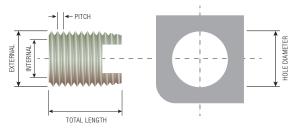
tapsert

SELF TAPPING INSERTS

TECHNICAL





Tapserts are self cutting threaded inserts that feature both external and internal threads. They are driven into a pre-formed or pre-drilled retaining hole and the cutting slots (or cutting bores) effectively tap the hole as the insert is wound into the parent material.

Tapserts are ideal for use in low shear strength materials (such as alloys, plastics and castings) which require threaded seats with high load capacity and wear resistance.

Tapserts feature:

- High pull-out strength
- High loading capacity in low shear strength materials
- Wear free, vibration resistant screw joint
- Pre-cast or pre-drilled holes with standard tolerance
- No requirement for thread tapping tools
- Retains and captures chips from installation in chipping reservoirs.

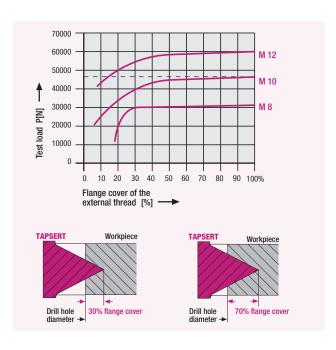
HOLE PREPARATION

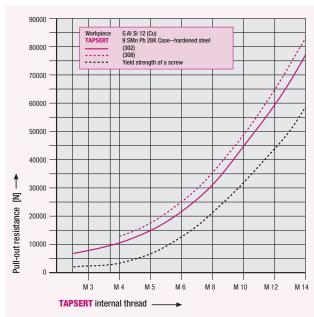
The receiving hole is drilled or pre-cast in the parent material. Generally there is no requirement to countersink the hole but it is recommended care is taken not to warp the workpiece surface when installing the insert. Tapserts must be installed at least 0.1-0.2mm below the assembly surface.

- The length of the Tapsert MUST NOT exceed the thickness of the parent material.
- The minimum hole depth is indicated in the data tables included in every kit. Alternatively these may be downloaded from the website www.powercoil.com.au
- The minimum wall thickness of the assembly is dependant on the maximum insert loads and the elasticity of the parent material.
- Detailed hole diameter information is shown on the installation leaflet included with every kit and is also available at www.powercoil.com.au. As a general guide hard materials require a larger diameter hole than softer, elastic materials. If the installed insert is being subjected to high loads it is recommended to perform material specific testing prior to production.

INSTALLATION NUT & BOLT

Screw the insert onto the bolt and nut assembly ensuring the slot side is pointing downward. Thread the nut down the bolt until it sits firmly against the top of the Tapsert. Ensure that the Tapsert is perpendicular to the workpiece and apply downward pressure on the installation assembly. Turn the bolt head to wind the Tapsert into the receiving hole. The tapsert is installed when the nut is flush with the top of the parent material. Loosen the nut and wind the assembly out of the Tapsert. Complete instructions are included in every Tapsert kit.



