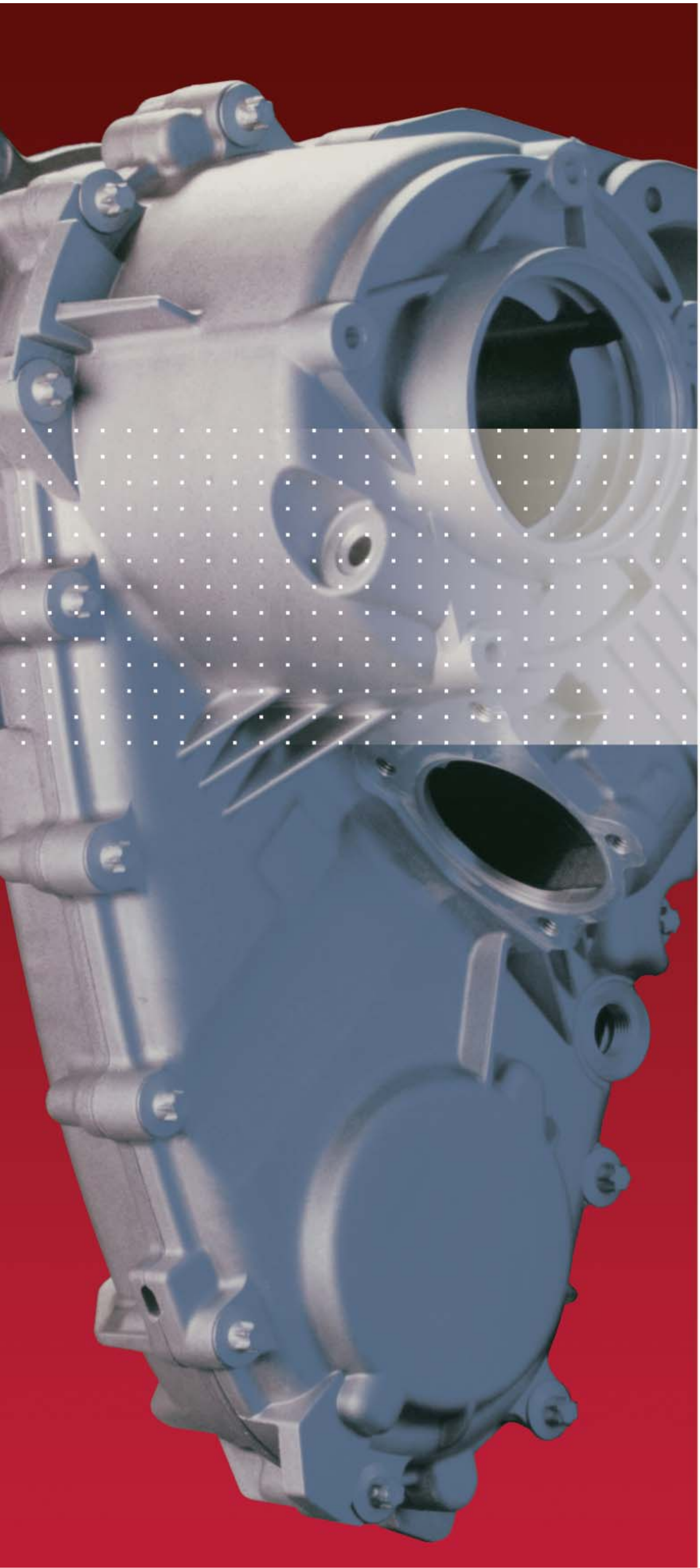
EJOT®



EJOT ALtracs®

The new generation of selftapping fasteners for light alloy materials

EJOT® The Quality Connection

Imprint

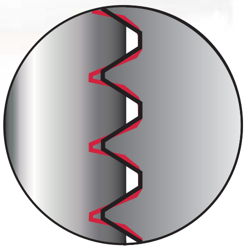
Editor:
EJOT GmbH & Co. KG
Industrial Fasteners Division
D-57334 Bad Laasphe
Germany

Print:
Druckerei Hachenburg GmbH
D-57627 Hachenburg

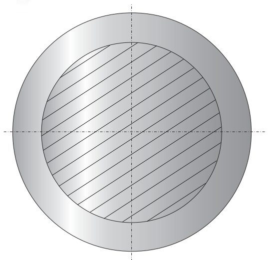
EJOT ALtracs® screws are fasteners specially developed to maximize strength in assemblies made of light alloy.

Material:
Through hardened steel AT10

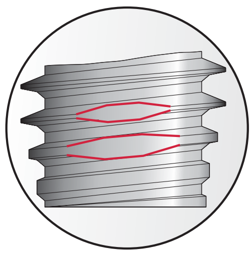
flank angle of 33°



compatible with metric fasteners



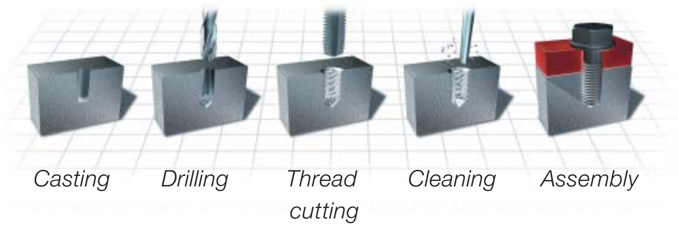
circular thread cross section



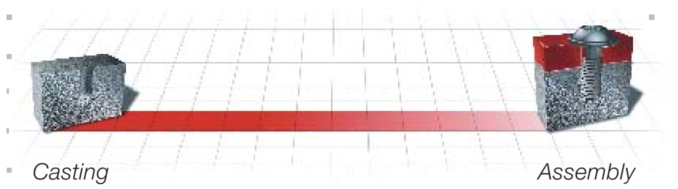
non-circular thread forming zone

Example for in place costs comparison

Metric screw



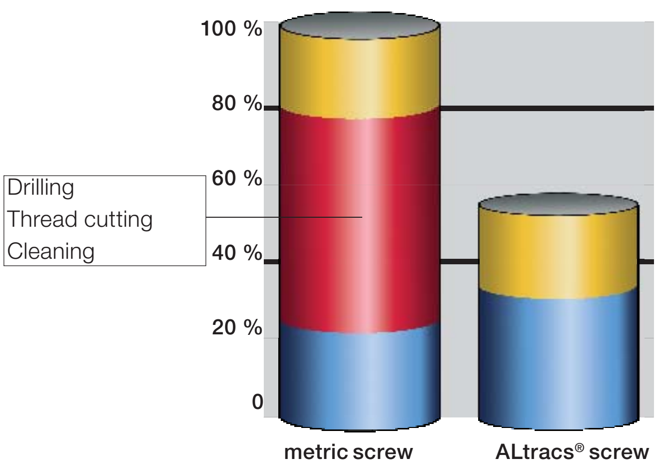
ALtracs® screw



ALtracs® vs. metric threads
Compared to metric screws cost savings of up to 40% can be achieved with threadforming screws, which can be assembled directly in cast holes.

