

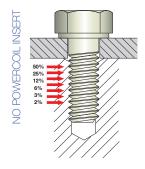
Manufactured from high quality chromium nickel stainless steel, PowerCoil Wire Thread Inserts provide high strength internal threads that resist the effects of temperature and corrosion. Their unique design ensures superior threads whose compound performance cannot be reproduced by any other single fastening method. Available in two basic forms, free running or screw locking, they are much lighter and less expensive than any other equivalent type of thread insert and because of their compact size they can generally be incorporated into existing designs where no previous provision has been made.

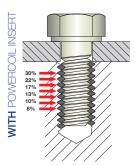
FEATURES & BENEFITS

- ♦ Much lighter and less expensive than any other equivalent type of thread
- ♦ Wire thread inserts can generally be introduced into existing designs where no previous provision has been made.
- ♦ They increase quality and performance whilst reducing overall product cost.
- ◆ Their use may result in the use of thinner sections or lighter parent materials without sacrificing thread strength.
- ◆ They protect tapped threads against failures due to stripping, seizing, corrosion and wear.
- ♦ PowerCoil inserts have an exceedingly smooth surface finish which virtually eliminates friction-induced thread errosion.
- ♦ The continuous helically coiled design negates the need for thick wall structures to support the internal and external threads.
- ♦ Wire thread inserts can be installed in reduced size bosses or flanges and within constricted areas – saving space and weight while providing high strength.

STRENGTH

- ♦ Wire thread inserts create internal threads that have a much improved distribution of residual stress loading when compared with conventional tapped holes.
- ♦ The flexibility of wire thread inserts helps to compensate for pitch and flank angle errors, inherent in normal tapped holes.
- ◆ PowerCoil inserts significantly enhance the load bearing capacity by deflecting the residual forces into a helical hoop stress which is dispersed into the wall of the tapped hole.
- ♦ They enable designs to be confidently based on the bolt strength utilising smaller and shorter threads even when used in low strength materials such as magnesium and aluminium alloys.
- Both static and dynamic load bearing capabilities are improved.





ELIMINATE STRESS

♦ Virtually no stress is introduced into the parent material because there is no staking, locking, swaging or keying in place.

- ♦ The combination of material hardness and the brilliant surface finish of wire thread inserts creates internal threads in which wear due to thread friction is virtually eliminated.
- ♦ The low frictional coefficient ensures that virtually all of the applied assembly torque is converted into clamping load, thus providing threads that stay tight.









FREE RUNNING INSERTS

When installed, using any one of a variety of manual or automatic tools, PowerCoil free running inserts provide strong permanent internal threads that resist heat and corrosion.



Once fitted, their position is maintained by the action of radial pressure between their coils and the flanks of the tapped hole. This pressure exists because their free (uninstalled) diameter is larger, by a calculated amount, than their installed diameter.









SCREW LOCKING INSERTS

Screw locking (or prevailing torque) inserts are of particular value in applications subject to the effects of cyclic vibration or impact. In addition to the benefits of free running inserts, screw locking inserts offer:

- ◆ The additional security of prevailing locking torque. This is achieved by the action of one or more polygonal grip coils positioned within each insert's length, which exert radial pressure on the male thread.
- Each grip coil consists of a number of tangential locking chords that protrude inside the minor diameter. As the male thread passes through these grip coils, the locking flats are displaced thus exerting radial pressure or prevailing torque on the male thread.
- ♦ On removal of the male thread, the coils relax to their original form.

