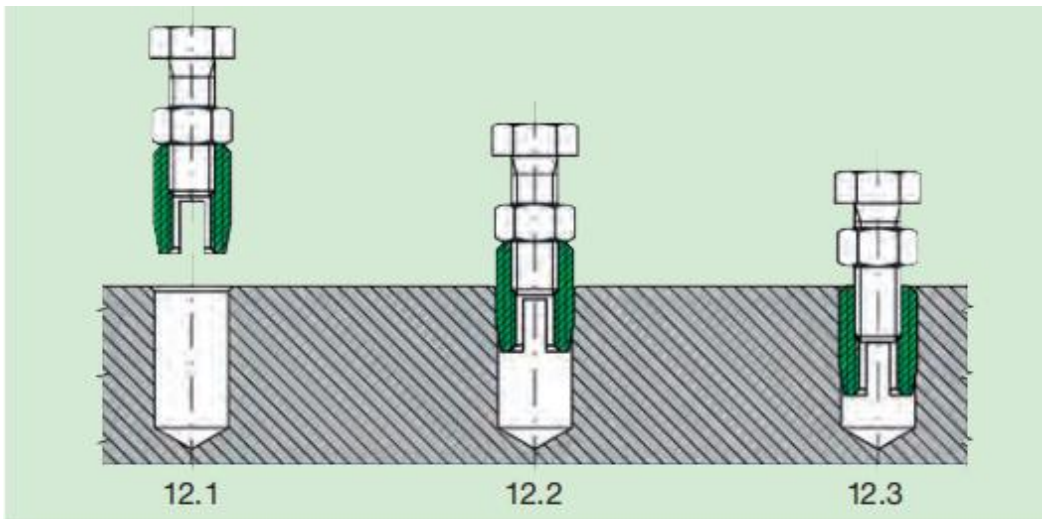
- Railway supply industry
- Electro-technics and laboratory techniques
- Household appliance
- Medical engineering

2. Manual Insertion Process

Manual installation with driving tool and tap wrench:



Emergency installation using screw and nut:



The manual insertion is usually carried out using the manual tool via the female thread or in the case of the tools using the hexagon socket. You can of course also use power tools for the manual assembly. If doing so, it needs to be ensured that the rotatable sleeve is in the corresponding correct position.

Image 11.1/12.1

Thread the insert, cutting geometry (slit or bore) has to be pointing downward. Attention needs to be paid while doing so that the screw with nut does not face in the direction of the cutting geometry after locking with a counter nut, as the shavings are otherwise not discharged.

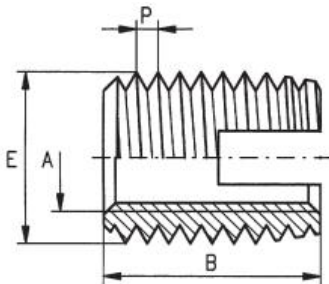
Image 11.2/12.2

Screw in the insert until approx. 0.1-0.2 mm underneath the surface of the work piece (during temporary assembly using screw and nut, the insert should be processed until flat). Vertical assembly must be ensured.

Image 11.3/12.3

Loosen the counter nut, otherwise the insert could possibly become unscrewed. Subsequently screw out the screw/screw-in tool.

3. Self Tapping Thread Insert--302 Type



The self tapping threaded with cutting slot is a fastener for the creation of wear-free, vibration resistant screw joints with high loading capacity in materials with low shearing strength. (Metric ,UNC or UNF)

3.1 Installation Materials:

- Light alloys
- Cast iron, brass, bronze NF metals
- Plastics, laminates

3.2 Material & Finish :

-Stainless steel 303, passivated

-Case-hardened steel, zinc-plated, yellow chromated

Other materials, designs and finishes on request :

-Brass

-Case-hardened steel, zinc-plated, blue passivated

-Case-hardened steel, zinc/nickel plated, transparent passivated

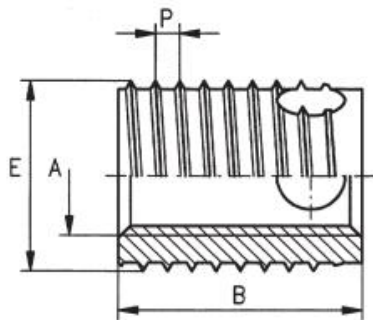
3.3 Technical Parameters :