By contrast, metric screw holes need to be pre-drilled, threads have to be cut and cleaned before assembly. Thus, thread forming screws save time and money.

A connection with ALtracs® achieves strength values which are comparable with a high strength screw joint grade 10.9.

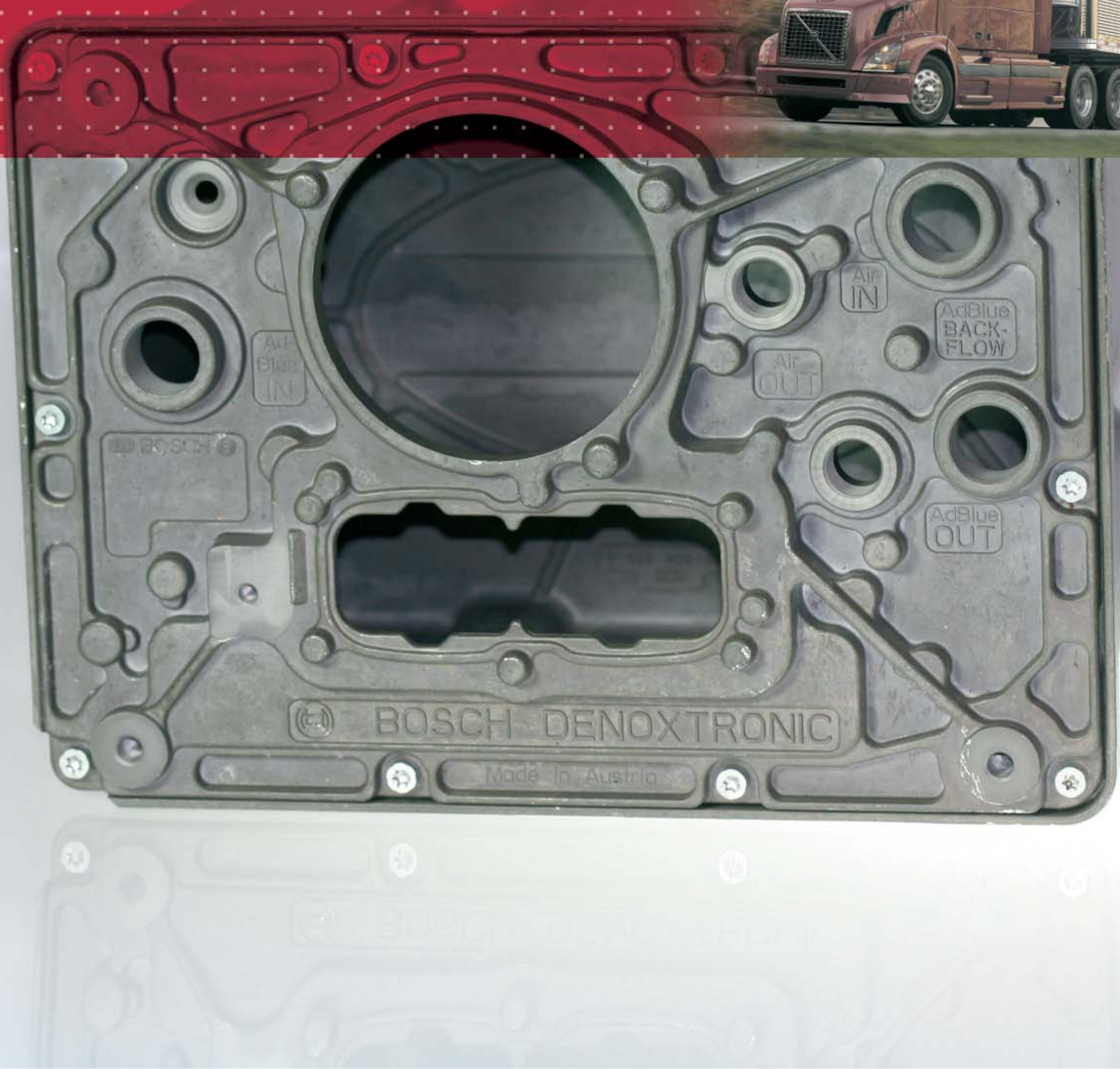


- Costs for material
- Costs for handling / processing
- Costs for assembly

ALtracs® vs. other threadforming screws
ALtracs® can directly be assmbled into cast holes - additional drilling due to high casting tolerances is usually not necessary. The ability of handling bigger hole tolerances leads to a certain immunity against casting flaws like ovalities and porosity.

Due to the high thread engagement per thread of an ALtracs® screw shorter insertion depths are possible without any drawbacks concerning the quality of the joint - consequently shorter core pins for casting can be used.

All this leads to cost savings at the casting tools and longer service intervalls accordingly.


Air IN
AdBlue BACK-FLOW
Air OUT
Ad-Blue IN
BOSCH
AdBlue OUT
BOSCH DENOXTRONIC
Made in Austria

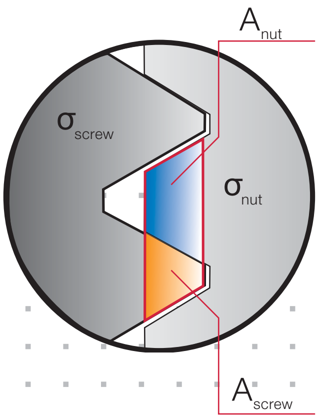
Thread design

Thread flank design

The thread design plays a key role for direct assemblies into light alloy.

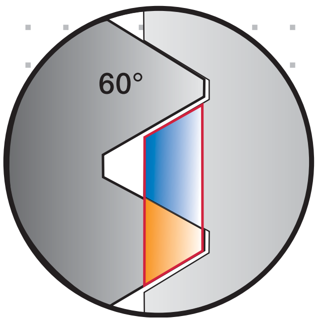
In order to maximize the overall performance of the screw joint, the load capability of the female thread needs to be improved.

