

Typical Applications

- Missiles
- Power systems
- Aircraft engines
- Motorsport
- Electrical equipment
- Engine casings
- High performance applications
- Gearbox casings

Product Description

WE54 Magnesium alloy is a casting alloy which maintains its mechanical properties at high temperature (up to 300°C). WE54 offers a high performance product for engineers who require weight reduction without compromising performance. The machinability of WE54 is excellent and the alloy offers similar corrosion resistance to aluminium casting alloys under salt spray conditions. WE54 is used commonly in Aerospace, Defence and Motorsport applications as a high performance, weight reducing material.

Key features

- High strength
- Heat treatable
- Good castability
- Increased levels of Yttrium for improved corrosion resistance
- Excellent properties retention

Availability

Bar

Corrosion resistance

Excellent

Weldability

WE54 can be welded using tungsten arc inert gas process. A filler rod of similar composition should be used.

Chemical Composition (weight %)

	Mg	Y	Zr	Nd	Heavy Rare earths *
min	Bal	4.75	0.4	1.50	1
max	Bal	5.50		2.00	2

*Heavy rare earth fraction contains mainly Yb, Er, Dy, and Gd

Mechanical Properties (at ambient temperature)

0.2% Proof Stress	205 MPa
Tensile Strength	280 MPa
Elongation	4%
Ultimate Stress	150 MPa

Physical Properties

	Metric	Imperial
Density	1.8 g/cm ³	0.06516/in ³
Melting Point	545 - 640°C	1013 - 1184°F

Technical Assistance

Our knowledgeable staff backed up by our resident team of qualified metallurgists and engineers, will be pleased to assist further on any technical topic.

UK Service Centres:

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