NOMINAL THREAD	LOCKING Nm	TORQUE Nm
METRIC COARSE	MIN	MAX
M2.20 X 0.45	0.14	0.02
M2.50 X 0.45	0.23	0.05
M3.00 X 0.50	0.45	0.10
M3.50 X 0.60	0.68	0.12
M4.00 X 0.70	0.90	0.15
M5.00 X 0.80	1.60	0.30
M6.00 X 1.00	3.00	0.40
M7.00 X 1.00	4.50	0.60
M8.00 X 1.25	6.00	0.80
M10.00 X 1.50	10.50	1.40
M12.00 X 1.75	15.50	2.10
M14.00 X 2.00	23.50	3.00
M16.00 X 2.00	31.50	4.20
M18.00 X 2.50	42.00	5.50
M20.00 X 2.50	54.00	7.00
M22.00 X 2.50	67.50	9.00
M24.00 X 3.00	80.00	10.50
METRIC FINE	MIN	MAX
M8.00 X 1.00	6.00	0.80
M10.00 X 1.00	10.50	1.40
M10.00 X 1.25	10.50	1.40
M12.00 X 1.25	15.50	2.10
M12.00 X 1.50	15.50	2.10
M14.00 X 1.50	23.50	3.00
M16.00 X 1.50	31.50	4.20
M18.00 X 1.50	42.00	5.50
M18.00 X 2.00	42.00	5.50
M20.00 X 1.50	54.00	7.00
M20.00 X 2.00	54.00	7.00
M22.00 X 1.50	67.50	9.00
M22.00 X 2.00	67.50	9.00
M24.00 X 1.50	80.00	10.50
M24.00 X 2.00	80.00	10.50

NOMINAL THREAD	LOCKING lb. in.	TORQUE lb. in.
UNC	MIN	MAX
2 X 56	1.25	0.19
4 X 40	3.00	0.63
5 X 40	4.69	0.81
6 X 32	6.00	1.00
3 X 32	9.00	1.50
10 X 24	13.00	2.00
12 X 24	24.00	3.00
1/4 X 20	30.00	4.50
5/16 X 18	60.00	7.50
3/8 X 18	80.00	12.00
7/16 X 14	100.00	16.50
1/2 X 13	150.00	24.00
9/16 X 12	200.00	30.00
5/8 X 11	300.00	40.00
3/4 X 10	400.00	60.00
7/8 X 9	600.00	82.00
1 X 8	800.00	110.00
UNF	MIN	MAX
4 X 48	0.19	0.63
6 X 40	6.00	1.00
8 X 36	9.00	1.50
10 X 32	13.00	2.00
1/4 X 28	30.00	3.50
5/16 X 24	60.00	6.50
3/8 X 24	80.00	9.50
7/16 X 20	100.00	14.00
1/2 X 20	150.00	18.00
9/16 X 18	200.00	24.00
5/8 X 18	300.00	32.00
3/4 X 16	400.00	50.00
7/8 X 14	600.00	70.00
1 X 12	800.00	90.00
1 X 14	800.00	90.00

THREAD TYPE

PowerCoil Kits include stainless steel free running 1.5D inserts*, a HSS STI intermediate tap and installation tool. Kits up to 13mm and 1/2" also include a HSS tapping drill and

PowerCoil Kits are ideal for repairs and use in low to medium production volume environments. Detailed instructions are included in every kit.

*Spark plug and BA inserts are not 1.5D. Check catalogue for actual lengths. SINGLE SIZE KITS