Different material strengths between steel and alloy require a specific design of the steel screw for use in light alloy to perform efficiently.



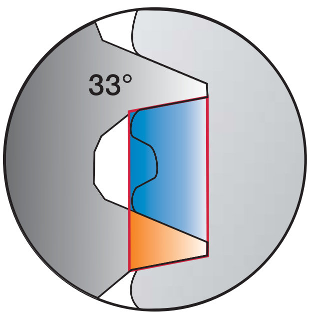
Material strength ratio assembly in light alloy: $\frac{\sigma_{screw}}{\sigma_{nut}} \approx \frac{3}{1}$

An optimum stability ratio between male and female thread requires: $\frac{A_{nut}}{A_{screw}} \approx \frac{3}{1}$



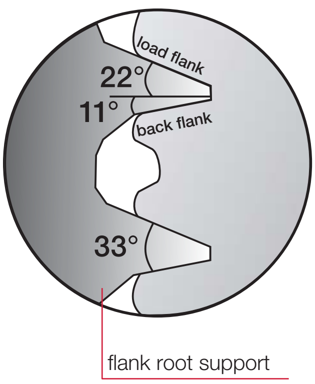
60° thread

A screw joint with a 60° flank angle allows a stability ratio of only : $\frac{A_{nut}}{A_{screw}} \approx \frac{1,5}{1}$



ALtracs® thread

The ALtracs®
thread geometry achieves a desirable stability ratio of: $\frac{A_{nut}}{A_{screw}} \approx \frac{3}{1}$

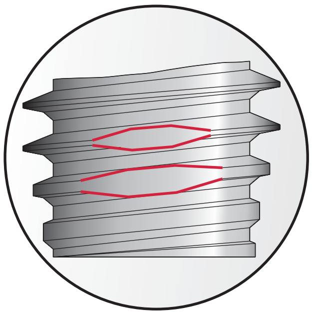


The thread flank angle of 33° forms a considerably higher strength female thread in alloy compared to a 60° thread. The female thread in the weaker material alloy is strengthe-ned by the larger thread root formed by the ALtracs® thread form. This ensures that the desired balanced stability ratio is being achieved for optimum strength.

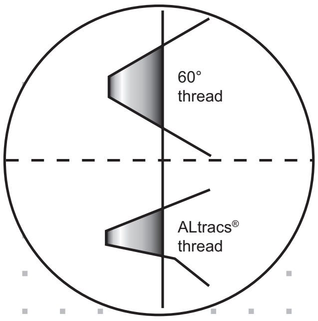
The asymmetric thread flank results in an optimal material displacement and creates a large thread engagement area between the screw thread and the mating material. In addition the flank root support gives extra stability to the thread in high clamp load conditions. The flank root support is specifically designed to allow unhindered material flow during the thread forming process.

Thread forming zone

The non-circular thread forming zone enables good alignment for an easy insertion of the ALtracs® fastener. The raised thread sections ensure a secure thread penetration into the mating material. The low thread sections of the forming zone allow a stress-free bending back of the deformed material during thread forming.

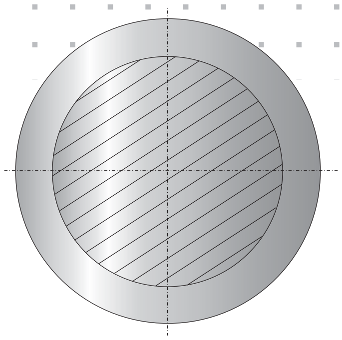


The forming zone in conjunction with the 33° flank angle generates lower installation torque due to the small displacement volume.



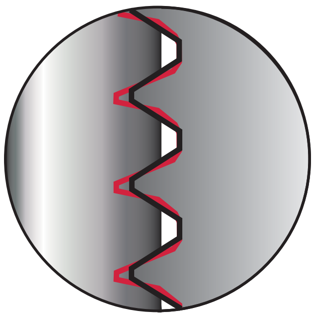
Thread cross section

The circular cross section is designed for a maximized thread engagement area compared to non-circular cross sections or tapped threads. The ALtracs® geometry has a favourable influence on load capability and long-term stability.



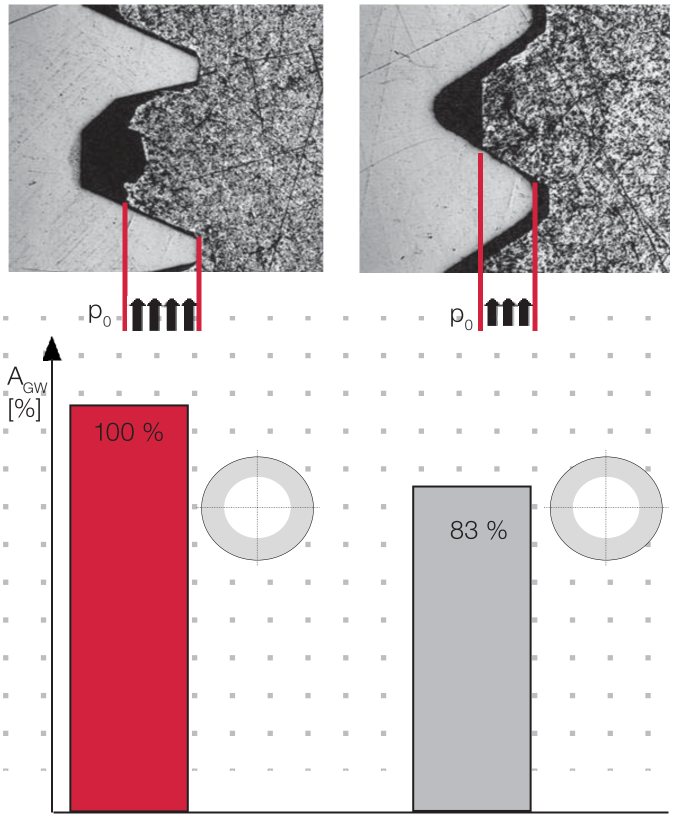
Metric compatibility

The thread pitch and dimensions chosen for the ALtracs® thread form ensures that it is compatible with metric fasteners. This means that ALtracs® and metric parts of the same diameter are completely interchangeable.