Dimensions in mm

Metric Series							
Carbon Steel Part No.	Stainless Steel Part No.	Internal Thread	External Thread		Length	Guideline values for receiving hole diameter	Minimum borehole depth for blind holes
Carbon steel (1215)	SUS303	A	E	P	B	L	T
302020001	302020002	M2	4.5	0.5	6	4.2 to 4.3	8
302025001	302025002	M2.5	4.5	0.5	6	4.2 to 4.3	8
302030001	302030002	M3	5	0.5	6	4.7 to 4.8	8
302035001	302035002	M3.5	6	0.75	8	5.6 to 5.7	10
302040001	302040002	M4	6.5	0.75	8	6.1 to 6.2	10
302050001	302050002	M5	8	1	10	7.5 to 7.6	13
302060001	302060002	M6(a)	9	1	12	8.5 to 8.6	15
302061001	302061002	M6	10	1.5	14	9.2 to 9.4	17
302080001	302080002	M8	12	1.5	15	11.2 to 11.4	18
302100001	302100002	M10	14	1.5	18	13.2 to 13.4	22
302120001	302120002	M12	16	1.5	22	15.2 to 15.4	26
302140001	302140002	M14	18	1.5	24	17.2 to 17.4	28
302160001	302160002	M16	20	1.5	22	19.2 to 19.4	26
302180001	302180002	M18	22	1.5	24	21.2 to 21.4	29
302200001	302200002	M20	26	1.5	27	25.2 to 25.4	32
302200001	302200002	M22	26	1.5	30	25.2 to 25.4	36
302240001	302240002	M24	30	1.5	30	29.2 to 29.4	36
302270001	302270002	M27	34	1.5	30	33.2 to 33.4	36

UNC & UNF Series								
	Carbon Steel Part No.	Stainless Steel Part No.	Internal Thread	External Thread		Length	Guideline values for receiving hole diameter	Minimum borehole depth for blind holes
UNC Unified Coarse Thread ANSI B1.1/BS 1580 Internal thread	Carbon steel (1215)	SUS303	A	E	P	B	L	T
	302604001	302604002	4 - 40	5	0.5	6	4.5 to 4.8	8
	302606001	302606002	6 - 32	6	0.75	8	5.6 to 5.7	10
	302608001	302608002	8 - 32	6.5	0.75	8	6.1 to 6.2	10
	302610001	302610002	10 - 32	8	1	10	7.5 to 7.6	13
	302625001	302625002	1/4 - 20	10	1.5	14	9.2 to 9.4	17
	302631001	302631002	5/16 - 18	12	1.5	15	11.2 to 11.4	18
	302637001	302637002	3/8 - 16	14	1.5	18	13.2 to 13.4	22
	302644001	302644002	7/16 - 14	16	1.5	22	15.2 to 15.4	26
	302650001	302650002	1/2 - 13	18	1.5	22	17.2 to 17.4	26
UNF Unified Fine Thread ANSI B1.1/BS1 580 Internal thread	302704001	302704002	4 - 48	5	0.5	6	4.5 to 4.8	8
	302706001	302706002	6 - 40	6	0.75	8	5.6 to 5.7	10
	302708001	302708002	8 - 36	6.5	0.75	8	6.1 to 6.2	10
	302710001	302710002	10 - 32	8	1	10	7.5 to 7.6	13
	302725001	302725002	1/4 - 28	10	1.5	14	9.2 to 9.4	17
	302731001	302731002	5/16 - 24	12	1.5	15	11.2 to 11.4	18
	302737001	302737002	3/8 - 24	14	1.5	18	13.2 to 13.4	22
	302744001	302744002	7/16 - 20	16	1.5	22	15.2 to 15.4	26
	302750001	302750002	1/2 - 20	18	1.5	22	17.2 to 17.4	26
	302762001	302762002	5/8 - 18	20	1.5	22	19.2 to 19.4	26

4. Self Tapping Thread Insert --307/308 Type



Self tapping threaded insert with cutting bores is a self-tapping fastener for the creation of wear free,vibration resistant screw joints with high loading capacity in materials with higher shearing strength.