THREAD TYPE	FROM	TO	# INSERTS	DRILL	STI TAP	TOOL	TOOT
METRIC COARSE 34 KITS	M 2-0.40	M 8-1.25	20	V	V	1 00L	100L
WETRIC COARSE 34 KITS	M 9-1.25	M 10-1.50	15		V	~	~
	M 11-1.50	M 12-1.75	10	~	V	~	~
	M 13-1.75	M 16-2.00	10		V	V	_
	M 18-2.50	M 25-3.00	5		V	~	
	M 27-3.00	M 39-4.00	10		V	V	
	M 42-4.50	M 72-6.00	5	_	V	V	
METRIC FINE 39 KITS	M 8-1.00	III 72 0.00	20	~	V	~	~
METHOTHE COTATO	M 10-1.25	M 10-1.00	15	V	V	V	~
	M 11-1.25	M 12-1.00	10	V	V	V	V
	M 13-1.50	M 16-1.50	10	_	V	V	_
	M 18-2.00	M 25-1.25	5	_	~	V	_
	M 26-1.50	M 39-3.00	10	_	V	~	_
	M 42-3.00	M 52-2.00	5	_	~	~	_
SPARK PLUG 5 KITS	M10-1.00	_	5+5	_	V	V	V
	M12-1.25	_	5+5	_	V	V	~
	M14-1.25	_	5+5+5	_	V	V	_
	M18-1.50	-	5	_	V	V	_
UNC 24 KITS	UNC 2-56	UNC 5/16-18	20	V	V	V	V
	UNC 3/8-16	-	15	V	V	V	V
	UNC 7/16-14	UNC 1/2-13	10	~	V	~	V
	UNC 9/16-12	UNC 5/8-11	10	_	V	~	_
	UNC 3/4-10	UNC 1-8	5	_	V	~	_
	UNC 1.1/8-7	UNC 2.1/2-4	10	_	~	~	_
UNF 22 KITS	UNF 3-56	UNF 5/16-24	20	~	V	V	~
	UNF 3/8-24	-	15	~	V	V	~
	UNF 7/16-16	UNF 1/2-20	10	V	V	V	V
	UNF 9/16-18	UNF 5/8-18	10	_	V	V	-
	UNF 3/4-16	UNF 1-14	5	_	V	V	_
	UNF 1.1/8-12	UNF 1.1/2-12	10	_	V	V	-
BSW 12 KITS	BSW 1/8-40	BSW 5/16-18	20	V	V	V	~
	BSW 3/8-16	-	15	~	V	V	~
	BSW 7/16-14	BSW 1/2-12	10	V	V	V	~
	BSW 9/16-12	BSW 5/8-11	10	_	V	V	_
	BSW 3/4-10	BSW 1-8	5	_	V	V	-
BSF 10 KITS	BSF 3/16-32	BSF 5/16-22	20	~	V	V	~
	BSF 3/8-20	_	15	~	V	V	~
	BSF 7/16-18	BSF 1/2-16	10	~	V	V	~
	BSF 9/16-16	BSF 5/8-14	10	_	V	V	_
	BSF 3/4-12	BSF 1-10	5	_	V	V	_
BSP 10 KITS	BSP 1/8-28	BSP 1.1/2-11	10	_	V	~	_
NPT 7 KITS	NPT 1/16-27	NPT 1-11.5	10	-	V	V	_
8-UN 10 KITS	UN 1.1/8-8	UN 3-8	5	-	V	V	-
BSC 5 KITS	BSC 1/4-26	BCS 5/16-26	20	~	V	V	~
	BSC 3/8-26	-	15	~	V	V	~
	BSC 7/16-26	BSC 1/2-26	10	V	V	V	~
BA 4 KITS	BA 0	BA 6	20	~	V	~	V



PowerCoil Workshop Kits include a selection of the most popular sizes in the most common thread forms. There are a range of standard metric kits including variations that include spark plug inserts. Workshop Kits are available in Metric, UNC, UNF, BSW and BSF thread forms.

All workshop kits include drills, STI taps and tools for each size insert. They are ideal for use in workshop and medium production volume environments.

Detailed instructions are included in every kit.





Complete range of STI taps, hand installation tools as well as electric and pneumatic tools for production environments



POWERCOIL KITS

- 1. Cost effective repair option.
- 2. Includes all the tools required to make a repair.
- 3. Rubber tool holders ensure all components are stored safely after each use.





BULK INSERTS

PowerCoil bulk inserts are available in both free-running and screw locking forms. A selected range of thread forms and sizes are also available on strip feed reels for use in production and assembly environments.

THREAD TYPE	SIZE RANGE	TO	INSERT LENGTH	FREE RUNNING	SCREW LOCKING
	FROM	TO TO	"D" / MM / INCH	BULK	BULK
METRIC	M 2-0.4	M 42-3.0	1.0, 1.5, 2.0, 2.5, 3.0D	✓	✓
SPARK PLUG	M 10-1.0	-	0.339, 1/2"	V	-
	M 12-1.25	-	1/2, 3/4"	V	-
	M 14-1.25	-	3/8, 7/16, 1/2, 3/4"	V	_
	M 14-1.25	_	8.4, 12.4, 16.4MM	V	_
	M 18-1.5	-	1/2"	V	_
UNC	UNC 2-56	UNC 1.1/2-6	1.0, 1.5, 2.0, 2.5, 3.0D	V	V
UNF	UNF 3-56	UNF 1.1/2-12	1.0, 1.5, 2.0, 2.5, 3.0D	V	V
BSW	BSW 1/8-40	BSW 1-8	1.0, 1.5, 2.0, 2.5, 3.0D	V	_
BSF	BSF 3/16-32	BSF 1-10	1.0, 1.5, 2.0, 2.5, 3.0D	V	_
BSC	BSC 1/4-26	BSC 1/2-26	1.0, 1.5, 2.0, 2.5, 3.0D	V	_
BSP	BSP 1/8-28	BSP 1-11	1.0, 1.5, 2.0, 2.5, 3.0D	V	_
NPT	NPT 1/8-27	NPT 1-11.5	1.5D	V	_
BA	BA 0	BA 6	1.0, 1.5, 2.0, 2.5, 3.0D	V	_
8-UN	UN 1.1/8-8	UN 2-8	1.0, 1.5, 2.0, 2.5, 3.0D	V	- 0

