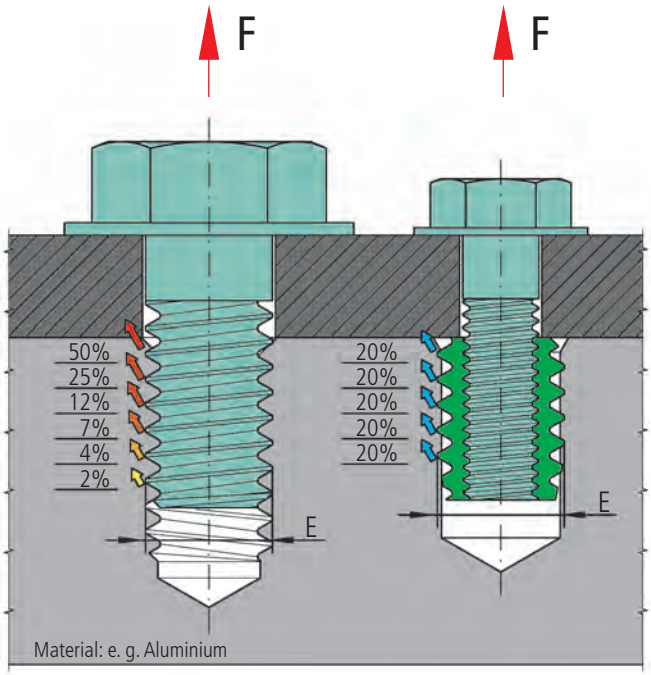
The Ensat® – pull-out resistance due to flange cover ...

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

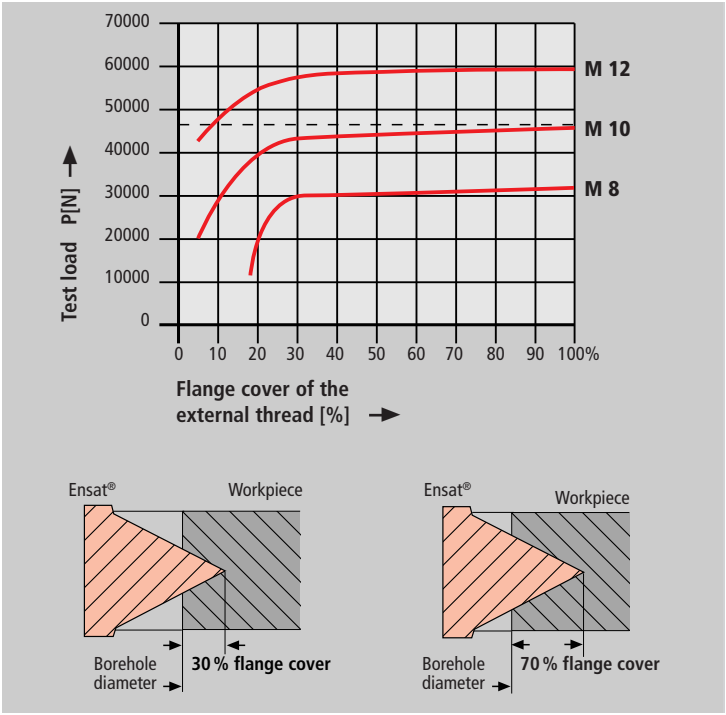


Fig. 3

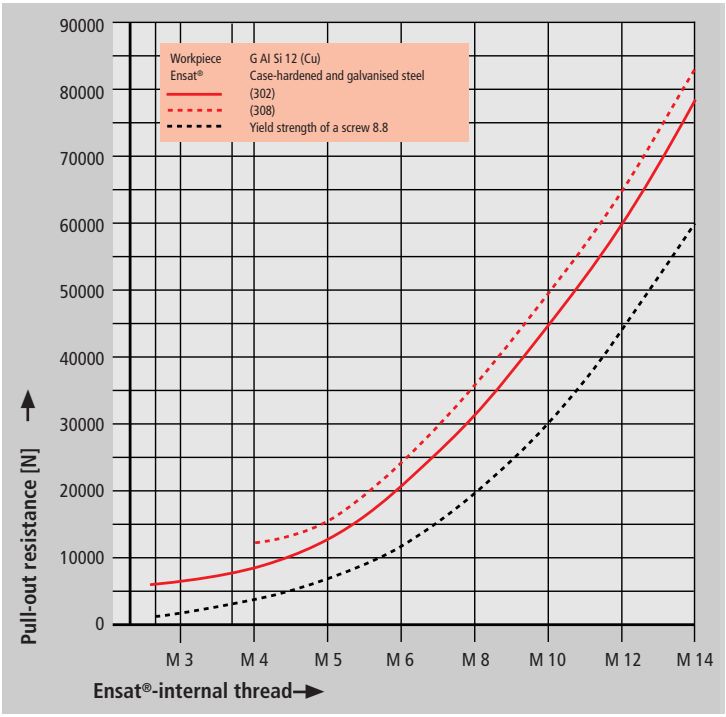


Fig. 4

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 hexagonal socket

Ensat®-SI
Works Standard
302 2

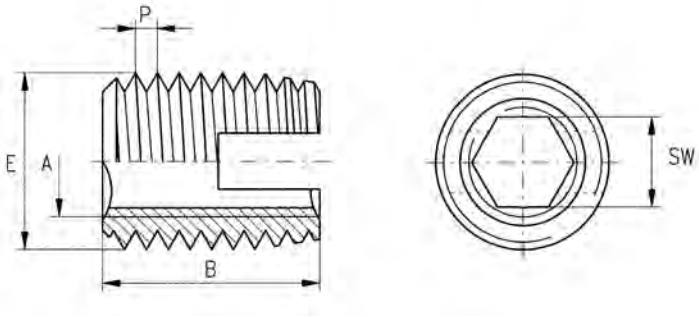
Application

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

Hexagonal socket

The Ensat® is inserted via the hexagonal socket, permitting theachievement 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 recycliug process.



Dimensions in mm

Article number	Internal thread	External thread		Length	Hexagonal socket	Guideline values for receiving hole diameter	Minimum borehole depth for blind holes
	A	E	P	B	SW +0,1	L	T
302 200 040 …	M 4	6,5	0,75	8	3,2	6,1 to 6,2	10
302 200 050 …	M 5	8	1	10	4,1	7,5 to 7,6	13
302 200 060 …	M 6	10	1,5	14	4,9	9,2 to 9,4	17
302 200 080 …	M 8	12	1,5	15	6,6	11,2 to 11,4	18
302 200 100 …	M 10	14	1,5	18	8,3	13,2 to 13,4	22
302 200 120 …	M 12	16	1,5	22	10,1	15,2 to 15,4	26

Example for finding the article number

Self-tapping threaded insert with hexagonal socket Ensat®-SI to Works Standard 302 2 with internal thread A = M5 made of case-hardened, zinc plated and blue passivated steel: Ensat®-SI 302 200 050.110

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 (M4 to M8) — Article no. (**fourth** group of digits) … … … 500
Brass — 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: as per KKV standard