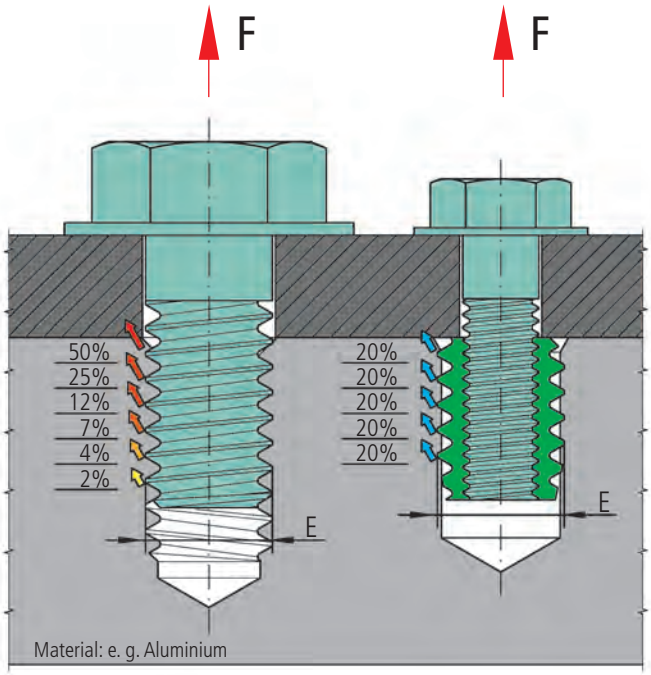
The Ensat® – pull-out resistance due to flange cover ...

Connections using threaded insert Ensat® permit substantially smaller dimensions and consequently material and weight-saving designs.

The illustration below (Fig. 2) shows a screw connection with different screw cross-sections. Despite the smaller screw cross-section, a screw joint with an Ensat® is capable of withstanding higher axial forces than the screw joint with larger screw cross-section; because the force – both under static and dynamic load – in the Ensat® male thread is distributed evenly over the individual thread turns of the Ensat® male thread.



