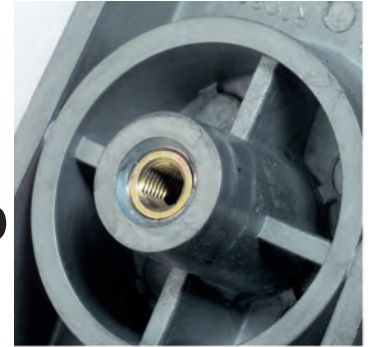




# The Ensats® – pull-out resistance due to flange cover ...



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.

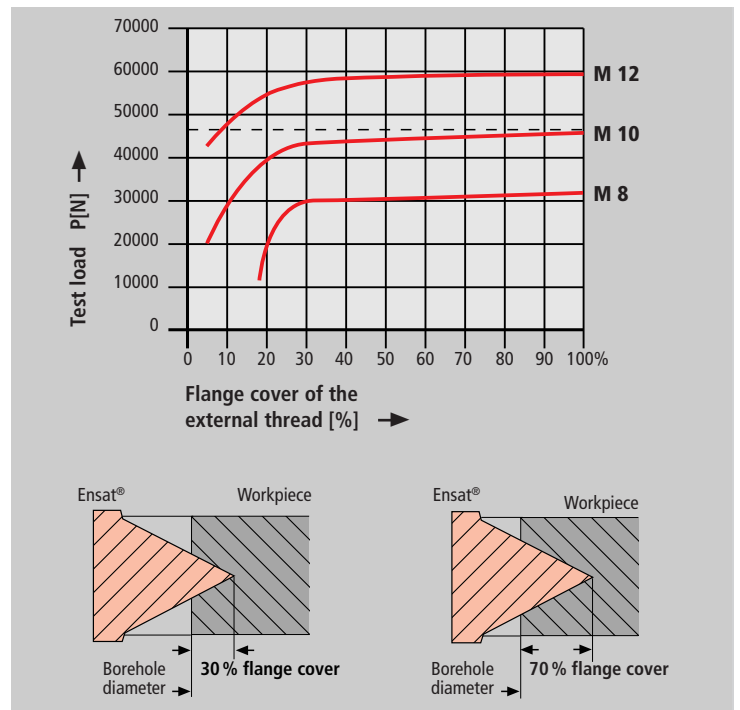


Fig. 3

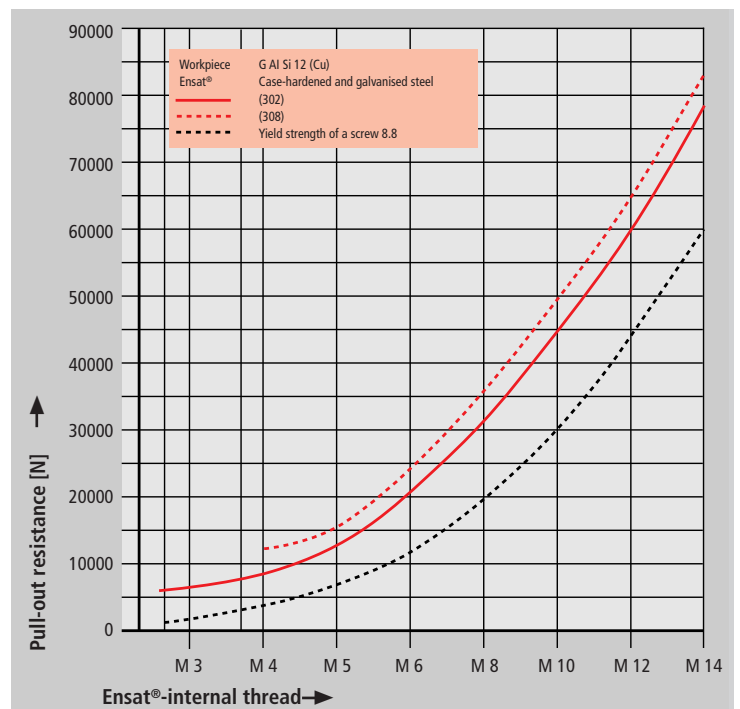
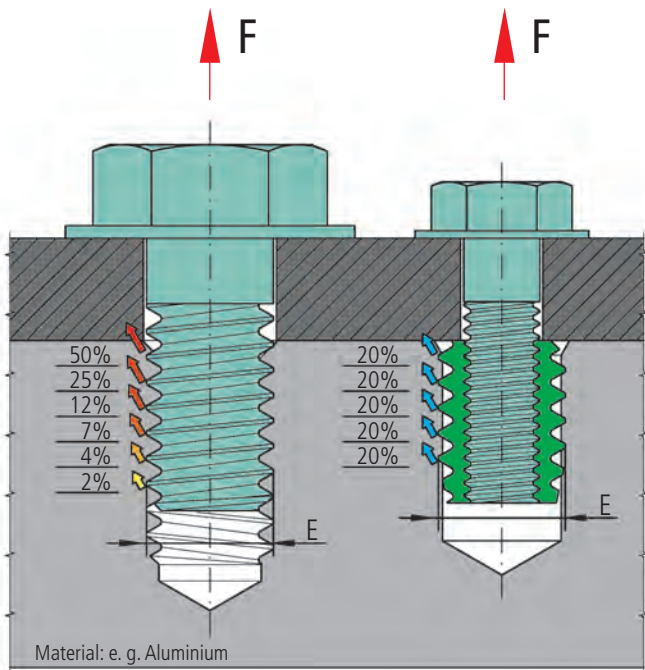


Fig. 4



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).

