

AZ91D Magnesium Alloy – Technical Datasheet

1. Product Description

AZ91D is the most widely used magnesium die-casting alloy, offering an excellent balance of strength, ductility, corrosion resistance and castability. It is suitable for automotive components, structural housings, 3C electronic enclosures and general industrial applications requiring lightweight material with stable mechanical performance.

2. Chemical Composition (standard ranges)

Element	Specification (%)
Al	8.5 – 9.5
Zn	0.45 – 0.9
Mn	≥ 0.17
Si	≤ 0.05
Fe	≤ 0.005
Cu	≤ 0.025
Ni	≤ 0.001
Others (each)	≤ 0.02

3. Mechanical Properties (typical values)

- Tensile Strength: 230—250 MPa
- Yield Strength: 150—165 MPa
- Elongation: 2—7%
- Hardness: HB 70—80

4. Ingot Dimensions & Weight

- Dimensions: approx. 110 — 120 mm × 59 — 75 mm × 590 — 636 mm
- Weight per ingot: 7—8 kg

5. Packaging & Loading

- Bundled on wooden or magnesium alloy pallets
- Wrapped with plastic film (hood type) and secured with PP straps
- Pallet dimension: approx. 1300 × 900 × 1000 mm
- Bundle weight: max 1100 kg
- Fresh production; free from corrosion or oxidation
- 20-ft container loading: approx. 25 MT
- 40-ft not recommended (due to weight & safety limitations)

6. Applications

- Automotive structural components
- 3C electronic housings and die-cast parts
- Power tools and machinery
- Lightweight industrial components

7. HS Code

8104.19