E = Diameter cut thread = Outside diameter of the Ensat®

Fig. 2

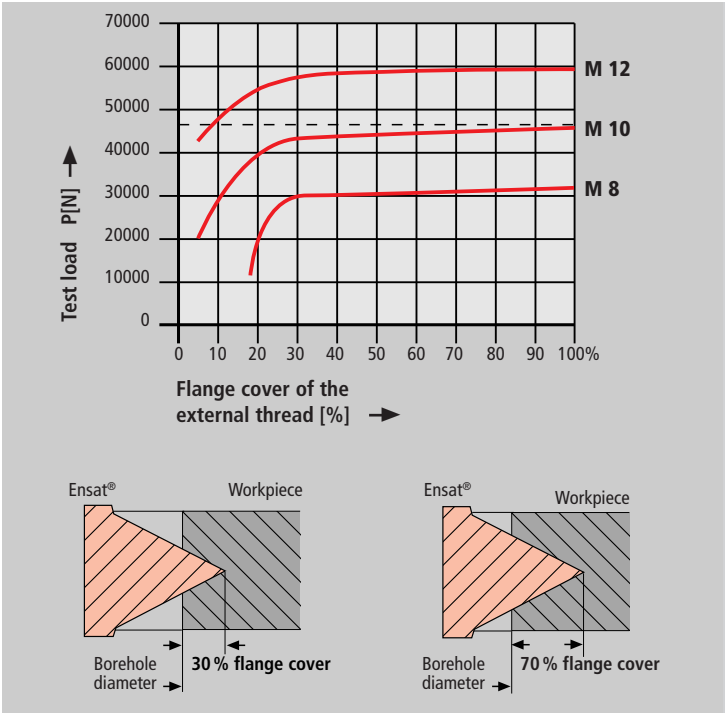


Fig. 3

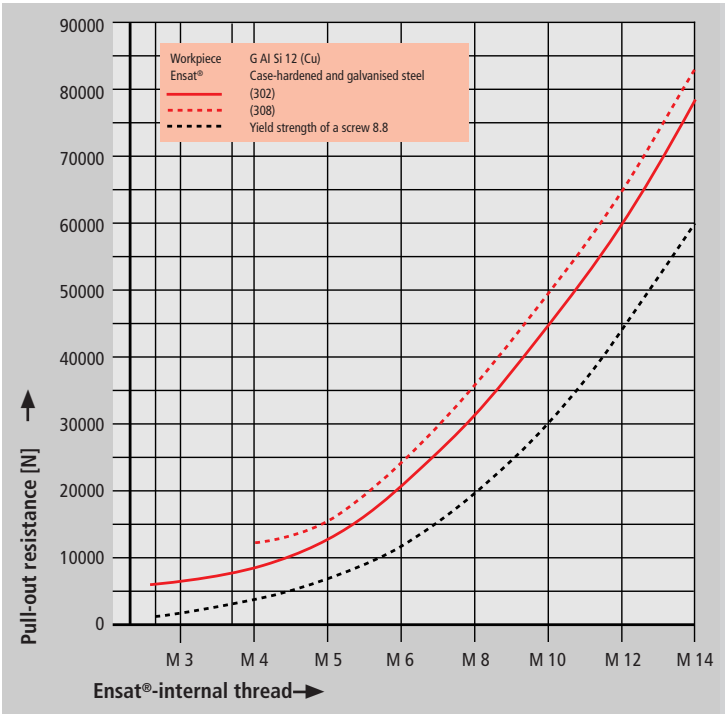


Fig. 4

Flange cover

In a workpiece made of a light alloy, the Ensat® 302 achieves almost maximum pull-out strength with only 30% flange cover (Fig. 3).

Pull-out strength

The Ensat® is capable of withstanding high loads. When used in light alloys, for example, a degree of pull-out strength is achieved which far exceeds the yield strength of the mating screw 8.8 (Fig. 4).

Kerb Konus

Threaded insert
self-tapping with chip reservoirs

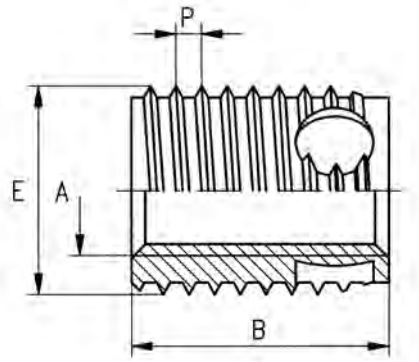
Ensat®-SBS
Works Standard
337 0 and 338 0

Application

This special insert Ensat®-SBS was developed primarily for applications in which chips – created by the self-tapping process – exert a detrimental effect and could cause serious damage or failure during subsequent operation of the installed assembly – for example in electronic equipment.

The three cutting bores distributed around the periphery are formed as chip reservoirs.

The coarse chips created during the installation process are stored in these reservoirs and cannot drop into sensitive equipment components.



Dimensions in mm

Article number	Internal thread	External thread Special thread		Length	Borehole diameter guideline value	Minimum borehole depth for blind holes
	A	E	P	B	L -0,1	T
337 000 030 …	M 3	5	0,6	4	4,8	6
338 000 030 …	M 3	5	0,6	6	4,8	8
337 000 035 …	M 3,5	6	0,8	5	5,7	7
338 000 035 …	M 3,5	6	0,8	8	5,7	10
337 000 040 …	M 4	6,5	0,8	6	6,2	8
338 000 040 …	M 4	6,5	0,8	8	6,2	10
337 000 050 …	M 5	8	1	7	7,7	9
338 000 050 …	M 5	8	1	10	7,7	13
337 000 060 …	M 6	10	1,25	8	9,6	10
338 000 060 …	M 6	10	1,25	12	9,6	15
337 000 080 …	M 8	12	1,5	9	11,5	11
338 000 080 …	M 8	12	1,5	14	11,5	17
337 000 100 …	M 10	14	1,5	10	13,5	13
338 000 100 …	M 10	14	1,5	18	13,5	22
337 000 120 …	M 12	16	1,75	12	15,4	15
338 000 120 …	M 12	16	1,75	22	15,4	26
337 000 140 …	M 14	18	2	14	17,4	17
338 000 140 …	M 14	18	2	24	17,4	28
337 000 160 …	M 16	20	2	14	19,4	17
338 000 160 …	M 16	20	2	24	19,4	28

