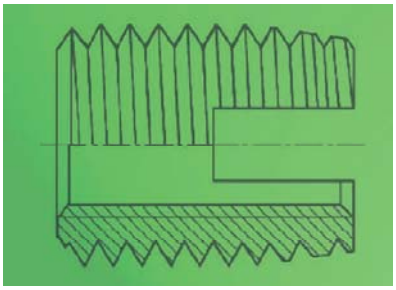
ARMSTRONG

THREADED INSERT

FOR METALS

ARMSTRONG SELF TAPPING INSERT



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ARMSTRONG

ARMSTRONG Threaded inserts for metal

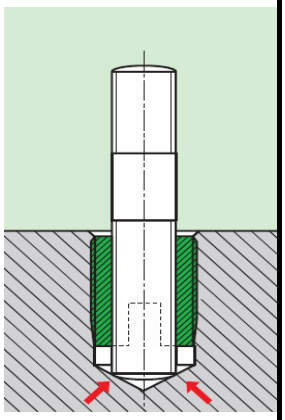
Dimensions	Product features	Retaining hole	Pull-out strength	Specification
Threaded inserts from Armstrong				
Tested quality: Test Method				
ARMSTRONG Series - the self tapping threaded insert ; Pull-out strength; Installation				
ARMSTRONG Series - 302 and ARMSTRONG Series 302 1				
M2 to M30 M4 to M10	self-tapping with cutting slot / and head	Form cast or drilled	Very high	Works Standard 302 Works Standard 302 1
ARMSTRONG Series - SB 307/308 and ARMSTRONG Series-SBK 307 1/308 1				
M3 to M16 M5 to M10	Self tapping with 3 cutting bores / and head	Form cast or drilled	Very high	Works Standard 307/308 Work Standard 307/308 1
ARMSTRONG Series -SBN 317/318				
M4 to M16	Self tapping with 3 cutting bores & safety groove nut, grooved stud as a locking element	Form cast or drilled	Very high	Works Standard 317/318
ARMSTRONG Series - SBS 337/338 and ARMSTRONG Series SBT 357/358				
M3 to M16	Self tapping with 3 cutting bores as chip reservoirs Tank version additionally with closed floor	Form cast or drilled	Very high	Works Standard 337/338 Works Standard 357/358
ARMSTRONG Series - SD/SBD 303/347/348				
M3 to M10 and M3.5 to M16	as 302/307/308 but in a special thin walled version	Form cast or drilled	high	Works Standard 303 Works Standard 347/348
ARMSTRONG Series - SI 302 2 and ARMSTRONG Series SBI 307 2/308 2				
M4 to M12	Self tapping with current slot or with 3 cutting bores and hexagonal socket	Form cast or drilled	Very high	Works Standard 307 2 Works Standard 308 2
Mubux - Z 890				
M4 and M5	Threaded inserts for embedding	Form cast or drilled	Medium	Works Standard 890/896
Mubux - MO 970				
M3 to M12	Outside coated with precote 80 for anti rotation and sealing	drilled and tapped thread (standard thread)	high	Works Standard 970
ARMSTRONG Series - Gripp 304				
M14x1.25/9mm M14x1.25/15mm M18x1.5/9mm	drilled for spark plugs retaining thread, self tapping with cutting bore		very high	Works Standard 304
Installation Tools				
Tools 620/621/610/6102				

ARMSTRONG

SELF TAPPING THREADED INSERT

Installation recommendation

Avoid any tilting between the Self Tapping Threaded Insert and the screw – under the head or in the thread. For this reason, in the case of adjusting screws the Self Tapping Threaded Insert is driven in to a depth of >=1 mm. Studs are countersunk to the floor surface of the blind hole (see illustration).



Borehole diameter [mm]			Standard values for Self Tapping Insert 302				Standard values for Self Tapping Insert 307/308...337/338			
Workpiece material	Light alloys Rm=tensile strenght [N/mm2]		R_m < 250	R_m < 300	R_m < 350	R_m >350	R_m < 300	R_m < 350		R_m >350
	Ms, bronze, NF-metall		< 150 HB	< 200 HB		>200 HB	< 150 HB	< 200 HB		>200 HB
	Cast iron HB = brinell hardness [N/mm2]									
Self Tapping internal	M2/M2,5	Zoll		41	42	43	-	-		-
	M3	N° 4		46	47	48	46	47		48
	M3,5	N° 6	54	55	56	57	55	56		57
	M4	N° 8	59	60	61	62	60	61		62
	M5	N° 10	72	73	75	76	74	75	76	77
	M6(a)	-	82	83	85	86	-	-	-	-
	M6	1/4 "	88	90	92	94	93	94	95	96
	M8	5/16"	108	110	112	114	111	112	113	115
	M10	3/8 "	128	130	132	134	131	132	133	135
	M12	7/16"	148	150	152	154	150	151	152	154
	M14	1/2 "	168	170	172	174	170	171	172	174
	M16	5/8"	188	190	192	194	190	191	192	194
	M18	-	208	210	212	214				
	M20/22	3/4"	248	250	252	254				
	M24		288	290	292	294				
	M27		328	330	332	334				
	M30		348	350	352	354				
Flange cover approx.			60%	50%	40%	30%	80%	70%	60%	50%

The adjacent table is used to deter-mine the recommended bore hole diameter depending on the material of the workpiece and the Self Tapping Threaded Insert type/dimension.

