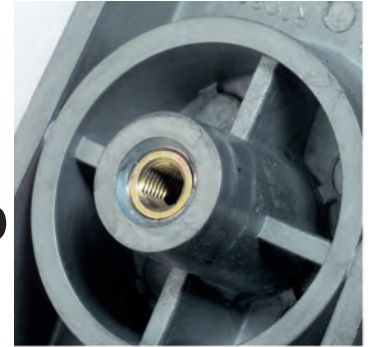




# The Ensats® – pull-out resistance due to flange cover ...



Connections using threaded insert Ensats® 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 Ensats® 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 Ensats® male thread is distributed evenly over the individual thread turns of the Ensats® male thread.

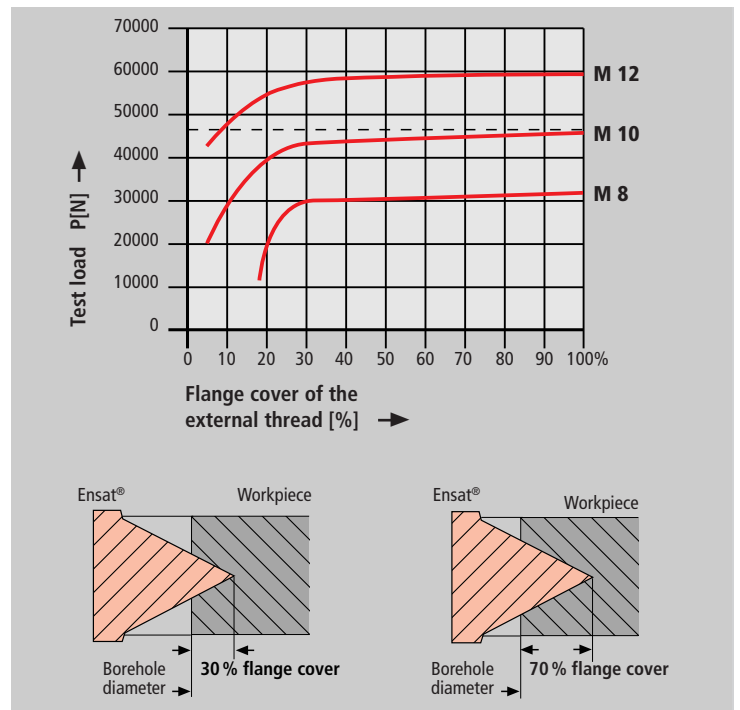


Fig. 3

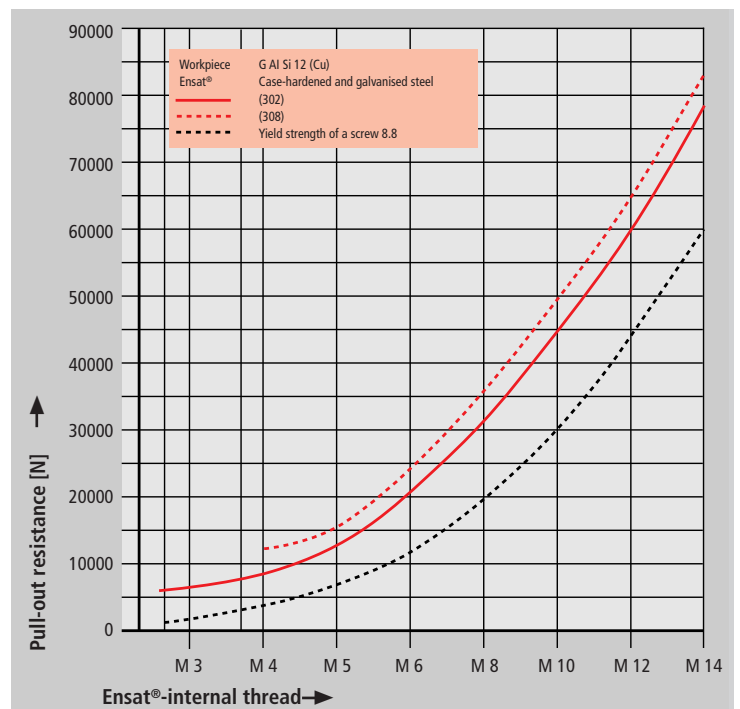
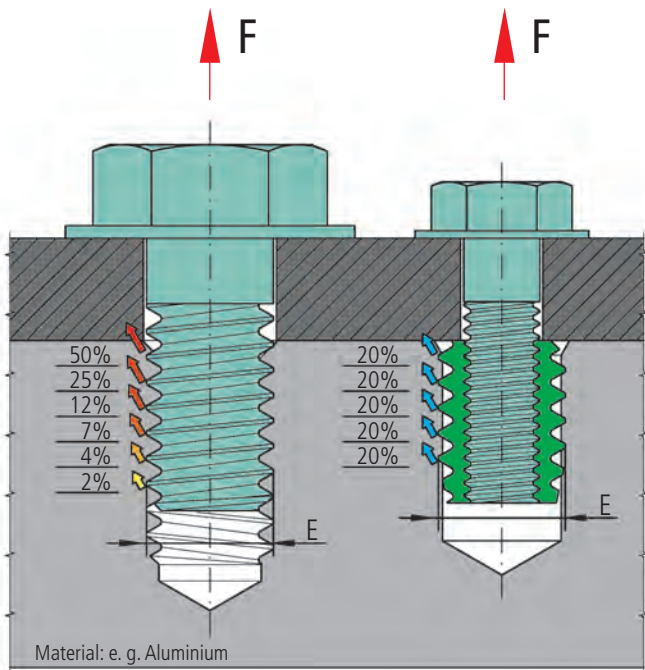


