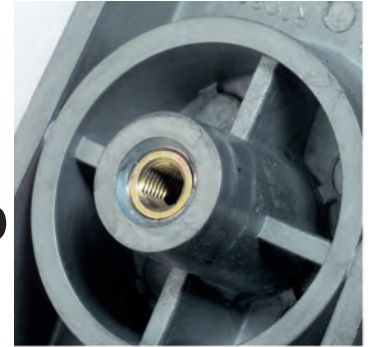




The Ensats® – pull-out resistance due to flange cover ...



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.

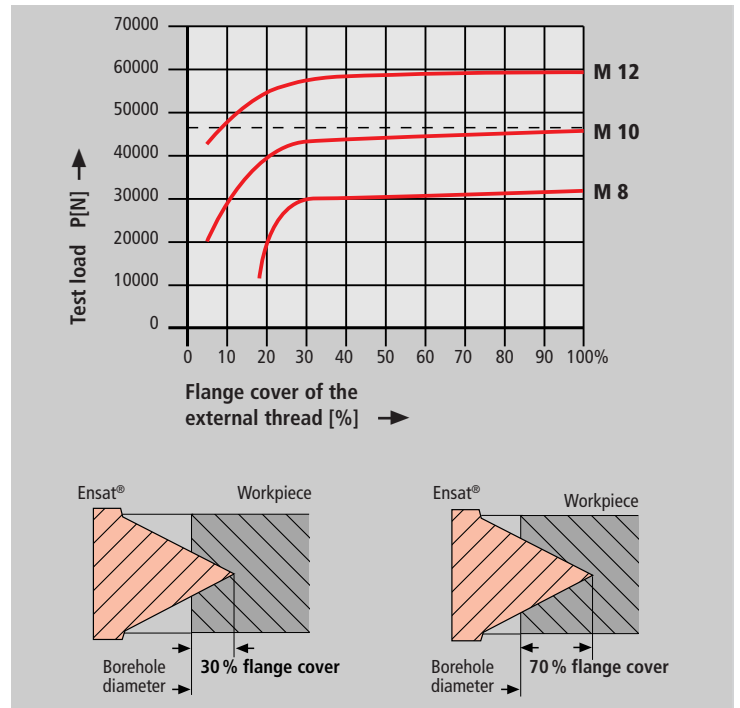


Fig. 3

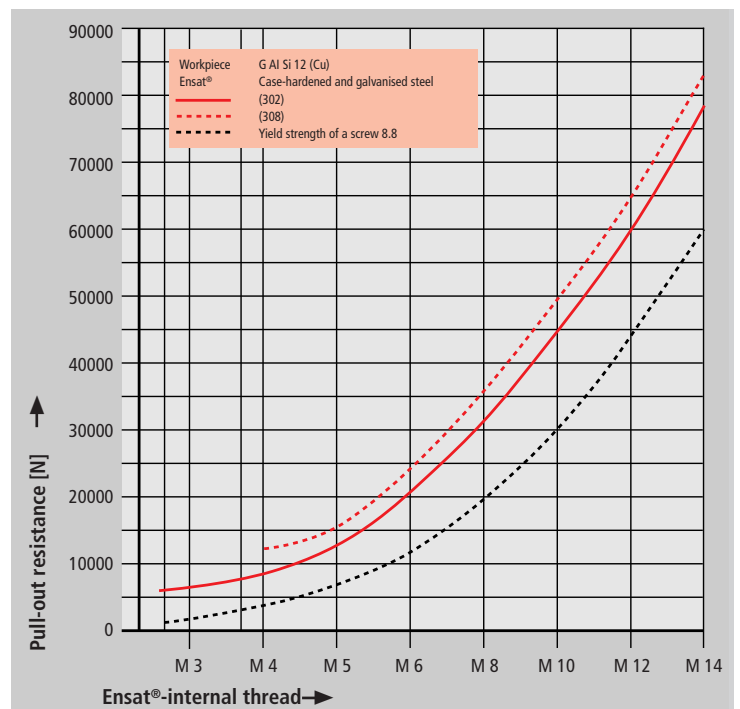
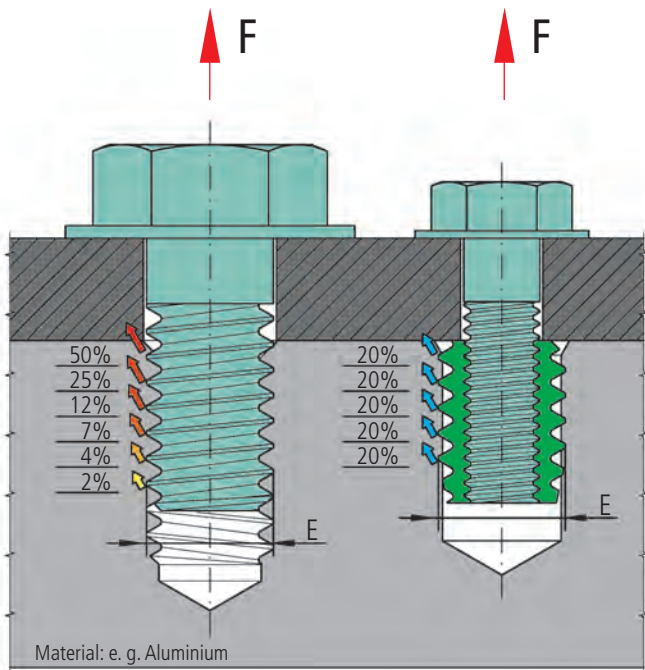