Example for finding the article number
Self-tapping threaded insert Ensat®-SBS to Works Standard 337 0 with internal thread A = M5 made of case-hardened, zinc plated and blue passivated steel: Ensat®-SBS 337 000 050.110

Short design
Works Standard 337
Long design
Works Standard 338

Materials

Case-hardened steel, zinc plated, blue passivated	Article no. (**fourth** group of digits) … … … 110
Case-hardened steel, zinc-nickel plated, transparent passivated	Article no. (**fourth** group of digits) … … … 143
Stainless steel 1.4305	Article no. (**fourth** group of digits) … … … 500
Brass	Article no. (**fourth** group of digits) … … … 800

Other materials, designs (e. g. fine thread) and finishes on request.

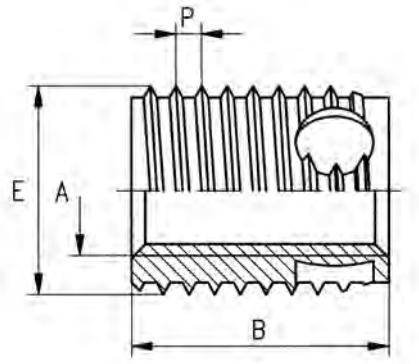
Tolerance
ISO 2768-m

Thread
Internal thread A: as per ISO 6H
External thread E: Special thread with flattened thread root, as per KKV standard
Internal thread UNC, UNF, Whitworth on request

Application

Particularly where a connecting element is required to offer a high level of resistance to acids and corrosion, the Ensat®-SBS made of the material **1.4404** provides an important missing link in the field of stainless steels.

Due to its extremely good material properties – **good resistance to most media containing chloride and non-oxidizing acids** – this threaded insert offers additional scope for application. The three cutting bores distributed around the periphery are shaped to create a chip reservoir. The coarse chips created during the screw-in process rest there and cannot drop into sensitive collect equipment parts.



Before application, we recommend performing tests using the appropriate media.

Dimensions in mm

Article number	Internal thread	External thread Special thread		Length	Borehole diameter guideline value	Minimum borehole depth for blind holes
	A	E	P	B	L -0,1	T
337 000 030 504	M 3	5	0,6	4	4,8	6
338 000 030 504	M 3	5	0,6	6	4,8	8
337 000 040 504	M 4	6,5	0,8	6	6,2	8
338 000 040 504	M 4	6,5	0,8	8	6,2	10
337 000 050 504	M 5	8	1	7	7,7	9
338 000 050 504	M 5	8	1	10	7,7	13
337 000 060 504	M 6	10	1,25	8	9,6	10
338 000 060 504	M 6	10	1,25	12	9,6	15
337 000 080 504	M 8	12	1,5	9	11,5	11
338 000 080 504	M 8	12	1,5	14	11,5	17

Example for finding the article number
Self-tapping threaded insert Ensat®-SBS to Works Standard 337 0 with internal thread A = M5 made of, acid and rust-resistant steel: Ensat®-SBS 337 000 050.504

Short design
Works Standard 337
Long design
Works Standard 338

Materials
Acid and rust-resistant steel 1.4404

Other, designs (e. g. fine thread) on request.

Tolerance
ISO 2768-m

Thread
Internal thread A: as per ISO 6H
External thread E: Special thread with flattened thread root, as per KKV standard
Internal thread UNC, UNF, Whitworth on request