4.1 Installation Materials:

- Cast iron
- Magnesium alloys
- Aluminium and aluminium alloys
- Duroplastics, thermoplastics

(with the exception of rubber-soft thermoplastics < 100 Shore A)

4.2 Design : Short : Works Standard 307; Long : Works Standard 308

4.3 Material & Finish :

- Stainless steel 303, passivated
- Case-hardened steel, zinc-plated, yellow chromated

Other materials, designs and finishes on request :

- Brass
- Case-hardened steel, zinc-plated, blue passivated
- Case-hardened steel, zinc/nickel plated, transparent passivated

4.4 External thread E : Special thread with flattened thread root, tolerances in accordance with works
Standard

4.5 Technical Parameters :

Dimensions in mm

Metric Series							
Carbon Steel Part No.	Stainless Steel Part No.	Internal Thread	External Thread		Length	Guideline values for receiving hole diameter	Minimum borehole depth for blind holes
Carbon steel (1215)	SUS303	A	E	P	B	L	T
307030001	307030002	M3	5	0.6	4	4.7 to 4.8	6
308030001	308030002	M3	5	0.6	6	4.7 to 4.8	8
307035001	307035002	M3.5	6	0.8	5	5.6 to 5.7	7
308035001	308035002	M3.5	6	0.8	8	5.6 to 5.7	10
307040001	307040002	M4	6.5	0.8	6	6.1 to 6.2	8
308040001	308040002	M4	6.5	0.8	8	6.1 to 6.2	10
307050001	307050002	M5	8	1	7	7.6 to 7.7	9
308050001	308050002	M5	8	1	10	7.6 to 7.7	13
307060001	307060002	M6	10	1.25	8	9.5 to 9.6	10
308060001	308060002	M6	10	1.25	12	9.5 to 9.6	15
307080001	307080002	M8	12	1.5	9	11.3 to 11.5	11
308080001	308080002	M8	12	1.5	14	11.3 to 11.5	17
307100001	307100002	M10	14	1.5	10	13.3 to 13.5	13
308100001	308100002	M10	14	1.5	18	13.3 to 13.5	22
307120001	307120002	M12	16	1.75	12	15.2 to 15.4	15
308120001	308120002	M12	16	1.75	22	15.2 to 15.4	26
307140001	307140002	M14	18	2	14	17.2 to 17.4	17
308140001	308140002	M14	18	2	24	17.2 to 17.4	28
307160001	307160002	M16	20	2	14	19.2 to 19.4	17
308160001	308160002	M16	20	2	24	19.2 to 19.4	28
307180001	307180002	M18	22	2	18	21.2 to 21.4	21
308180001	308180002	M18	22	2	24	21.2 to 21.4	28
308200001	308200002	M20	26	2	27	25.2 to 25.4	31
308220001	308220002	M22	26	2	30	25.2 to 25.4	34

Wire Thread Screw Insert



1. Introduction

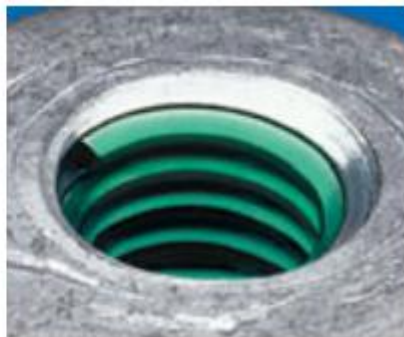
Wire thread screw insert can be used to strengthen threads, giving applications a longer life. Each insert sharing the load over the entire bolt and hole, improving holding or pull out resistance. With a wire thread insert installed, a more even distribution of load and stress can be achieved. Free running wire thread inserts are generally made of type 304(18-8) stainless steel wire rolled into a diamond shape cross-section.

1.1 Features :

- Light weight yet robust design gives superior holding power
- Quick and simple installation process
- Large variety of materials and coating options
- Special lengths and diameter pitch combinations available to order



Defective thread



Repaired thread

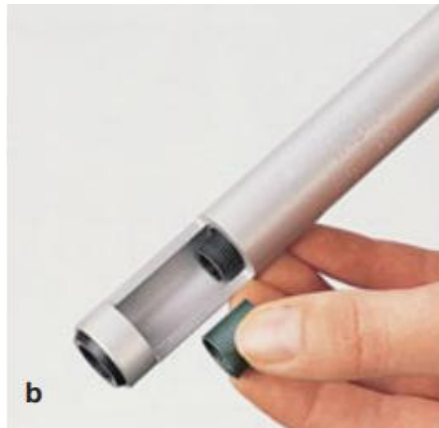
1.2 Applications :

- Automotive • Metal construction • Aerospace industry
- Agricultural machinery • Construction machinery • Rail carriages
- Mechanical engineering • Wind power Solar • Electronic devices