PowerCoil wire thread inserts comply with many requirements and standards of industry and aerospace industry. These include but are not limited to: DIN 8140, DIN 65536, LN 9039, LN 9499. Further standards such as MS and EN on request.



THREAD TYPE	SIZE RANGE FROM	ТО	INSERT LENGTH "D" / MM / INCH	FREE RUNNING STRIP FEED REEL	SCREW LOCKING STRIP FEED REEL
METRIC	M 2.2-0.45	M 12-1.75	1.0, 1.5, 2.0D	V	V
UNC	UNC 2-56	UNC 3/8-16	1.0, 1.5, 2.0D	V	✓
UNF	UNF 4-48	UNF 3/8-24	1.0, 1.5, 2.0D	V	V

PowerCoil clam shell insert packets are a cost effective way to purchase small quantities of free running inserts for replenishing kits. They can also be used for low volume applications where the customer already has a suitable STI tap and tools.

THREAD TYPE	SIZE RANGE		INSERT LENGTH	FREE RUNNING
	FROM	TO	"D" / MM / INCH	CLAM SHELL PACK
METRIC COARSE	M 2-0.4	M 3.0-0.6	1.0, 1.5, 2.0, 2.5, 3.0D	V
	M 4-0.7	M 10-1.5	1.0, 1.5, 2.0, 2.5, 3.0D	V
	M 11-1.5	M 13-1.75	1.0, 1.5, 2.0, 2.5, 3.0D	V
	M 14-2	M 24-3	1.0, 1.5, 2.0, 2.5, 3.0D	V
	M 27-3	M 36-4	1.0, 1.5, 2.0, 2.5, 3.0D	V
METRIC FINE	M 6-0.75	M 20-1.5	1.0, 1.5, 2.0, 2.5, 3.0D	✓
	M 20-1.25	-	1.0, 1.5, 2.0, 2.5, 3.0D	V
	M 21-2	M 24-1.5	1.0, 1.5, 2.0, 2.5, 3.0D	✓
	M 26-1.5	M 36-1.5	1.0, 1.5, 2.0, 2.5, 3.0D	V
SPARK PLUG	M 10-1.0	-	0.339, 1/2"	V
	M 12-1.25	-	1/2, 3/4"	V
	M 14-1.25	-	3/8, 7/16, 1/2, 3/4"	V
	M 14-1.25	-	8.4, 12.4, 16.4MM	V
	M 18-1.5	-	1/2"	V
UNC	UNC 2-56	UNC 1-8	1.0, 1.5, 2.0, 2.5, 3.0D	V
	UNC 1.1/8-7	UNC 1.1/2-6	1.0, 1.5, 2.0, 2.5, 3.0D	V
UNF	UNF 3-56	UNF 1-12	1.0, 1.5, 2.0, 2.5, 3.0D	V
	UNF 1.1/8-12	UNF 1.1/2-12	1.0, 1.5, 2.0, 2.5, 3.0D	V
BSW	BSW 1/8-40	BSW 1-8	1.0, 1.5, 2.0, 2.5, 3.0D	V
BSF	BSF 3/16-32	BSF 1-10	1.0, 1.5, 2.0, 2.5, 3.0D	V
BSC	BSC 1/4-26	BSC 1/2-26	1.0, 1.5, 2.0, 2.5, 3.0D	V
BSP	BSP 1/8-28	BSP 1-11	1.0, 1.5, 2.0, 2.5, 3.0D	V
NPT	NPT 1/16-27	NPT 1-11.5	1.5D	V



Please note Larger inserts in longer lengths may not fit in clam shells and will be supplied

in a plastic bag.



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