Load ability

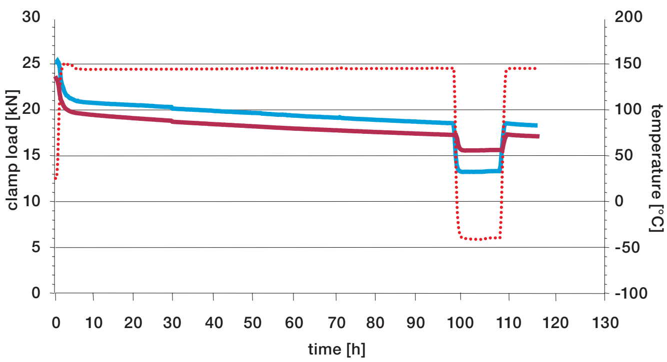
ALtracs® | Metric screw



A_{th} = thread engagement
p_0 = surface load

ALtracs® forms a clearance-free female thread in light alloy metal. Compared to pre-cut metric threads with a minus tolerance at the bolt and a plus tolerance at the female thread ALtracs® achieves a higher thread engagement per thread pitch. The flat ALtracs® thread flank additionally enlarges the engagement zone.
Along with the **geometrically reinforced female thread** a higher load capability of every single ALtracs® thread results compared to pre-cut metric screw joints.

Load Retention of ALtracs® vs. Metric Threads



Material: GD-AlSi9Cu3
Hole diameter: tapped metric thread M8
die cast hole ⌀ 7,6 mm
Tightening torque: 37 Nm

- ALtracs® 80
- metric screw 10.9, M8
- Graph temperature

Neutral test institutes certify adequate values for EJOT ALtracs® screws compared to high strength screw joints grade 10.9 concerning minimum break torque and fatigue limit.

Assemblies of ALtracs® in aluminium die cast

a) with **equal** tightening torque show:

- equal clamp load
- equal or better break loose torque
- equal or better long term behavior; means similar loss of clamp load under temperature and dynamic stress as high strength screw joints according to VDI 2230.

b) with **higher** tightening torque (to equalize forming torque) show:

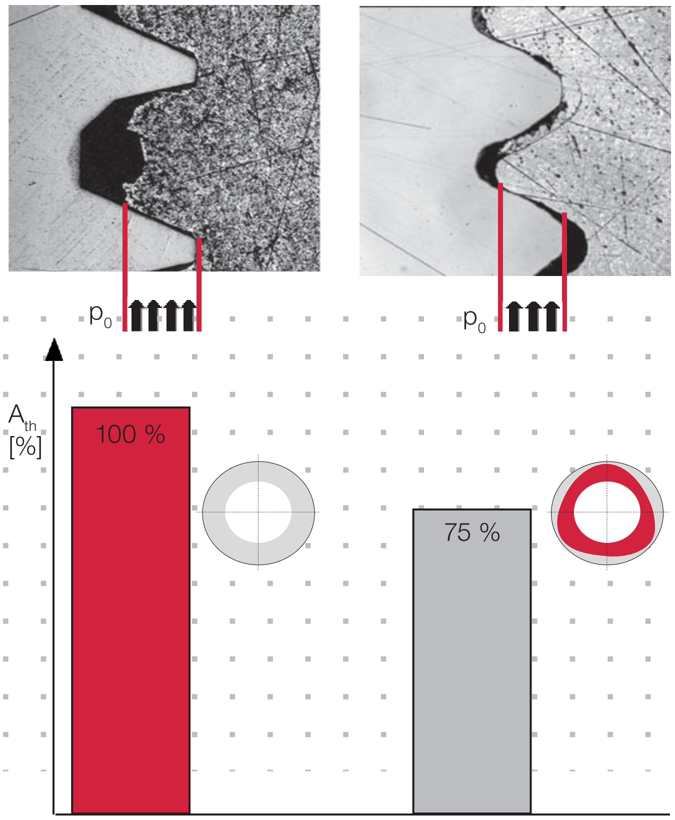
- higher clamp load
- higher break loose torque

Application Alfa Romeo 159,
by courtesy of Meridian Technologies Inc.

Meridian
TECHNOLOGIES INC.

Load ability

ALtracs® | Trilobular screw



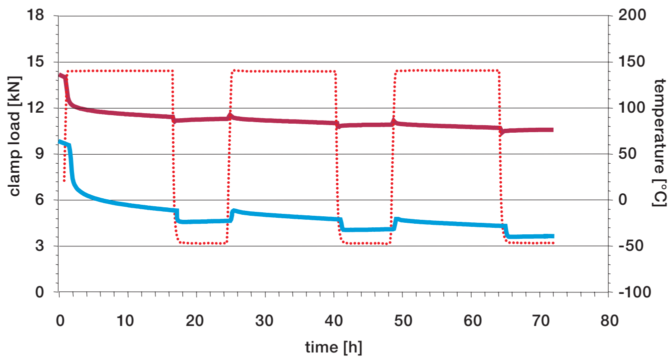
A_{th} = thread engagement
p_0 = surface load

Due to the ALtracs® thread form the **mating material properties are used most effectively.**

This means:

- high assembly safety due to high stripping torque
- high and stable clamp loads due to reinforced female thread flank
- minor creeping due to larger thread flank engagement during thermal/dynamic stress
- possible reduction of insertion depth, which then results in the use of shorter screws, allowing the designer to design smaller component sizes with the benefit of less weight, less material usage, reduced wear in die casting tools and product rationalization

Load Retention of ALtracs® vs. Trilobular Threads



Material: AlSi9Cu3
Hole diameter: 5,6 mm (blind hole)
Tightening torque: 12,5 Nm

- ALtracs® 60
- Selftapping screw M6
- Graph temperature

Unlike various other cross sections, the ALtracs® thread with its circular cross section is completely engaged and can be fully loaded. In conjunction with the higher load capability of the **geometrically reinforced female thread** this leads to:

- improved stripping torque
- improved clamp load
- improved long-term behavior (remaining clamp load, dynamic safety)
- improved break loose torque

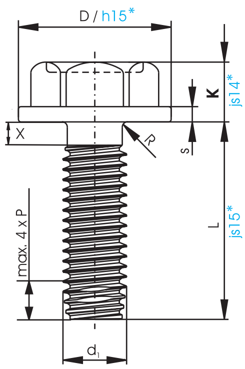
Test results for ALtracs® show advantages of up to 60% in remaining clamp load compared to other self-tapping fasteners, when tightening torque and its retention are compared, even under thermal and dynamic stress.