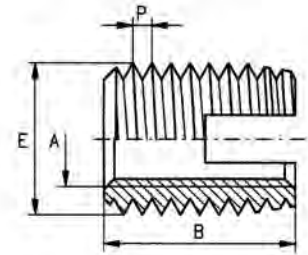
### Pull-out strength

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 with cutting slot and internal thread.  
Whitworth, UNC or UNF



Dimensions in mm

	Article number	Internal thread	External thread		Length mm	Guideline values	Minimum
		inch	mm			for receiving hole diameter	borehole depth forblind holes
		A	E	P	B	L	T
<b>Whitworth</b> B.S.84 Internal thread Tolerance: medium	302 000 525 ...	1/4	10	1,5	14	9,2 to 9,4	17
	302 000 531 ...	5/16	12	1,5	15	11,2 to 11,4	18
	302 000 537 ...	3/8	14	1,5	18	13,2 to 13,4	22
	302 000 544 ...	7/16	16	1,5	22	15,2 to 15,4	26
	302 000 550 ...	1/2	18	1,5	22	17,2 to 17,4	26
	302 000 562 ...	5/8	20	1,5	22	19,2 to 19,4	26
<b>UNC</b> Unified Coarse Thread ANSI B1.1/BS 1580 Internal thread Tolerance 2B	302 000 604 ...	4 – 40	5	0,5	6	4,7 to 4,8	8
	302 000 606 ...	6 – 32	6	0,75	8	5,6 to 5,7	10
	302 000 608 ...	8 – 32	6,5	0,75	8	6,1 to 6,2	10
	302 000 610 ...	10 – 24	8	1	10	7,5 to 7,6	13
	302 000 625 ...	1/4 – 20	10	1,5	14	9,2 to 9,4	17
	302 000 631 ...	5/16 – 18	12	1,5	15	11,2 to 11,4	18
	302 000 637 ...	3/8 – 16	14	1,5	18	13,2 to 13,4	22
	302 000 644 ...	7/16 – 14	16	1,5	22	15,2 to 15,4	26
	302 000 650 ...	1/2 – 13	18	1,5	22	17,2 to 17,4	26
302 000 662 ...	5/8 – 11	20	1,5	22	19,2 to 19,4	26	
<b>UNF</b> Unified Fine Thread ANSI B1.1/BS 1580 Internal thread Tolerance 2B	302 000 704 ...	4 – 48	5	0,5	6	4,7 to 4,8	8
	302 000 706 ...	6 – 40	6	0,75	8	5,6 to 5,7	10
	302 000 708 ...	8 – 36	6,5	0,75	8	6,1 to 6,2	10
	302 000 710 ...	10 – 32	8	1	10	7,5 to 7,6	13
	302 000 725 ...	1/4 – 28	10	1,5	14	9,2 to 9,4	17
	302 000 731 ...	5/16 – 24	12	1,5	15	11,2 to 11,4	18
	302 000 737 ...	3/8 – 24	14	1,5	18	13,2 to 13,4	22
	302 000 744 ...	7/16 – 20	16	1,5	22	15,2 to 15,4	26
	302 000 750 ...	1/2 – 20	18	1,5	22	17,2 to 17,4	26
302 000 762 ...	5/8 – 18	20	1,5	22	19,2 to 19,4	26	

**Example for finding the article number**

Self-tapping threaded insert Ensats®-S to Works Standard 302 0 with internal thread A = UNF 1/4-28 made of case-hardened, zinc plated and blue passivated steel: Ensats®-S 302 000 725.110

**Materials**

Case-hardened steel, zinc plated, blue passivated	Article no. ( <b>fourth</b> group of digits) ... .. 110
Case-hardened steel, zinc-nickel plated, transparent passivated	Article no. ( <b>fourth</b> group of digits) ... .. 143
Stainless steel 1.4305	Article no. ( <b>fourth</b> group of digits) ... .. 500
Brass	Article no. ( <b>fourth</b> group of digits) ... .. 800

**Other materials, designs (e. g. fine thread) and finishes on request.**

**Tolerance**

ISO 2768-m

**Thread**

External thread E: as per KKV standard

**Remark:**

Female threads in imperial measurements are also available for other Ensats® types.  
Example: Self-tapping thread insert Ensats®-SB (see page 11, female thread M6) with female thread A = 1/4-20 UNC in steel, case hardened, zinc plated, blue passivated and a length of B = 12 mm: 308 000 625.110