



Data and facts for application



EN AW-6082 T6

Versatile plus

EN AW 6082 T6 – VERSATILE PLUS

The EN AW 6082 is a medium-strength, curable alloy, noted for its versatility. A T6 heat treatment has already been carried out under stringent quality requirements. The bolts therefore are suitable for direct use immediately after the mechanical treatment. For a reshaping process, we recommend our standard alloy EN AW 6082 in the homogenised state “O3”.

The EN AW 6082 T6 is very weather-resistant. The areas for application are, amongst others, the automotive industry as electrical conductors, for cooling elements and also for the construction industry. The alloy is not suitable for the production of complex profiles.

Chemical composition*

| | | | | |
|---------------|------------|------------|-------------------------|--------------------------|
| Si 0,7 1,3 | Fe 0,50 | Cu 0,10 | Mn 0,40 1,0 | Mg 0,6 1,2 |
| Cr 0,25 | Zn 0,20 | Ti 0,10 | others, each 0,05 | others, total 0,15 |

*according to EN-573-3 , respectively Teal-Sheets (AA)

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| | |
|-----|-----|
| Mn | |
| 0,4 | 1,0 |

Min-Value

Max-Value

All values in mass %

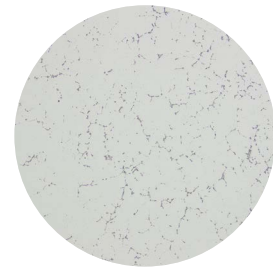
Structure of the billets

Depending on the process, a segregation zone occurs immediately in the marginalised layer of continuously cast billets.

With our T6 Material this layer is already removed, so that the whole bolt can be used. Please refer to the Data Sheet EN AW 6082 for the surface pictures.



Macrosection, d178 mm: Segregation zone 2,7 mm



Microsection, d178 mm (25 times magnification)

Turned billets

Our T6 billets are machined to the desired diameter and can optionally be subjected to ultrasonic inspection. As standard, we manufacture T6 billets in diameters of 250mm - 580mm and in lengths of 1,000mm, 1,250mm, 1,500mm and 2,000m. For larger quantities, smaller diameters up to min. 140 mm, larger diameters up to max. 700 mm or other billet lengths are available on request.

Mechanical properties

There is no standard for cast round rods (cast billets / bolts) that defines mechanical properties. We offer here cast and homogenised billets, which undergo at the final stage a T6 Heat treatment (solution annealing and progressive ageing treatment). With regard to the mechanical parameters, we orientate ourselves on the EN 755-2 (mechanical parameters for extruded billets, round rods and profile). This Norm relates only to diameter up to 250 mm. There is a tendency for the achievable hardness to decrease as the diameter increases. Our guaranteed minimum values can be seen in the following table.

| Diameter (mm*) | R _{p0.2} (MPa) | R _m (MPa) | A 5,65 | Hardness (HB) |
|----------------|-------------------------|----------------------|--------|---------------|
| bis 300 | 250 | 290 | 4 | 100 |
| bis 360 | 245 | 280 | 4 | 95 |
| bis 400 | 240 | 270 | 3 | 90 |
| bis 420 | 200 | 255 | 3 | 85 |
| bis 500 | 170 | 220 | 5 | 75 |
| bis 580** | 170 | 220 | 4 | 70 |

*relates directly to LAGH diameter measurements **so far not fixed, for specific indicators please contact us