

AZ31B Magnesium Alloy

Product Datasheet

A wrought magnesium alloy offering good room temperature strength

For motorsport applications in medium strength service at temperatures below 150°C

Available in sheet, plate, coil and bar, AZ31B magnesium alloy benefits from increased strength and density due to strain hardening with partial anneal (H24 and H26 tempers). The alloy offers excellent weldability and can be machined faster than any other metal. The material is non-magnetic with high electrical and thermal conductivity.



Chemical Composition (weight %)						
	Mg	Y	Zr	Nd	Heavy Rare Earths*	
min	Bal	4.75	0.40	1.50	1	
max	Bal	5.50		2.00	2	

Mechanical Properties (minimum tensile properties)			
AZ31B-O 0.5-1.5mm		AZ31B-O 6.3-75mm	
0.2% Proof Stress	125 MPa	0.2% Proof Stress	105 MPa
Tensile Strength	220 MPa	Tensile Strength	220 MPa
Elongation in 5.65√A	10%	Elongation in 5.65 √A	8%
AZ31B-O 1.5-6.3mm		AZ31B-H24 0.5-6.3mm	
0.2% Proof Stress	105 MPa	0.2% Proof Stress	200 MPa
Tensile Strength	220 MPa	Tensile Strength	270 MPa
Elongation in 5.65√A	10%	Elongation in 5.65 √A	5%

Characteristics

- Good ductility and corrosion resistance
- High electrical and thermal conductivity
- Good strength at room temperature

Applications

- Production of intricate motorsport parts
- Monocoque construction
- Race chassis, structural engine parts, hydraulics

About Smiths High Performance

Smiths High Performance is a leading stockholder and supplier of high-performance engineering materials to the global motorsport sector. We are supply partners in a range of specialist motorsport markets including Formula 1, Formula E, NASCAR, MOTO GP, WEC & WRC.