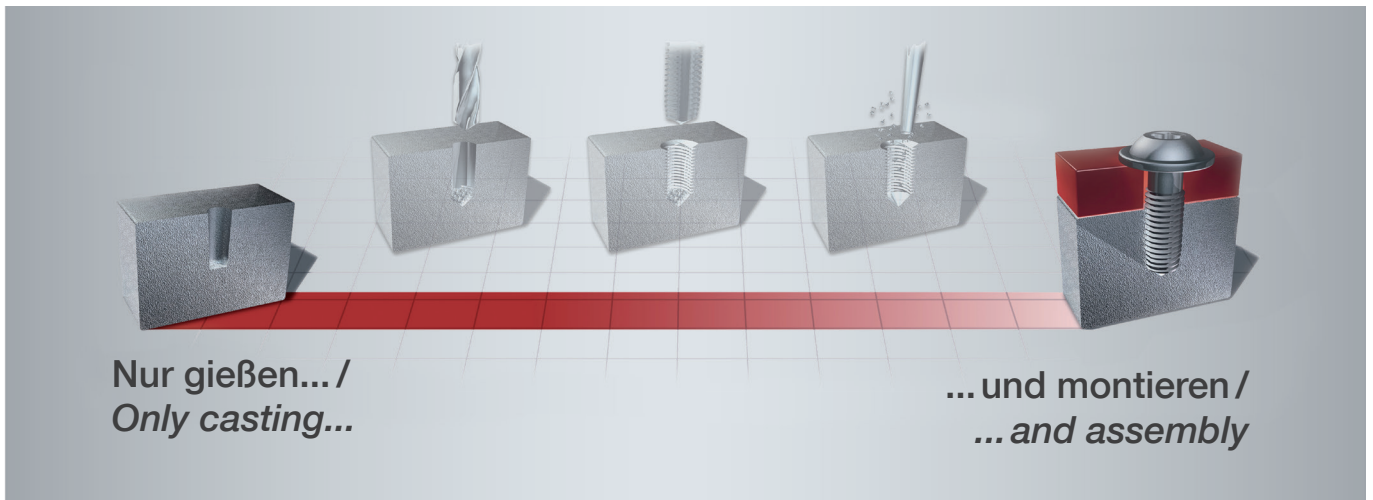


EJOT ALtracs® Plus

The self-tapping screw for light metal



Nur gießen... /
Only casting...

...und montieren /
...and assembly

Characteristics

- 33° flank angle
- Circular cross section
- Metric compatibility
- Conical thread forming zone
- Clamp load and relaxation comparable with metric 10.9 screws
- Thread design suitable for cast holes
- High self-locking of thread
- The ALtra CALC® prognosis programme for pre-dimensioning of joints saves time and effort for individual component testing.

Material:

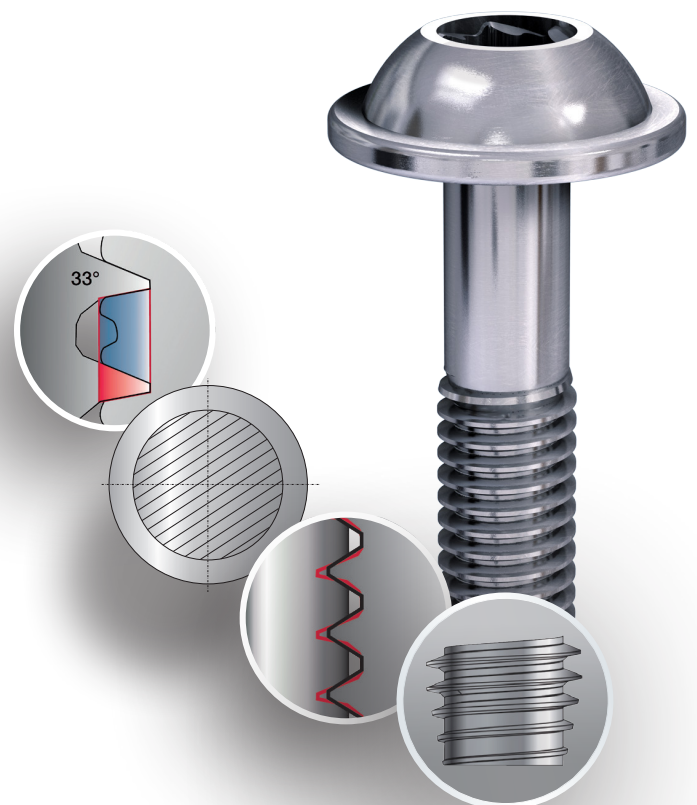
- through hardened steel analog metric, steel grade 10.9
- stainless steel grade A2 / A4

Chrome VI Free Platings:

- Zinc clear / blue passivated*
- Zinc / thick film passivation*
- ZnFe or ZnNi / transparent passivated*
- ZnFe or ZnNi / black passivated*
- Zinc flake coatings

* Additional sealing possible

EJOT ALtracs® Plus screws are thread-forming fasteners developed for maximum strength in light alloy assemblies and other non-ferrous metals such as zinc, copper, brass etc., up to 140 HB.