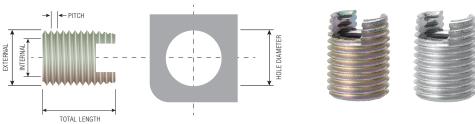


SELF TAPPING INSERTS

TECHNICAL







		DRILL SIZE SELECTION					
	Light Alloys		Rm<250				
	Rm = tensile strei	ngth N/mm²	Rm<300				8
				Rm<350			hole hol
					Rm>		Minimum drill hole depth for blind holes
	MS, Bronze, NF Metal				Rm>350		n d r bl
	Cast Iron		<150	50 HB			nu 1 fo
	HB = Brinell hardness N/mm ²		<20		0 HB		in sta
					>200 HB		
INTERNAL THREAD	EXT. THREAD	LENGTH	MM	MM	MM	MM	MM
M 2.5 - 0,45	M 4.5 - 0,5	6	_	4,1	4,2	4,3	8
M 3 - 0,6	M 5 - 0,5	6	_	4,6	4,7	4,8	8
M 4 - 0,7	M 6.5 - 0,75	8	5,9	6,0	6,1	6,2	10
M 5 - 0,8	M 8 - 1,0	10	7,2	7,3	7,5	7,6	13
M 6 - 1,0	M 10 - 1,5	14	8,8	9,0	9,2	9,4	17
M 8 - 1,25	M 12 - 1,5	15	10,8	11,0	11,2	11,4	18
M 10 - 1,5	M 14 - 1,5	18	12,8	13,0	13,2	13,4	22
M 12 - 1,75	M 16 - 1,5	22	14,8	15,0	15,2	15,4	26
M 16 - 2,0	M 20 - 1,5	22	18,8	19,0	19,2	19,4	27
M 16 - 1,5	M 20 - 1,5	22	18,8	19,0	19,2	19,4	27
M 18 - 2,5	M 22 - 1,5	24	20,8	21,0	21,2	21,4	29
M 20 - 2,5	M 26 - 1,5	27	24,8	25,0	25,2	25,4	32
M 22 - 2,5	M 26 - 1,5	30	24,8	25,0	25,2	25,4	36
M 24 - 3,0	M 30 - 1,5	30	28,8	29,0	29,2	29,4	36
M 14 - 1,25 Spark Plug		15	16,8	17,0	17,2	17,4	28
M 14 - 1,25 Spark Plug		9	16,8	17,0	17,2	17,4	28
M 14 - 1,25 Spark Plug		9 & 15	16,8	17,0	17,2	17,4	28
UNC 1/4 - 20	M 10 - 1,5	14	8,8	9,0	9,2	9,4	17
UNC 5/16 - 18	M 12 - 1,5	15	10,8	11,0	11,2	11,4	18
UNC 3/8 - 16	M 14 - 1,5	18	12,8	13,0	13,2	13,4	22
UNC 7/16 - 14	M 16 - 1,5	22	14,8	15,0	15,2	15,4	26
UNC 1/2 - 13	M 18 - 1,5	22	16,8	17,0	17,2	17,4	28
UNC 5/8 - 11	M 20 - 1,5	22	18,8	19,0	19,2	19,4	27
UNF 1/4 - 28	M 10 - 1,5	14	8,8	9,0	9,2	9,4	17
UNF 5/16 - 24	M 12 - 1,5	15	10,8	11,0	11,2	11,4	18
UNF 3/8 - 24	M 14 - 1,5	18	12,8	13,0	13,2	13,4	22
UNF 7/16 - 20	M 16 - 1,5	22	14,8	15,0	15,2	15,4	26
UNF 1/2 - 20	M 18 - 1,5	22	16,8	17,0	17,2	17,4	28
UNF 5/8 - 18	M 20 - 1,5	22	18,8	19,0	19,2	19,4	27

DRILL HOLE DIAMETER

Brittle, tough, and hard materials require a larger drill hole than soft and elastic materials. For recommended hole sizes see table above. The drill sizes in bold are the recommended diameter for easy assembly. Smaller diameters may require the use of cutting fluid during installation. When specific load performance is required we advise insert/material testing.





Drill hole to recommended size as shown in the selection table.



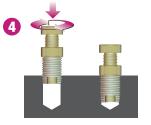
Thread the Tapsert on to the bolt ensuring the slot side is down. The insert should be flush with the end of the bolt.



Thread the nut down the bolt until it sits firmly against the top of the Tapsert.



NOTE Tapping fluid should be used to aid installation.



To ensure the Tapsert installation is straight apply downward pressure on the assembly.

If using an open ended wrench apply downward pressure to the bolt head whilst turning the nut to wind the Tapsert in. Alternatively if using a socket for installation apply downward pressure to the socket.

The Tapsert is installed when the nut is flush with the top of the parent material.



Loosen the nut with an open ended wrench and wind the nut and bolt assembly out of the Tapsert.

Congratulations – you have successfully created a new thread.