Application Audi,
by courtesy of TCG Unitech

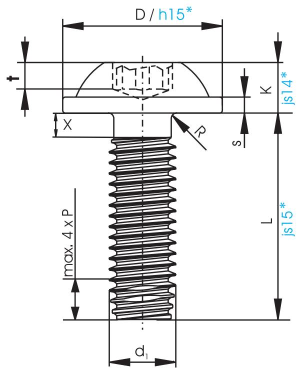
TCG

Designs

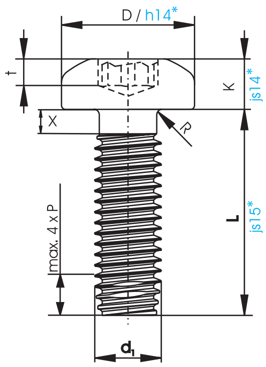
WN 5147



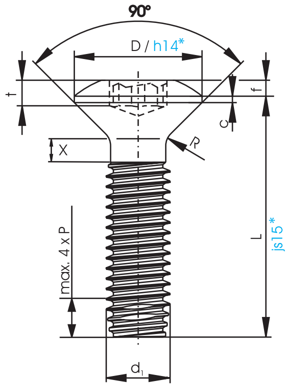
WN 5151



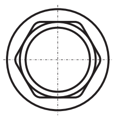
WN 5152



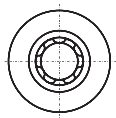
WN 5153



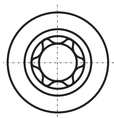
Drives



Hexagon washer head

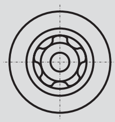


TORX plus® / AUTOSERT®



TORX®

Security drive



Tamper Resistant TORX plus®

EJOT ALtracs®																	
Nominal Ø		**16**	**18**	**20**	**22**	**25**	**30**	**35**	**40**	**50**	**60**	**[70]**	**80**	**[90]**	**100**	**120**	**140**
External thread-Ø	d_1	1,60	1,80	2,00	2,20	2,50	3,00	3,50	4,00	5,00	6,00	7,00	8,00	9,00	10,00	12,00	14,00
Core-Ø	d_2	1,12	1,32	1,45	1,61	1,88	2,30	2,66	3,02	3,87	4,59	5,56	6,23	7,20	7,86	9,86	11,86
Thread pitch	P	0,35	035	0,40	0,45	0,45	0,50	0,60	0,70	0,80	1,00	1,00	1,25	1,25	1,50	1,50	1,50
Thread run-out	X_{max}	0,70	0,70	0,80	0,90	0,90	1,00	1,20	1,40	1,60	2,00	2,00	2,50	2,50	3,00	3,00	3,00

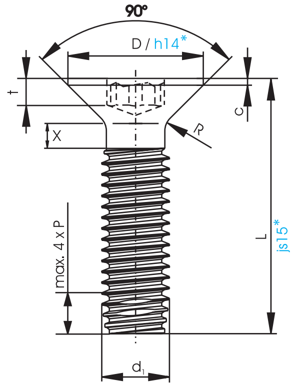
WN 5147		16	18	20	22	25	30	35	40	50	60	[70]	80	[90]	100	120	140
Head-Ø	D	**no manufacturing at present**						8,00	9,00	11,00	13,00	upon request	17,00	upon request			
Width across flats	SW							6,00	7,00	8,00	10,00		13,00				
Head height	K							3,00	3,40	4,30	5,00		6,60				
Washer thickness	s							0,90	0,90	1,10	1,10		1,10				
Radius	R_{max}							0,40	0,50	0,50	0,60		0,80				

WN 5151		16	18	20	22	25	30	35	40	50	60	[70]	80	[90]	100	120	140
Head-Ø	D	upon request		5,00	5,50	6,00	7,50	9,00	10,00	11,50	14,50	upon request	19,00	upon request			
Head height	K			1,50	1,60	2,00	2,25	2,50	2,90	3,40	4,40		5,70				
Washer thickness	s			0,60	0,60	0,60	0,70	0,80	1,00	1,20	1,60		2,00				
Radius	R_{max}			0,50	0,60	0,70	0,80	1,00	1,00	1,30	1,60		2,00				
TORX plus / AUTOSERT®				6IP	6IP	8IP	10IP	15IP	20IP	25IP	30IP		40IP				
	A_{Ref}			1,75	1,75	2,40	2,80	3,35	3,95	4,50	5,60		6,75				
Penetration depth	t min.			0,65	0,65	0,90	1,00	1,10	1,30	1,50	1,90		2,60				
	t max.			0,85	0,85	1,10	1,30	1,40	1,65	1,85	2,30		3,10				

TORX PLUS®/AUTOSERT® is used as a standard recess. All TORX® recesses from size 8 are available with combi recess.
EJOT ALtracs® screws 16 – 50 can also be supplied with **cross recess.**

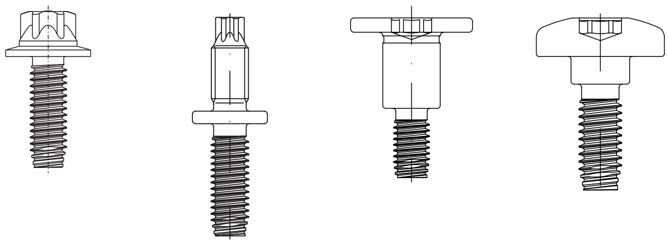
Example of ordering:
Description of EJOT ALtracs® screws with TORX PLUS®/AUTOSERT® recess, Nominal Ø 6,0 mm and length 25 mm WN5151:
EJOT ALtracs® screw WN5151, 60 x 25

WN 5154



* see page 14 tolerance

Specials / Examples



Material:
Through hardened steel AT10 (according WN5161, part 2)

Chrome VI free platings:
- zinc clear / blue passivated
- zinc / thick film passivation
- ZnFe or ZnNi / transparent passivated (with or without black top coat)
- ZnNi / black passivated
- zinc flake coatings (for example DELTA PROTEKT)

Lubrication as standard
(Dimensions < 3 mm Ø without lubrication)

Different materials, platings and special design upon request.