Example:Light alloy workpiece (Rm=280 N/mm2),Internal thread M8, recommended bore hole diameter for ARMSTRONG Series-S 302: 11.2 to 11.4 mm

In case of processing problems (e.g.markedly increased screw-in torque levels) there is generally no harm in selecting diameter data in the next highest column. In case of doubt, we advise carrying out a

These specifications are only recommendations and apply to ARMSTRONG Series made of steel, hardened and plated.

Retaining Hole

The retaining hole can be simply drilled or already provided for in the casting.It is generally not necessary to zountersink the hole. However, we do recommend that you take care not to warp the workpiece surface when screwing in the ARMSTRONG Series

Material thickness:

Length of the ARMSTRONG Series = smallest admissible material thickness

Depth of Blind Hole:

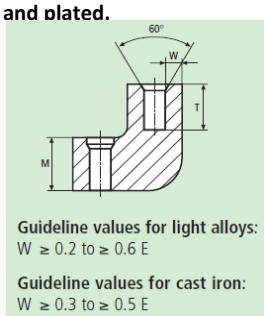
Minimum depth -T see Works Standard sheets, page 7 to 20.

Borehole Diameter:

Brittle, tough and hard materials call for a larger borehole than soft or elastic materials. For guideline values, see the table above.

Edge distance:

The smallest still admissible edge distance depends on the planned stress level and the elasticity of the material into which the ARMSTRONG Series is screwed.



Guideline values for light alloys:
W ≥ 0.2 to ≥ 0.6 E

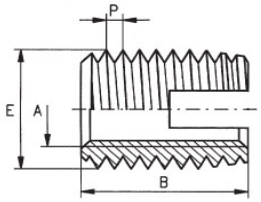
Guideline values for cast iron:
W ≥ 0.3 to ≥ 0.5 E

ARMSTRONG	**Threaded insert Self-tapping** metric inner thread	**Self Tapping Threaded Insert** Standard 302	Works

Application

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

It is suitable for installation in the following materials: - Light alloys - Cast iron, brass, bronze NF metals - Plastics, laminates - Hardwoods



Internal thread	External thread		Length	Minimum borehole depth for blind holes
A	E	P	B	T
M 2	4,5	0,5	6	8
M 2,5	4,5	0,5	6	8
M 3	5	0,5	6	8
M 3,5	6	0,75	8	10
M 4	6,5	0,75	8	10
M 5	8	1	10	13
M 6 (a)	9	1	12	15
M 6	10	1,5	14	17
M 8	12	1,5	15	18
M 10	14	1,5	18	22
M 12	16	1,5	22	26
M 14	18	1,5	24	28
M 16	20	1,5	22	27
M 18	22	1,5	24	29
M 20	26	1,5	27	32
M 22	26	1,5	30	36
M 24	30	1,5	30	36
M 27	34	1,5	30	36
M 30	36	1,5	40	46

Materials

Unhardened steel
Case-hardened steel, zinc-plated, yellow chromated
Brass
Rust-proof steel 1.4105
Rust-proof steel 1.4305
Other materials, designs and

Tolerances

ISO 2768-m

Thread

Internal thread A: as per ISO 6H
External thread E: metric, Tolerances in accordance with Works Standard
Internal thread UNC, UNF, Whitworth or fine threads see page 8.

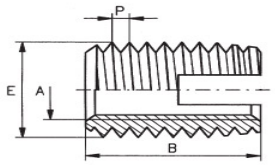
Please Note

M2 / M2,5 are only suitable for low-strength materials, as the shear resistance of studs in the driving tools may be insufficient.

ARMSTRONG	**Threaded insert Self-tapping** metric inner thread	**Self Tapping Threaded Insert** Standard 302	Works

Application

Threaded insert with cutting slot and internal thread Whitworth, UNC or UNF.