1.3 Installation :

1.3.1 Form tapping

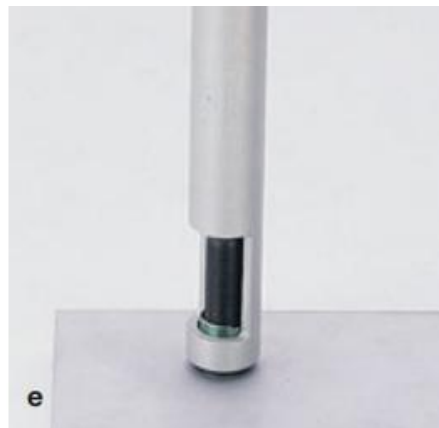
Chipless production of internal threads with forming taps is an efficient production method for many materials.



1.3.2 Insertion of thread insert

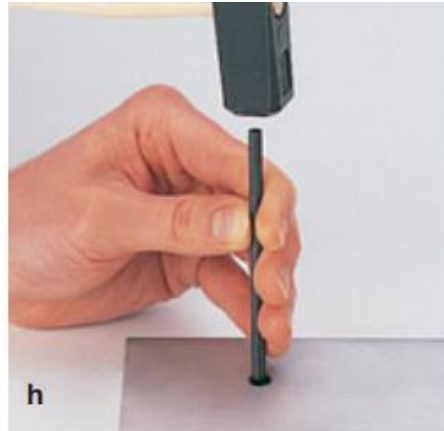
The installation can be done manually, automatically or with machine tools.

Wire thread insert is screwed onto the installation mandrel with the tang down (a), inserted into the leader cartridge (b) or placed on the fly-over tool (c). Then, the tool is placed over the tapped hole.



1.3.3 Installation

By turning the threaded mandrel (d), the mandrel (e) or the fly-over tool (f), respectively, manually or triggering the drive, the thread insert is screwed in. It must be installed at least $0.25 P$ below the surface.

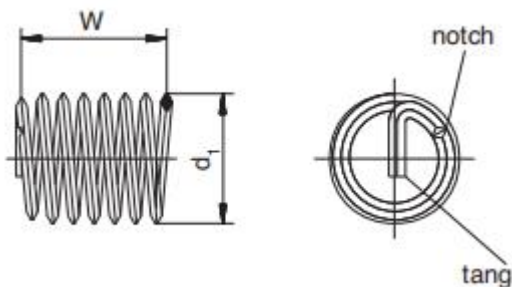


1.3.4. Breaking off the tang

To produce a through-hole thread, the tang is broken off at the notch. For that, a tang break-off tool is used (g and h). For threads from M 14 (fine and normal pitch), the tang can be removed with long nose pliers (i). For blind-hole threads, the tang does not have to be removed if the maximum screw-in depth of the screw is observed.

2. Technical Parameter

Free running



W and d1 are the control values for thread inserts (free running) before they have been installed. The length can only be measured for installed thread inserts.

2.1 Material :

- Stainless steel grade 304 (AS7245) austenitic corrosion resistant steel.

For normal applications up to 425°C .

- Stainless steel grade 316 (AISI 316) austenitic corrosion resistant steel.

For Marine applications up to 425°C .

2.2 Coating & Finishing :

- Silver Plating

Primarily used to reduce the effects of screw thread seizure in high temperature applications.

- Coloured Dye

Red, blue and green colour dyes are available for fast and secure visual inspection and identification. These organic resin based dyes do not affect the installation or function of the inserts and normally do not need to be removed.

2.3 Technical Parameters - Metric(normal size)

d = Nominal thread diameter

P = Thread pitch

d1 = Outside diameter of thread insert prior to installation

W = Number of threads prior to installation

DHC = Outside diameter of the parent thread

B = Suitable twist drill diameter.

dx p	x d	L(mm)	W	d1 min.max(mm)	B(mm)
M1.6x0.35	1d	1.6	3.1	2.1~2.3	1.6
	1.5d	2.4	4.5		
	2d	3.2	6.2		
M2x0.4	1d	2	3.2	2.5~2.8	2.1
	1.5d	3	5.3		
	2d	4	7.4		
	2.5d	5	9.5		
	3d	6	11.6		
M2.5x0.45	1d	2	3.6	3.3~3.5	2.6
	1.5d	3.8	5.9		
	2d	5	8.2		
	2.5d	6.3	10.5		
	3d	7.5	12.8		
M3x0.5	1d	3	4.2	3.8~4	3.1
	1.5d	4.5	6.8		
	2d	6	9.4		
	2.5d	7.5	12		