More information at the EJOT Hotline:
phone +49 2752 109-123
fax +49 2752 109-268
e-mail: hotline@ejot.de

EJOT ALtracs®																	
Nominal Ø		**16**	**18**	**20**	**22**	**25**	**30**	**35**	**40**	**50**	**60**	**[70]**	**80**	**[90]**	**100**	**120**	**140**
External thread-Ø	d_1	1,60	1,80	2,00	2,20	2,50	3,00	3,50	4,00	5,00	6,00	7,00	8,00	9,00	10,00	12,00	14,00
Core-Ø	d_2	1,12	1,32	1,45	1,61	1,88	2,30	2,66	3,02	3,87	4,59	5,56	6,23	7,20	7,86	9,86	11,86
Thread pitch	P	0,35	035	0,40	0,45	0,45	0,50	0,60	0,70	0,80	1,00	1,00	1,25	1,25	1,50	1,50	1,50
Thread run-out	X_{max}	0,70	0,70	0,80	0,90	0,90	1,00	1,20	1,40	1,60	2,00	2,00	2,50	2,50	3,00	3,00	3,00

WN 5152		16	18	20	22	25	30	35	40	50	60	[70]	80	[90]	100	120	140
Head-Ø	D	upon request		4,00	4,40	5,00	6,00	7,00	8,00	10,00	12,00	upon request	16,00	upon request			
Head height	K			1,50	1,60	2,00	2,40	2,70	3,10	3,80	4,60		6,00				
Radius	R_{max}			0,30	0,30	0,30	0,40	0,40	0,50	0,50	0,60		0,80				
TORXplus® / AUTOSERT®				6IP	6IP	8IP	10IP	15IP	20IP	25IP	30IP		40IP				
	A_{Ref}			1,75	1,75	2,40	2,80	3,35	3,95	4,50	5,60		6,75				
Penetration depth t	min.			0,65	0,65	0,90	1,10	1,10	1,50	1,75	2,20		2,60				
	max.			0,85	0,85	1,10	1,30	1,40	1,80	1,90	2,60		3,10				

WN 5153		16	18	20	22	25	30	35	40	50	60	[70]	80	[90]	100	120	140
Head-Ø	D	upon request		3,80	4,20	4,70	5,60	6,50	7,50	9,20	11,0	upon request	14,50	upon request			
Cyl. head height	c_{max}			0,35	0,45	0,55	0,55	0,55	0,65	0,75	0,85		0,90				
Calotte height	≈ f			0,50	0,60	0,60	0,75	0,90	1,00	1,25	1,00		2,00				
Radius	R_{max}			0,50	0,60	0,70	0,80	1,00	1,00	1,30	1,60		2,00				
TORXplus® / AUTOSERT®				6IP	6IP	8IP	10IP	15IP	20IP	25IP	30IP		40IP				
	A_{Ref}			1,75	1,75	2,40	2,80	3,35	3,95	4,50	5,60		6,75				
Penetration depth t	min.			0,65	0,65	0,90	1,10	1,10	1,50	1,50	1,90		2,60				
	max.			0,85	0,85	1,15	1,30	1,40	1,80	1,85	2,30		3,10				

WN 5154		16	18	20	22	25	30	35	40	50	60	[70]	80	[90]	100	120	140
Head-Ø	D	upon request		3,80	4,20	4,70	5,50	7,30	8,40	9,30	11,30	upon request	15,80	upon request			
Cyl. head height	c_{max}			0,35	0,45	0,55	0,55	0,65	0,70	0,75	0,85		0,95				
Radius	R_{max}			0,50	0,60	0,70	0,80	0,95	1,00	1,30	1,60		2,00				
TORXplus® / AUTOSERT®				6IP	6IP	8IP	10IP	15IP	20IP	25IP	30IP		40IP				
	A_{Ref}			1,75	1,75	2,40	2,80	3,35	3,95	4,50	5,60		6,75				
Penetration depth t	min.			0,50	0,50	0,70	0,80	0,95	1,10	1,25	1,55		1,90				
	max			0,65	0,65	0,90	1,05	1,20	1,45	1,60	2,00		2,40				

Manufacturing range

Tolerance	Nominal value [mm]							
		over 3	over 6	over 10	over 18	over 30	over 50	over 80
	to 3	to 6	to 10	to 18	to 30	to 50	to 80	to 120
h 14	0 - 0,25	0 - 0,30	0 - 0,36	0 - 0,43	0 - 0,52	-	-	-
h 15	0 - 0,40	0 - 0,48	0 - 0,58	0 - 0,70	0 - 0,84	-	-	-
js 14	±0,12	±0,15	±0,18	-	-	-	-	-
js 15	±0,20	±0,24	±0,29	±0,35	±0,42	±0,50	±0,60	±0,70

EJOT ALtracs® Screw	16	18	20	22	25	30	35	40	50	60	70	80	90	100	120 x1,5	140 x1,5
External-Ø d_1	1,6	1,8	2,0	2,2	2,5	3,0	3,5	4,0	5,0	6,0	7,0	8,0	9,0	10,0	12,0	14,0
External-Ø tolerance	+0,08 0	+0,08 0	+0,08 0	+0,08 0	+0,10 0	+0,10 0	+0,10 0	+0,12 0	+0,12 0	+0,14 0	+0,14 0	+0,14 0	+0,18 0	+0,18 0	+0,18 0	+0,18 0
Core-Ø tolerance	+0,12 0	+0,12 0	+0,12 0	+0,12 0	+0,14 0	+0,14 0	+0,14 0	+0,16 0	+0,16 0	+0,18 0	+0,18 0	+0,18 0	+0,22 0	+0,22 0	+0,22 0	+0,22 0

Manufacturing range does not necessarily indicate stock items.

EJOT ALtracs® screw	16	18	20	22	25	30	35	40	50	60	70	80	90	100	120	140
d_1 [mm]	1,6	1,8	2,0	2,2	2,5	3,0	3,5	4,0	5,0	6,0	7,0	8,0	9,0	10,0	12,0	14,0
Length L [mm]																
3,5 ± 0,24																
4 ± 0,24																
4,5 ± 0,24																
5 ± 0,24																
6 ± 0,24																
7 ± 0,29																
8 ± 0,29																
9 ± 0,29																
10 ± 0,29																
12 ± 0,35																
14 ± 0,35																
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18 ± 0,35																
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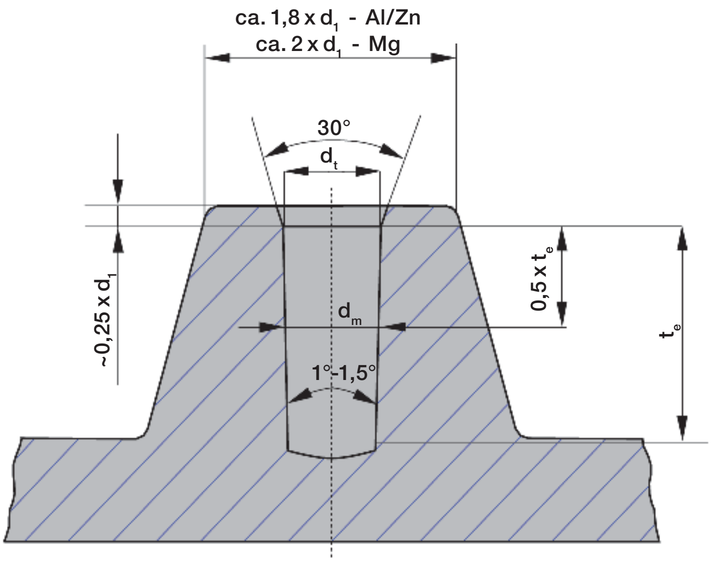
22 ± 0,42																
25 ± 0,42																
30 ± 0,42																
35 ± 0,50																
40 ± 0,50																
50 ± 0,50																
60 ± 0,60																
70 ± 0,60																
80 ± 0,60																
90 ± 0,70																
100 ± 0,70																

