



# 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.

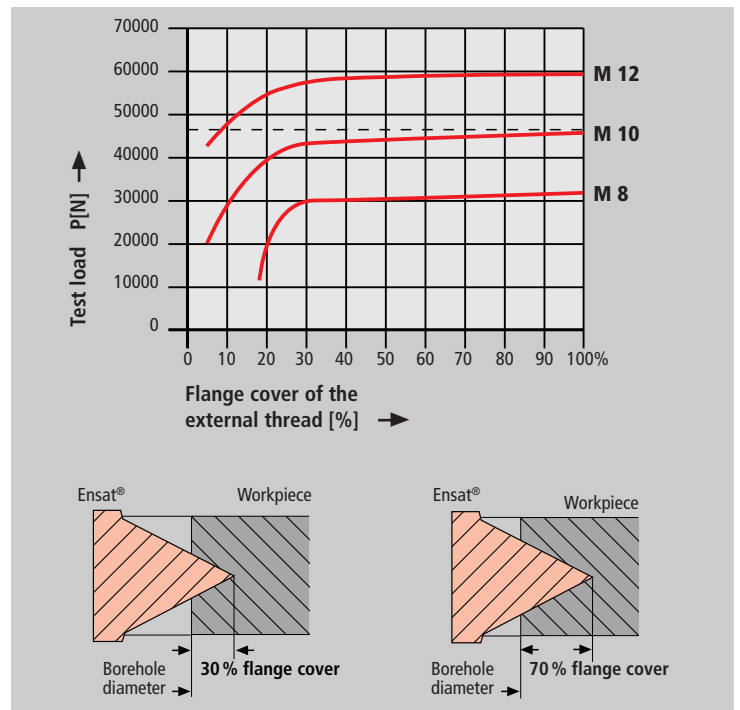


Fig. 3

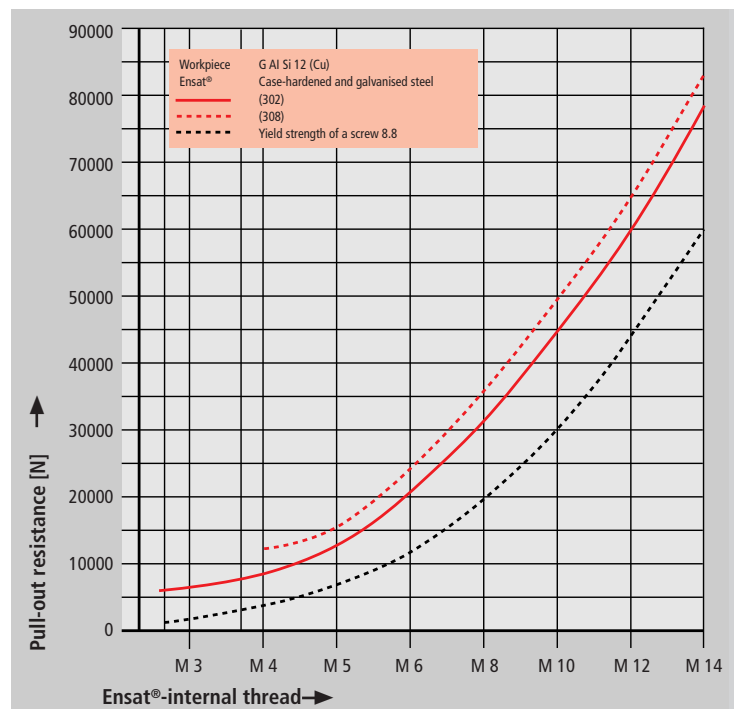
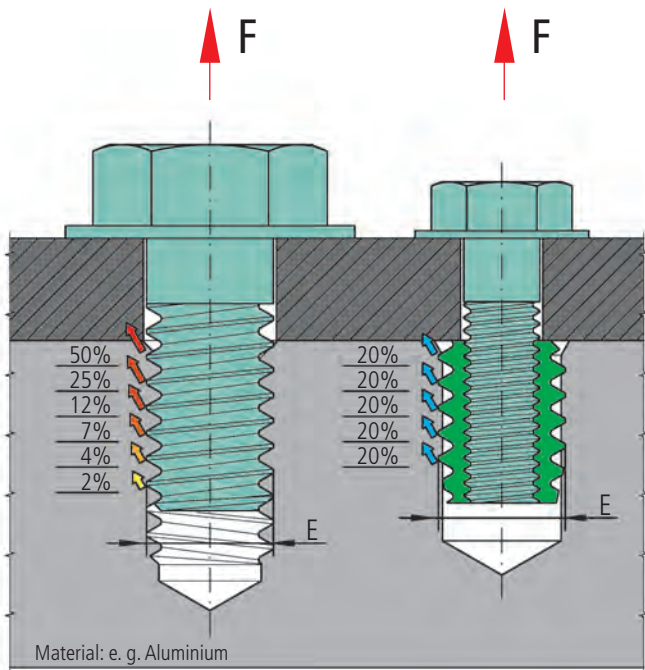