Fig. 4



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

Fig. 2

### Flange cover

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

### Pull-out strength

The Ensats® 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).





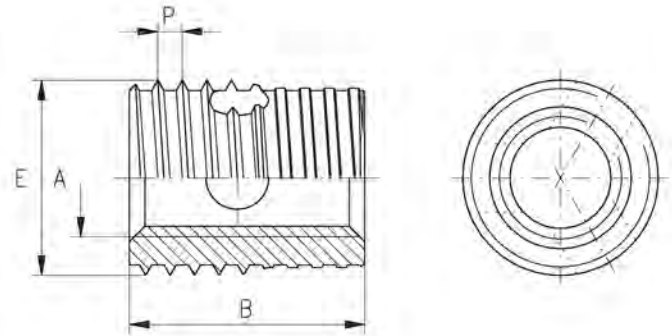
**Threaded insert**  
self-tapping with pilot thread

**Ensat®-SBE**  
Works Standard  
307 4 and 308 4

**Application**

The special threaded insert Ensat®-SBE with cutting bore and pilot thread is a self-tapping connecting element for the creation of wear-proof and vibration-proof screw connections with a high loading capacity in materials with high shear strength.

The Ensat®-SBE was developed to reliably prevent skewing during manual installation. The special threaded insert is particularly suitable for processing positions in which automated processing is not possible.



Dimensions in mm

Article number	Internal thread	External thread Special thread		Length	Guideline values for receiving hole diameter	Minimum borehole depth for blind holes
	A	E	P	B	L	T
307 400 050 ...	M 5	8	1	9	7,6 to 7,7	12
308 400 050 ...	M 5	8	1	12	7,6 to 7,7	15
307 400 060 ...	M 6	10	1,25	12	9,5 to 9,6	15
308 400 060 ...	M 6	10	1,25	16	9,5 to 9,6	19
307 400 080 ...	M 8	12	1,5	13	11,3 to 11,5	16
308 400 080 ...	M 8	12	1,5	18	11,3 to 11,5	21
307 400 100 ...	M 10	14	1,5	14	13,3 to 13,5	17
308 400 100 ...	M 10	14	1,5	22	13,3 to 13,5	26
307 400 120 ...	M 12	16	1,75	16	15,2 to 15,4	19
308 400 120 ...	M 12	16	1,75	26	15,2 to 15,4	30
307 400 140 ...	M 14	18	2	18	17,2 to 17,4	21
308 400 140 ...	M 14	18	2	28	17,2 to 17,4	32
308 400 160 ...	M 16	20	2	28	19,2 to 19,4	32

**Example for finding the article number**

Self-tapping threaded insert Ensat®-SBE to Works Standard 307 4 with internal thread A = M5 made of case-hardened, zinc plated and blue passivated steel: Ensat®-SBE 307 400 050.110

**Short design**  
**Long design**

Works Standard 307  
Works Standard 308

**Materials**

Case-hardened steel, zinc plated, blue passivated  
Case-hardened steel, zinc-nickel plated, transparent passivated  
Stainless steel 1.4305

Article no. (**fourth** group of digits) ... .. 110  
Article no. (**fourth** group of digits) ... .. 143  
Article no. (**fourth** group of digits) ... .. 500

**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