upper line
≙ min. length
(counter sunk head
length "L" + approx. 2 mm)

lower line
≙ max. length

Special length on request!

Design Recommendations



Aluminium-, magnesium- and zinc- die casting

- cast or drilled holes
- counter bore if possible 30°
- draft angle 1,0° - 1,5° total
- penetration depth $t_e \approx 1{,}5 - 2{,}0 \times d_1$

d_1 = nominal diameter of screw
d_m = hole diameter middle drilled
d_t = hole diameter top cast
t_e = penetration depth

All indications in mm.
For pre-hole design please chose d_m **or** d_t.

Material	Magnesium / Aluminium / Zinc									
Hardness	50-85 HB				75-115 HB				110-140 HB	
t_e	2 x d_1		1,5 x d_1		2 x d_1		1,5 x d_1		1,5 x d_1	
d_1	d_m	d_t (1,5°$_{max}$)	d_m	d_t (1,5°$_{max}$)	d_m	d_t (1,5°$_{max}$)	d_m	d_t (1,5°$_{max}$)	d_m	d_t (1,5°$_{max}$)
1,6	t_{emax} = 1,5 x d_1		1,48	1,51	t_{emax} = 1,5 x d_1		1,49	1,52	1,51	1,54
1,8	t_{emax} = 1,5 x d_1		1,65	1,89	t_{emax} = 1,5 x d_1		1,67	1,71	1,68	1,72
2,0	t_{emax} = 1,5 x d_1		1,85	1,89	t_{emax} = 1,5 x d_1		1,87	1,91	1,89	1,93
2,2	2,00	2,09	2,00	2,04	2,05	2,11	2,03	2,07	2,05	2,09
2,5	2,30	2,37	2,25	2,3	2,35	2,42	2,30	2,35	2,35	2,40
3,0	2,75	2,83	2,70	2,76	2,80	2,88	2,75	2,81	2,80	2,86
3,5	3,2	3,29	3,15	3,22	3,25	3,34	3,20	3,27	3,25	3,32
4,0	3,65	3,75	3,60	3,68	3,70	3,80	3,65	3,75	3,70	3,78
5,0	4,60	4,73	4,50	4,60	4,70	4,83	4,60	4,70	4,70	4,80
6,0	5,50	5,66	5,40	5,52	5,60	5,76	5,50	5,62	5,60	5,72
7,0	6,40	6,58	6,30	6,44	6,60	6,78	6,50	6,64	6,60	6,74
8,0	7,40	7,61	7,20	7,36	7,50	7,71	7,40	7,56	7,50	7,66
9,0	8,30	8,54	8,10	8,28	8,40	8,64	8,30	8,48	8,40	8,59
10,0	9,20	9,46	9,00	9,20	9,40	9,66	9,20	9,40	9,40	9,60
12,0	11,0	11,31	10,8	11,04	11,2	11,51	11,0	11,24	11,2	11,44
14,0	12,9	13,27	12,6	12,87	13,2	13,57	12,9	13,17	13,2	13,47

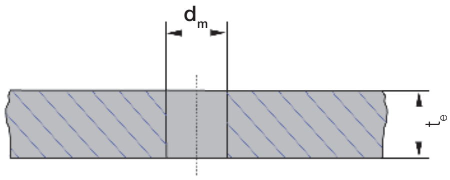
Recommended pre-hole tolerances
for drilled and cast holes

d_1	pre-hole tolerance
1,6 - 2,0	± 0,03
2,2 - 3,5	± 0,04
4,0 - 5,0	± 0,05
6,0 - 7,0	± 0,07
8,0 - 14,0	± 0,10

Effect of surface treatments
Different surface treatments lead to varying friction coefficients. Therefore we recommend assembly tests with screws including definite plating.

Aluminium or magnesium extrusions and sheets

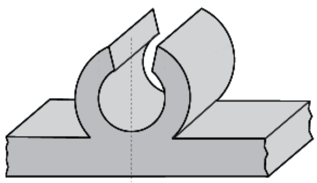
- Punched or drilled holes
- Insertion depth $t_e \gtrsim 0{,}5\text{-}0{,}8 \times d_1$ (plus thread forming zone)
- Insertion depth $t_e = 1\text{-}2 \times d_1$ (incl. thread forming zone)

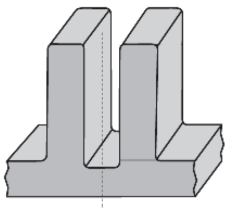


Pre-hole diameter d_m of punched or drilled holes in aluminium or magnesium sheets									
t_e	0,5-0,8 x d_1			0,9-1,1 x d_1			1,2-1,4 x d_1		
Hardness (HB)	50-85	75-115	110-140	50-85	75-115	110-140	50-85	75-115	110-140
d_1	d_m	d_m	d_m	d_m	d_m	d_m	d_m	d_m	d_m
1,6	on request	1,46	1,48	1,46	1,48	1,49	1,48	1,49	1,51
1,8		1,63	1,65	1,63	1,65	1,67	1,65	1,67	1,68
2,0		1,83	1,85	1,83	1,85	1,87	1,85	1,87	1,89
2,2		1,98	2,00	1,98	2,00	2,03	2,00	2,03	2,05
2,5		2,20	2,25	2,20	2,25	2,30	2,25	2,30	2,35
3,0		2,65	2,70	2,65	2,70	2,75	2,70	2,75	2,80
3,5		3,10	3,15	3,10	3,15	3,20	3,15	3,20	3,25
4,0		3,55	3,60	3,55	3,60	3,65	3,60	3,65	3,70
5,0		4,40	4,50	4,40	4,50	4,60	4,50	4,60	4,70
6,0		5,30	5,40	5,30	5,40	5,50	5,40	5,50	5,60
[7,0]		6,20	6,30	6,20	6,30	6,50	6,30	6,50	6,60
8,0		7,00	7,20	7,00	7,20	7,40	7,20	7,40	7,60
[9,0]		7,90	8,10	7,90	8,10	8,30	8,10	8,30	8,40
10,0		8,80	9,00	8,80	9,00	9,20	9,00	9,20	9,40
12,0		10,60	10,80	10,60	10,80	11,0	10,80	11,0	11,20
14,0		12,30	12,60	12,30	12,60	12,90	12,60	12,90	13,20