Fig. 4



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 chip reservoirs  
and hexagonal socket

**Ensat®-SBSI**  
Works Standard  
337 2 and 338 2

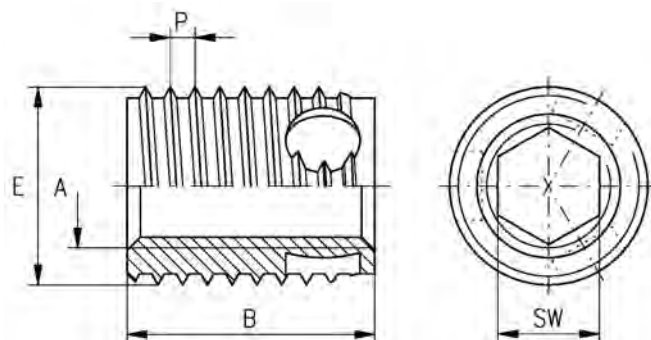
**Application**

The Threaded insert Ensat®-SBSI based on the part geometry of the threaded insert Ensat®-SBSI additionally with hexagonal socket.

**Hexagonal socket**

The Ensat® is inserted via the hexagonal socket, permitting the achievement of short installation time.  
Other benefits: More simple driving tools and machines which require only clockwise rotation.

The Ensat® can be extracted without problems before the recycling process, resulting in lower costs.



Dimensions in mm

Article number	Internal thread	External thread Special thread		Length B	Hexagonal socket	Borehole diameter guideline value	Minimum borehole depth for blind holes T
	A	E	P		SW +0,1	L -0,1	
337 200 040 ...	M 4	6,5	0,8	6	3,2	6,2	8
338 200 040 ...	M 4	6,5	0,8	8	3,2	6,2	10
337 200 050 ...	M 5	8	1	7	4,1	7,7	9
338 200 050 ...	M 5	8	1	10	4,1	7,7	13
337 200 060 ...	M 6	10	1,25	8	4,9	9,6	10
338 200 060 ...	M 6	10	1,25	12	4,9	9,6	15
337 200 080 ...	M 8	12	1,5	9	6,6	11,5	11
338 200 080 ...	M 8	12	1,5	14	6,6	11,5	17
337 200 100 ...	M 10	14	1,5	10	8,3	13,5	13
338 200 100 ...	M 10	14	1,5	18	8,3	13,5	22
337 200 120 ...	M 12	16	1,75	12	10,1	15,4	15
338 200 120 ...	M 12	16	1,75	22	10,1	15,4	26

**Example for finding the article number**

Self-tapping threaded insert with hexagonal socket Ensat®-SBSI to Works Standard 337 2 with internal thread A = M5 made of case-hardened, zinc plated and blue passivated steel: Ensat®-SBSI 337 200 050.110

**Short design  
Long design**

Works Standard 337  
Works Standard 338

**Materials**

Case-hardened steel, zinc plated, blue passivated  
Case-hardened steel, zinc-nickel plated, transparent passivated  
Stainless steel 1.4305 (M4 to M8)  
Brass

Article no. (fourth group of digits) ... 110  
Article no. (fourth group of digits) ... 143  
Article no. (fourth group of digits) ... 500  
Article no. (fourth group of digits) ... 800

**Other materials, designs 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

Animation