Design Recommendations:

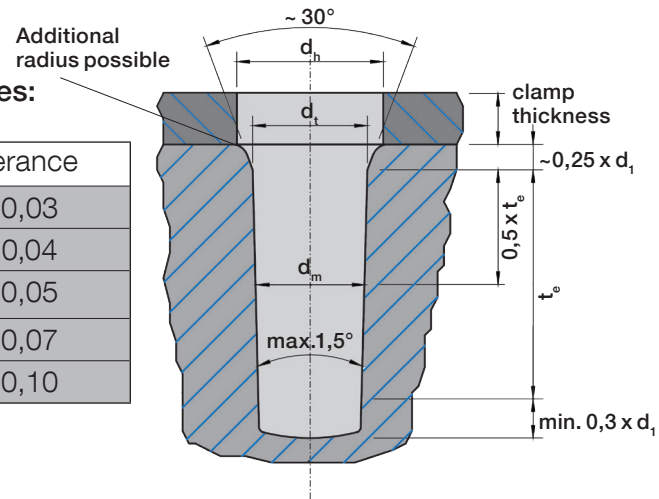
Insertion Depth t_e :

- safe assembly process min. $0,5 \times d_1$ (excl. forming point screw)
- vibration safe screw joint min. $1,5 \times d_1$ (incl. forming point)
- high-strength screw-joint min. $2,0 \times d_1$ (incl. forming point)

Insertion depth $> 2,5 \times d_1$ is not recommended

Pre-hole Tolerances:

d_1	tolerance
1,6 - 2,0	$\pm 0,03$
2,2 - 3,5	$\pm 0,04$
4,0 - 5,0	$\pm 0,05$
6,0 - 7,0	$\pm 0,07$
8,0 - 10,0	$\pm 0,10$



Pre-hole recommendation for aluminum, magnesium, zinc, copper, brass, bronze up to hardness of 140 HB

Hardness	Al, Zn, Cu up to 55 HB Mg (up tp 90 HB)			Al, Zn, Cu 55-115 HB				Al, Zn, Cu 115-140 HB		
	$1,0 \times d_1$ [mm]	$1,5 \times d_1$ [mm]	$2,0 \times d_1$ [mm]	$0,5 \times d_1$ [mm]	$1,0 \times d_1$ [mm]	$1,5 \times d_1$ [mm]	$2,0 \times d_1$ [mm]	$0,5 \times d_1$ [mm]	$1,0 \times d_1$ [mm]	$1,5 \times d_1$ [mm]
t_e [mm]	d_m	d_m [d_1]*	d_m [d_1]*	d_m	d_m	d_m [d_1]*	d_m [d_1]*	d_m	d_m	d_m [d_1]*
1,6	1,46	1,48 [1,51]	$t_{emax} = 1,5 \times d_1$	1,46	1,48	1,49 [1,52]	$t_{emax} = 1,5 \times d_1$	1,48	1,49	1,51 [1,54]
1,8	1,63	1,65 [1,69]	$t_{emax} = 1,5 \times d_1$	1,63	1,65	1,67 [1,71]	$t_{emax} = 1,5 \times d_1$	1,65	1,67	1,68 [1,72]
2,0	1,83	1,85 [1,89]	$t_{emax} = 1,5 \times d_1$	1,83	1,85	1,87 [1,91]	$t_{emax} = 1,5 \times d_1$	1,85	1,87	1,89 [1,93]
2,2	1,98	2,00 [2,04]	$t_{emax} = 1,5 \times d_1$	1,98	2,00	2,03 [2,07]	$t_{emax} = 1,5 \times d_1$	2,00	2,03	2,05 [2,09]
2,5	2,20	2,25 [2,30]	$t_{emax} = 1,5 \times d_1$	2,20	2,25	2,30 [2,35]	2,35 [2,42]	2,25	2,30	2,35 [2,40]
3,0	2,65	2,70 [2,76]	$t_{emax} = 1,5 \times d_1$	2,65	2,70	2,75 [2,81]	2,80 [2,88]	2,70	2,75	2,80 [2,86]
3,5	3,10	3,15 [3,22]	$t_{emax} = 1,5 \times d_1$	3,10	3,15	3,20 [3,27]	3,25 [3,34]	3,15	3,20	3,25 [3,32]
4,0	3,55	3,60 [3,68]	$t_{emax} = 1,5 \times d_1$	3,55	3,60	3,65 [3,73]	3,70 [3,80]	3,60	3,65	3,70 [3,78]
5,0	4,40	4,50 [4,60]	$t_{emax} = 1,5 \times d_1$	4,40	4,50	4,60 [4,70]	4,70 [4,83]	4,50	4,60	4,70 [4,80]
6,0	5,30	5,40 [5,52]	$t_{emax} = 1,5 \times d_1$	5,30	5,40	5,50 [5,62]	5,60 [5,76]	5,40	5,50	5,60 [5,72]
8,0	7,00	7,20 [7,36]	$t_{emax} = 1,5 \times d_1$	7,00	7,20	7,40 [7,56]	7,50 [7,71]	7,20	7,40	7,50 [7,66]
10,0	8,80	9,00 [9,20]	$t_{emax} = 1,5 \times d_1$	8,80	9,00	9,20 [9,40]	9,40 [9,66]	9,00	9,20	9,40 [9,60]

d_1 = nominal diameter of screw d_m = hole diameter middle d_t = hole diameter top t_e = insertion depth
 d_h = hole diameter through hole (ca. $1,1 \times d_1$) Min. external diameter boss; ca. $2 \times d_1$ * d_t calculated with $1,5^\circ$

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