	Internal Thread Inch	External Thread mm		Length mm	Minimum borehole depth for blind holes
	A	E	P	B	T
Whitworth B.S.84 Internal thread Tolerance: medium	1/4	10	1,5	14	17
	5/16	12	1,5	15	18
	3/8	14	1,5	18	22
	7/16	16	1,5	22	26
	1/2	18	1,5	22	26
	5/8	20	1,5	22	27
UNC Unified Coarse Thread ANSI B1.1/BS 1580 Internal thread Tolerance 2B	4 - 40	5	0,5	6	8
	6 - 32	6	0,75	8	10
	8 - 32	6,5	0,75	8	10
	10 - 24	8	1	10	13
	1/4 - 20	10	1,5	14	17
	5/16 - 18	12	1,5	15	18
	3/8 - 16	14	1,5	18	22
	7/16 - 14	16	1,5	22	26
	1/2 - 13	18	1,5	22	28
	5/8 - 11	20	1,5	22	27
UNF Unified Fine Thread ANSI B1.1/B 1580 Internal thread Tolerance 2B	4 - 48	5	0,5	6	8
	6 - 40	6	0,75	8	10
	8 - 36	6,5	0,75	8	10
	10 - 32	8	1	10	13
	1/4 - 28	10	1,5	14	17
	5/16 - 24	12	1,5	15	18
	3/8 - 24	14	1,5	18	22
	7/16 - 20	16	1,5	22	26
	1/2 - 20	18	1,5	22	28
	5/8 - 18	20	1,5	22	27

Materials

Unhardened steel
Case-hardened steel, zinc-plated, yellow chromated
Brass
Rust-proof steel 1.4105
Rust-proof steel 1.4305
Other materials, designs and

Tolerances ISO 2768-m

Thread Internal thread A: as per ISO 6H

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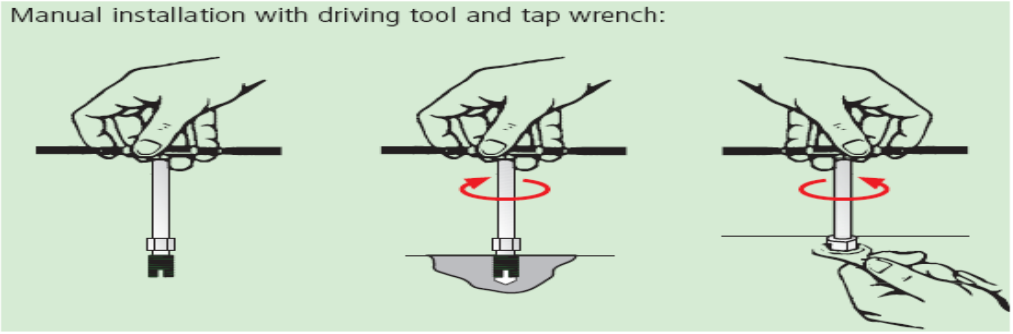
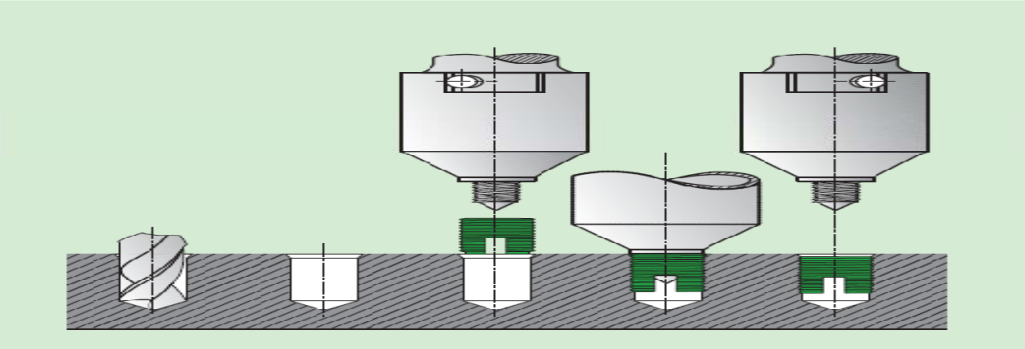
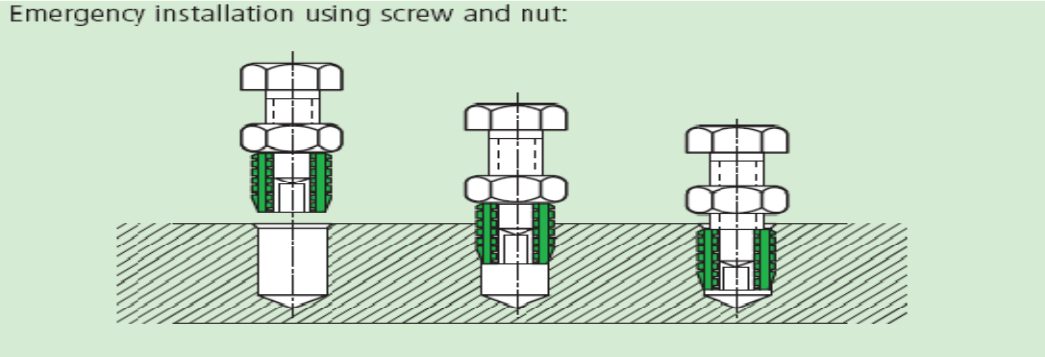
ARMSTRONG Self Tapping Insert Installation







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