

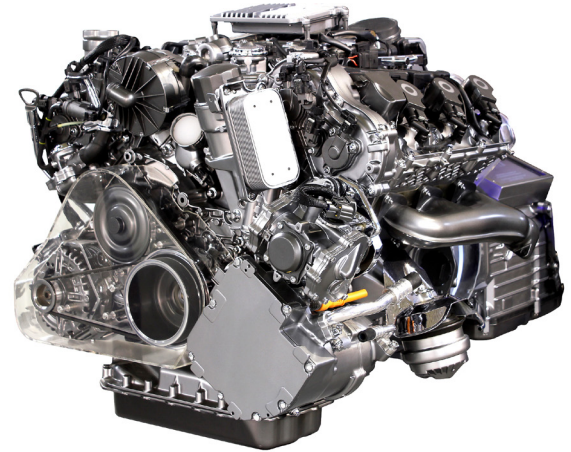
WE54 Magnesium Alloy

Product Datasheet

A heat treatable high strength magnesium casting alloy

Offering excellent machinability with high suitability for motorsport applications

WE54 Magnesium Alloy offers similar corrosion resistance characteristics to aluminium casting alloys under salt spray conditions. It is a high-performance bar product which maintains its mechanical properties at high temperature, up to 300°C. Used extensively in motorsport it is utilised in structural engine and chassis components.



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

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

Physical Properties

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

Mechanical Properties (at ambient temperature)

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

Characteristics

- Heat treatable, high strength casting alloy
- Excellent mechanical properties retention
- For use in temperatures up to 300°C

Applications

- Structural engine components
- Chassis components
- Weight reduction design

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.