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	3d	9	14.6		
M3.5x0.6	1d	3.5	4	4.55~4.75	3.7
	1.5d	5.3	6.4		
	2d	7	8.9		
	2.5d	8.8	11.4		
	3d	10.5	13.9		
M4x0.7	1d	4	4	5.05~5.25	4.2
	1.5d	6	6.6		
	2d	8	9.1		
	2.5d	10	11.7		
	3d	12	14.2		
M5x0.8	1d	5	4.4	6.35~6.6	5.2
	1.5d	7.5	7.1		
	2d	10	9.9		
	2.5d	12.5	12.6		
	3d	15	15.3		
M6x1	1d	6	4.3	7.6~7.85	6.3
	1.5d	9	6.9		
	2d	12	9.6		
	2.5d	15	12.2		
	3d	18	14.9		
M7x1	1d	7	5.2	8.65~8.9	7.3
	1.5d	10.5	8.3		
	2d	14	11.5		
	2.5d	17.5	14.6		
M8x1.25	1d	8	4.8	9.85~10.1	8.3
	1.5d	12	7.7		
	2d	16	10.6		
	2.5d	20	13.5		
	3d	24	16.5		
M8x1	1d	8	6	9.85~10.1	8.3
	1.5d	12	9.6		
	2d	16	13.1		
	2.5d	20	16.7		
M10x1.5	1d	10	5	12.1~12.5	10.4
	1.5d	15	8.1		
	2d	20	11.2		
	2.5d	25	14.2		
	3d	30	17.3		
M10x1.25	1d	10	6.1	12.1~12.5	10.3
	1.5d	15	9.7		
	2d	20	13.3		
	2.5d	25	16.9		
M10x1	1d	10	7.7	12.0~12.5	10.3
	1.5d	15	12.1		
	2d	20	16.5		
	2.5d	25	20.8		
M11x1.5	1d	11	5.7	13.0~13.4	11.4
	1.5d	16.5	9.1		
	2d	22	12.5		

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M12x1.75	1d	12	5.3	14.3~14.8	12.4
	1.5d	18	8.4		
	2d	24	11.6		
	2.5d	30	14.8		
	3d	36	18		
M12x1.5	1d	12	6.2	14.3~14.8	12.4
	1.5d	18	9.8		
	2d	24	13.5		
	2.5d	30	17.1		
M12x1.25	1d	12	7.5	14.3~14.8	12.3
	1.5d	18	11.8		
	2d	24	16.1		
	2.5d	30	20.3		
M12x1	1d	12	9.4	14.3~14.8	12.3
	1.5d	18	14.7		
	2d	24	19.9		
M14x2	1d	14	5.4	16.7~17.2	14.5
	1.5d	21	8.7		
	2d	28	11.9		
	2.5d	35	15.2		
	3d	42	18.4		
M14x1.5	0.75d	10.5	5.2	16.7~17.2	14.4
	1d	14	7.3		
	1.5d	21	11.5		
	2d	28	15.7		
	2.5d	35	19.9		
M14x1.25	1d	14	8.8	16.7~17.2	14.3
	1.5d	21	13.8		
M16x2	1d	16	6.3	18.8~19.4	16.5
	1.5d	24	10		
	2d	32	13.7		
	2.5d	40	17.5		
	3d	48	21.2		
M16x1.5	0.75d	12	6.1	18.8~19.4	16.4
	1d	16	8.5		
	1.5d	24	13.3		
	2d	32	18.1		
M18x2.5	1d	18	5.6	21.4~22	18.6
	1.5d	27	9		
	2d	36	12.3		
	2.5d	45	15.7		
	3d	54	19		
M18x2	0.75d	13.5	5	21.4~22	18.5
	1d	18	7.1		
	1.5d	27	11.2		
	2d	36	15.2		
M18x1.5	0.75d	13.5	7.1	21.4~22	18.4
	1d	18	9.8		
	1.5d	27	15		
	2d	36	20.3		