Fig. 4



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

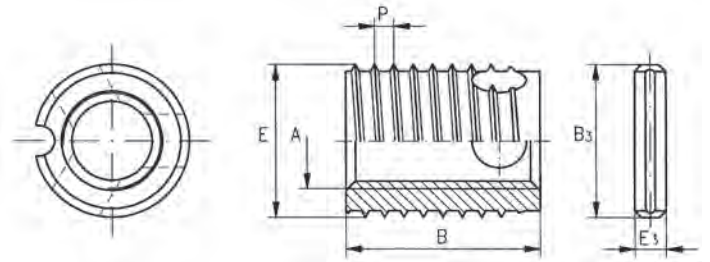
The Ensats® is capable of withstanding high loads. When used in light alloys, for example, a degree of pull-out strength is achieved which far exceeds the yield strength of the mating screw 8.8 (Fig. 4).



Application

This special threaded insert is used to absorb extreme torsional and vibration stress.

The antirotation function is achieved by means of a parallel notched stud to DIN EN ISO 8740 (pre-drill with diameter E_3 , depth = B_3+1 mm).



Dimensions in mm

Article number	Internal thread	External thread Special thread		Length B	Guideline values for receiving hole diameter	Minimum borehole depth for blind holes T	Notched stud	
	A	E	P		L		B ₃	E ₃
317 000 040 ...	M 4	6,5	0,8	6	6,1 to 6,2	8	4	2
318 000 040 ...	M 4	6,5	0,8	8	6,1 to 6,2	10	6	2
317 000 050 ...	M 5	8	1	7	7,6 to 7,7	9	4	2
318 000 050 ...	M 5	8	1	10	7,6 to 7,7	13	6	2
317 000 060 ...	M 6	10	1,25	8	9,5 to 9,6	10	6	2
318 000 060 ...	M 6	10	1,25	12	9,5 to 9,6	15	10	2
317 000 080 ...	M 8	12	1,5	9	11,3 to 11,5	11	6	2
318 000 080 ...	M 8	12	1,5	14	11,3 to 11,5	17	10	2
317 000 100 ...	M 10	14	1,5	10	13,3 to 13,5	13	6	2
318 000 100 ...	M 10	14	1,5	18	13,3 to 13,5	22	16	2
317 000 120 ...	M 12	16	1,75	12	15,2 to 15,4	15	10	2
318 000 120 ...	M 12	16	1,75	22	15,2 to 15,4	26	16	2
317 000 140 ...	M 14	18	2	14	17,2 to 17,4	17	10	2
318 000 140 ...	M 14	18	2	24	17,2 to 17,4	28	16	2
317 000 160 ...	M 16	20	2	14	19,2 to 19,4	17	10	2
318 000 160 ...	M 16	20	2	24	19,2 to 19,4	28	16	2

Example for finding the article number

Self-tapping threaded insert Ensat®-SBN to Works Standard 317 0 with safety groove A = M5 made of case-hardened, zinc plated and blue passivated steel: Ensat®-SBN 317 000 050.110

Short design
Long design

Works Standard 317
Works Standard 318

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.

Material of the notched stud: Ensat® made of steel = Steel, zinc plated
Ensat® made of stainless steel = Stainless steel

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