Assembly in extruded profiles

- Extensive data base can assist during design process.
  Please contact EJOT.
- Penetration depth $t_e \geq 1{,}5 \times d_1$





Recommendations suitable for aluminium, magnesium, zinc alloy with tensile strength ≤ 470 MPa, hardness ≤ 140 HB. Higher material hardness requires an increased hardness of the thread point. In this case we recommend an iductive hardened ALtracs® screw.
The detailed hole sizes in the table above are based on laboratory tests. Due to possible deviations from these values in reality, tests on actual parts prior to start of production are recommended.

Our application engineers are pleased to assist your design team in their planning, developing and assembling needs in order to arrive with a high quality product, assembled in the most cost effective way.

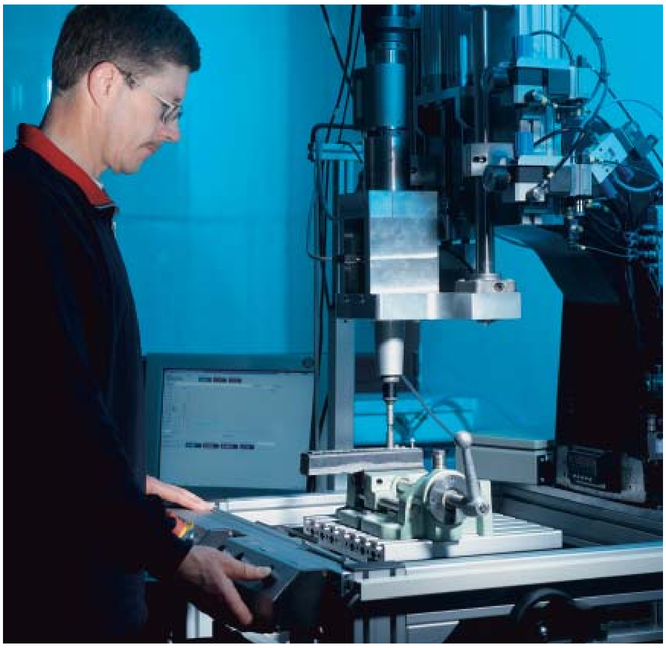
Please contact the EJOT Application Engineers or our Product Management for appplication engineering support.

phone **+49 2752 109-180**
fax **+49 2752 109-141**
e-mail: **fschlosser@ejot.de**

Comment:
For **screw joints in magnesium under high temperature or with high risk of corrosion** we recommend our thread forming fastener made of aluminium, the **EJOT ALUMAGS®**.

Service

Test rack at the APPLITEC



Internal seminar

Design Consultation

A major consideration of today's product manufacture is the basic need to be cost competitive. Significant in achieving this objective is the design process. No other part of the cost structure is influenced more than by design.

Generally speaking, the development of a product, which represents about 10% of the overall costs, determines about 70% of the costs for the final product.

Often the design of the fixing is considered to be of low importance; however, it is the fastener that holds the components together to make the finished product. With this in mind the design engineer should consider which fastening method to use during the design conception stage to avoid expensive design changes late on in the design process or even when the product goes into production.

To assist our customers in this process EJOT offers support during the design stage through comprehensive application engineering services. These services provide accurate information on product performance and result in design recommendations that can be used safely on the production line.

Consequent Application Engineering

By continuously working with our customers and their application problems, EJOT has amassed a comprehensive understanding of fastener technique that has led to a number of significant innovations. It is our goal to continually improve our products to meet the ever increasing demands of our customers.

In addition to our highly qualified engineers and application-engineering advisers, we offer the service of our application laboratory known as the EJOT APPLITEC. At the APPLITEC we carry out test procedures on our customers' applications that enable us to thoroughly analyse the strength and capability of their parts. It is here that new fastening techniques are also developed.

The knowledge EJOT has gained over the years is passed on to our customers finding the most effective solution supporting their efforts in establishing rational fastening and assembly techniques. Detailed test reports, on site technical advice, acknowledged seminars and technical publications demonstrate our continued commitment to impart our knowledge.

Test report

Logistic and Data Exchange

It is our aim to keep procurement and warehousing costs as low as possible by simultaneously offering product availability and quality.

With respect to simplified procuring processes, EJOT offers a variety of cost reducing procedures and services. The continued analysis of our customers' demands and advanced logistics procedures leads to high availability of our products. Skeleton contracts and delivery schedules via electronic data interchange facilitate and accelerate the processing times of our products.

Quality for Automated Assembly

The fasteners grade of purity has a significant impact on the minimisation of failure and thus leads to a high availibility of the assembly machine. Historically, the standard quality in commercial fastener manufacture is not sufficient for today's high quality requirements since originally it has been designed for mainly manual assembly.

EJOT introduced the EJOMAT® Quality to ensure the most cost-effective usage of our customers' automated assembly machines.

The grade of purity offered by EJOMAT® quality is 10 times higher than the usual standard quality which means increased availability of assembly machine and decreased assembly down time costs.
EJOMAT®, quality that pays for itself.

EJOT Sales Organization

In addition to EJOT companies throughout Europe a growing number of Licensees in North & South America and Asia ensures the global availibility of products and local support.

Contact details can be found on our homepage www.ejot.com.

GFA
GLOBAL FASTENER ALLIANCE

Modern PPS-systems lead to high accuracy in supply and short through put times

EJOMAT® for fully automated assembly

EJOT®

EJOT GmbH & Co. KG
Industrial Fasteners Division
Untere Bienhecke
D-57334 Bad Laasphe
P.O. Box 1163
D-57323 Bad Laasphe
phone +49 2752 109-0
fax +49 2752 109-141
e-mail: industrie@ejot.com
Internet: www.ejot.com

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364-E/2000/04.06