Technical Parameters - UNC/UNF

d Number-threads	d	p	x d	L(mm)	W	d1 min.max (mm)	B(mm)
2-56	2.184	0.45	1d	2.18	3.3	2.7-3.1	2.3
			1.5d	3.28	5		
			2d	4.37	6.8		
4-40	2.845	0.64	1d	2.90	3.2	3.6-4.0	3.0
			1.5d	4.30	5.1		
			2d	5.80	7.2		
5-40	3.175	0.64	1d	3.20	3.7	4.0-4.4	3.3
			1.5d	4.80	5.9		
			2d	6.40	8.2		
6-32	3.505	0.79	1d	3.50	2.8	4.5-4.9	3.7
			1.5d	5.30	4.8		
			2d	7.00	6.8		
8-32	4.166	0.79	1d	4.20	4	5.2-5.6	4.4
			1.5d	6.25	6		
			2d	8.30	8.7		
8-36	4.166	0.71	1d	4.20	4.5	5.1-5.6	4.3
			1.5d	6.30	7.2		
			2d	8.30	9.7		
10-24	4.826	1.06	1d	4.80	3.3	6.1-6.6	5.1
			1.5d	7.20	5.4		
			2d	9.60	7.5		
10-32	4.826	0.79	1d	4.83	4.3	5.9-6.5	5.0
			1.5d	7.24	6.9		
			2d	9.60	9.5		
12-24	5.486	1.06	1d	5.50	4	6.8-7.2	5.8
			1.5d	8.20	6.3		
			2d	11.00	8.8		
1/4"-20	6.35	1.27	1d	6.40	3.9	7.8-8.3	6.7
			1.5d	9.50	6.2		
			2d	12.70	8.6		
1/4"-28	6.35	0.91	1d	6.35	5.3	7.7-8.3	6.6
			1.5d	9.50	8.6		
			2d	12.70	11.8		
5/16"-18	7.938	1.41	1d	7.90	4.3	9.6-10.2	8.3
			1.5d	11.90	6.8		
			2d	15.90	9.4		
5/16"-24	7.938	1.06	1d	7.90	5.9	9.6-10.2	8.2
			1.5d	11.90	9.4		
			2d	15.90	12.8		
3/16"-16	9.525	1.59	1d	9.50	4.8	11.4-11.9	9.9
			1.5d	14.30	7.7		
			2d	19.10	10.6		
3/8"-24	9.525	1.06	1d	9.50	7.3	11.4-11.9	9.8

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			1.5d	14.30	11.5		
			2d	19.10	15.6		
7/16"-14	11.113	1.81	1d	11.10	4.9	13.3-13.9	11.6
			1.5d	16.70	7.9		
			2d	22.20	10.7		
7/16"-20	11.113	1.27	1d	11.10	7	13.3-13.7	11.4
			1.5d	16.70	11.1		
			2d	22.20	15		
1/12"-13	12.7	1.95	1d	12.70	5.2	15.1-15.7	13.2
			1.5d	19.10	8.3		
			2d	25.40	11.4		
1/12"-20	12.7	1.27	1d	12.70	7.9	15-15.6	13.0
			1.5d	19.10	12.8		
			2d	25.40	17.3		
9/16"-18	14.288	1.41	1d	14.30	7.9	16.91-17.55	14.6
			1.5d	21.50	12		
			2d	28.60	16		
5/8"-11	15.875	2.31	1d	15.9	5.7	18.8-19.4	16.5
			1.5d	23.8	9		
			2d	31.8	12.3		
5/8"-18	15.875	1.41	1d	15.9	9.4	18.6-19.3	16.2
			1.5d	23.8	14.5		
			2d	31.8	19.7		
3/4"-10	19.05	2.54	1d	19.1	6.3	22.3-23.0	19.7
			1.5d	28.6	9.9		
			2d	38.1	13.5		
3/4"-16	19.05	1.59	1d	19.1	10.1	22.2-22.8	19.4
			1.5d	28.6	15.6		
			2d	38.1	21		
7/8"-14	22.225	1.81	1d	22.2	10.3	25.9-26.7	22.6
			1.5d	33.3	15.9		
			2d	44.5	21.6		
1/8"-14	25.4	3.18	1d	25.4	6.8	29.6-30.4	26.1
			1.5d	38.1	10.6		
			2d	50.8	15.4		
1"-12	25.4	2.12	1d	25.4	10	29.6-30.4	30.0
			1.5d	38.1	15.6		
			2d	25.4	11.8		
1"-14	25.4	1.81	1d	25.4	11.8	29.6-30.4	25.9
			1.5d	38.1	18.1		
			2d	50.8	24.5		