

SPECIFICATIONS

Previous AFNOR designation:

- AZ5G

European Standards:

- EN AW-7020 (Al Zn4.5Mg1)

UNS : A97020

COMPOSITION

Zinc.....	4.50
Magnesium.....	1.20
Manganese.....	0.25
Chromium.....	0.22
Zirconium.....	0.14
Aluminum.....	Base

TYPICAL MECHANICAL PROPERTIES

- Forged T6 condition. Thickness < 100 mm

-Tensile test at ambient temperature, longitudinal direction

- UTS:	>350 N/mm ²
- 0.2 % Yield strength:	>280 N/mm ²
- Elongation (5d):	>10 %

- Forged T652 condition. 100/200 mm thickness

-Tensile test at ambient temperature, longitudinal direction

- UTS:	>340 N/mm ²
- 0.2 % Yield strength:	>275 N/mm ²
- Elongation (5d):	>10 %

APPLICATIONS

- Closed-die forgings and large forged bars for nuclear, space and defense industries.

CHARACTERISTICS

- Good weldability.
- Average mechanical strength.
- Good balance between toughness and stress corrosion resistance.
- This alloy is similar to Grade 7005.

HEAT TREATMENT

- Solution treatment 470°C
- Water Quench
- Naturally aged at ambient temperature (> 7 days)
- Aged at temperature depending on properties required and the section of the component.
- The T6 temper condition is the most common and is defined in Standard NF EN 515.
- It can be stress relieved between solution treatment and aging.
- T652 condition stress relieved by compression before T6 aging is the most common and is defined in Standard NF EN 515.

PHYSICAL PROPERTIES

- Density: 2.78
- Mean coefficient of expansion in m/m.°C:
 - between 20°C and 100°C: 23.1×10^{-6}
 - between 20°C and 200°C: 24.0×10^{-6}
 - between 20°C and 300°C: 25.0×10^{-6}
- Thermal conductivity in W.m/m².°C:
 - at 20°C: 137 (T6 condition)
- Mean specific heat in J/g°C:
 - between 0°C and 100°C: 0.875
- Electrical resistivity in $\mu\Omega.cm^2/cm$
 - at 20°C: 4.93 (T6condition)
- Electrical conductivity in S/m:
 - at 20°C: $>22 \times 10^6$ (T76 condition)
- Welding:
 - Weldable grade.
 - Please contact the AD Technical Department

Contact:

www.aubertduval.com

The data provided in this document represent typical or average values rather than maximum or minimum guaranteed values. The applications indicated for the grades described are given as guidance only in order to help the reader in his personal assessment. Please note that these do not constitute a guarantee whether implicit or explicit as to whether the grade selected is suited to specific requirements. Aubert & Duval's liability shall not under any circumstances extend to product selection or to the consequences of that selection.