SPECIFICATIONS

European standards: EN - 4276 - 4277 - 4278 - 4289 - 4294
AECMA:
  - Designation: AL-P7175
UNS: A97175

MECHANICAL PROPERTIES

• T7352 and T7354 conditions
- Tensile test at ambient temperature, longitudinal direction
  - UTS: > 455 N/mm²
  - 0.2 % Yield strength: > 370 N/mm²
  - Elongation (5d): > 7 %

COMPOSITION

- Zinc ......................................................5.6
- Magnesium ..........................................2.5
- Copper ................................................1.6
- Chromium .........................................0.23
- Aluminum .........................................Base

APPLICATIONS

• Forged bars and medium sized open- or closed-die forgings, used in the production of structural components for aerospace where high mechanical strength is required.

CHARACTERISTICS

• This alloy achieves a good balance between mechanical properties (strength, toughness and fatigue) and stress corrosion resistance for thicknesses ≤ 100mm.
• As its hardenability is not very high, grades 7010 or 7050 would be preferred where greater thicknesses are involved.
HEAT TREATMENT

- Solution treatment, quench and aging are adjusted depending on the thickness of parts and the balance of properties to be achieved.
- The T735X over-aged condition is the most common for this alloy.

PHYSICAL PROPERTIES

- Density: 2.8

- Modulus of elasticity in N/mm²:
  - at 20°C: \(71.5 \times 10^3\)

- Mean coefficient of expansion in m/m.°C:
  - between 20°C and 100°C: \(23.4 \times 10^{-6}\)
  - between 20°C and 200°C: \(24.3 \times 10^{-6}\)
  - between 20°C and 300°C: \(25.2 \times 10^{-6}\)

- Thermal conductivity in W/m/°C:
  - at 20°C: 155 (état T76)

- Mean specific heat in J/g.°C:
  - between 0°C and 100°C: 0.864

- Electrical resistivity in \(\mu\Omega\cdot\text{cm}^2/\text{cm}:
  - at 20°C: 4.31 (T76 condition)

- Electrical conductivity in S/m:
  - at 20°C: \(23.2 \times 10^6\)

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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.