



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



Connections using threaded insert Ensats® permit substantially smaller dimensions and consequently smaller 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.

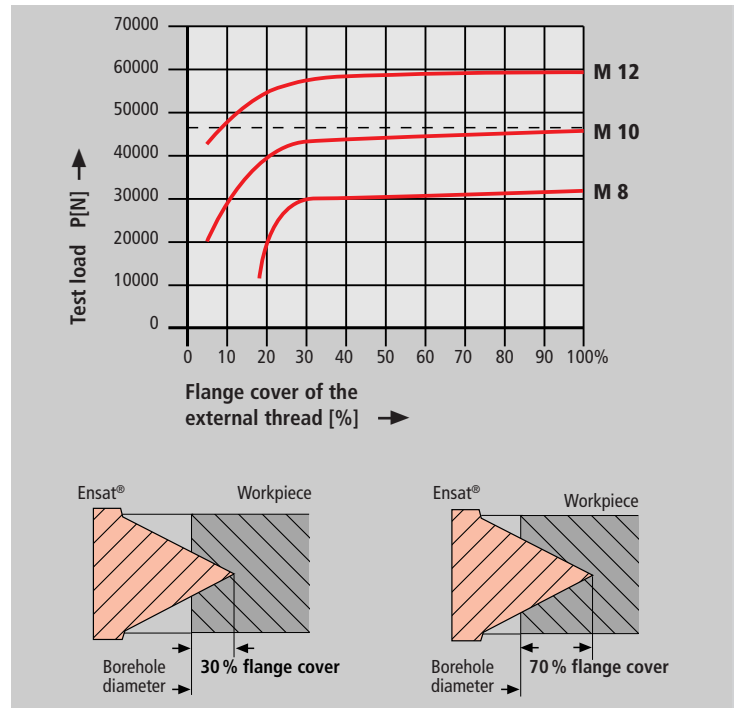


Fig. 3

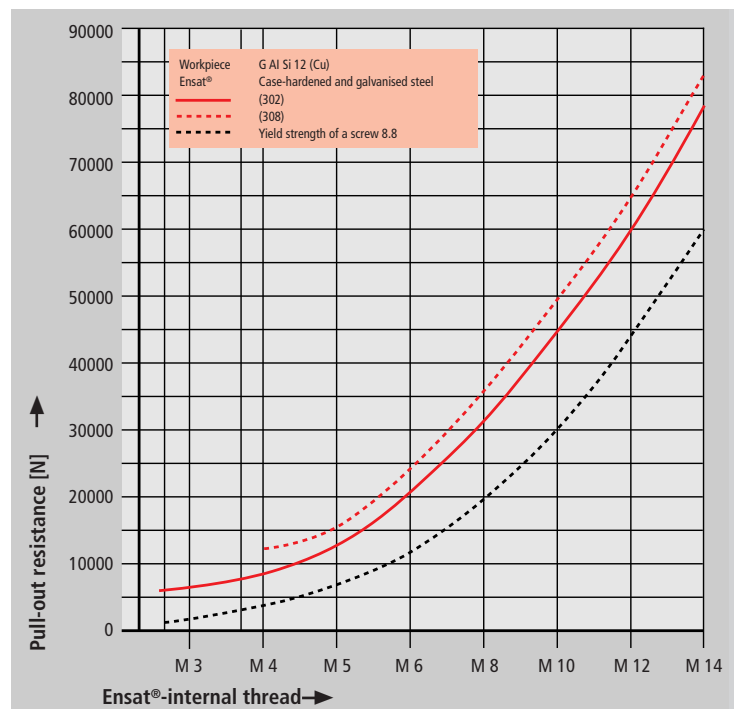
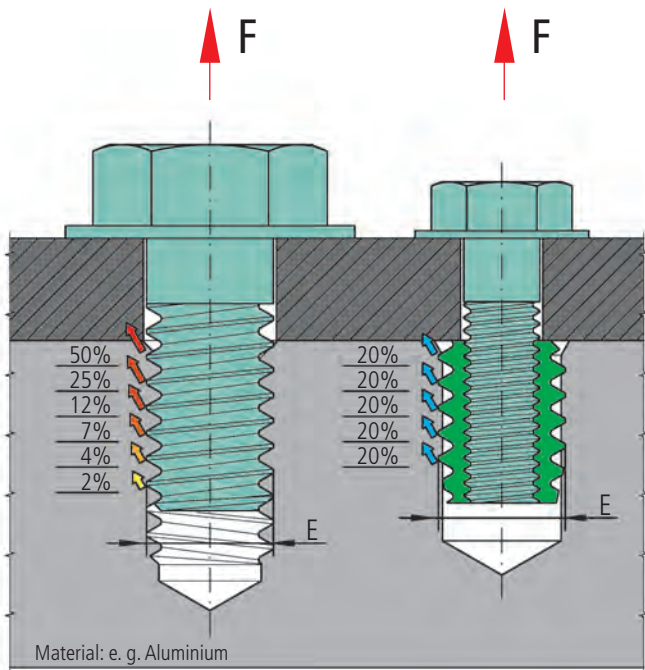


Fig. 4



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).



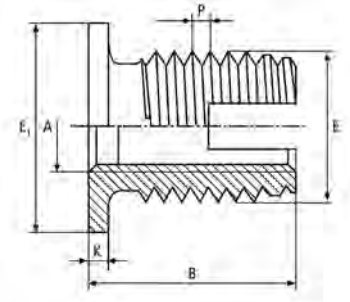
Application

Threaded insert Ensat®-SK 302 1 with cutting slot and head 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. Head, the pull-through force is.

It is suitable for installation in the following materials:

- Light alloys
- Cast iron, brass, bronze, NF metals
- Plastics, laminates
- Hardwoods

The head serves as a support for electrical contacts when fastening several parts simultaneously; when stress is applied against the head, the pull-through force is significantly increased.



Dimensions in mm

Article number	Internal thread	External thread		Head diameter	Head height	Length	Guideline values for receiving hole diameter	Minimum borehole depth for blind holes
	A	E	P	E ₁	K	B	L	T
302 100 040 ...	M 4	6,5	0,75	9	1	9	6,1 to 6,2	10
302 100 050 ...	M 5	8	1	11	1	11	7,5 to 7,6	12
302 100 060 ...	M 6	10	1,5	13	1,5	15,5	9,2 to 9,4	16
302 100 080 ...	M 8	12	1,5	15	1,5	16,5	11,2 to 11,4	17
302 100 100 ...	M 10	14	1,5	17	1,5	19,5	13,2 to 13,4	20

Example for finding the article number

Self-tapping threaded insert Ensat®-SK to Works Standard 302 1 with internal thread A = M5 made of case-hardened, zinc plated and blue passivated steel: Ensat®-SK 302 100 050.110

Materials

Case-hardened steel, zinc plated, blue passivated
Case-hardened steel, zinc-nickel plated, transparent passivated
Stainless steel 1.4305
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 (e. g. fine thread) and finishes on request.

Tolerance

ISO 2768-m

Thread

Internal thread A: as per ISO 6H
External thread E: as per KKV standard
Internal thread UNC, UNF, Whitworth on request