

# WE54 Magnesium

Smiths High Performance



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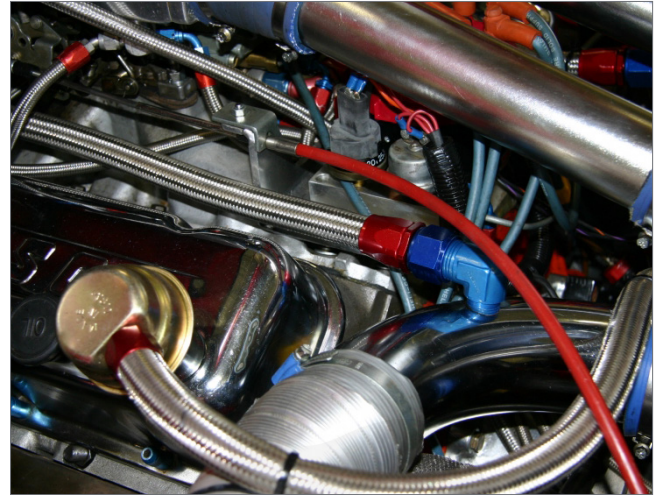
Page: 1 of 1

## Weight Reduction Possibilities

WE54 is a heat treatable high strength magnesium casting alloy for motorsport applications.

WE54 offers 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 temperatures, up to 300°C. The alloy finds extensive use in motorsport in structural engine and chassis components.



## Chemical Composition (weight,% extruded)

	Mg	Y	Zr	Nd	Heavy 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

## Mechanical Properties (at ambient temperature)

Property	Value
0.2% Proof stress	170 MPa
Tensile Strength	250 MPa
Elongation	2%

## Physical Properties:

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

## Applications:

- Structural engine components
- Chassis components
- Weight reduction design

## Characteristics:

- Heat treatable, high strength alloy
- Excellent strength-to-weight ratio
- Retains mechanical properties at high temperature



## About Smiths High Performance

Smiths High Performance is a leading stockholder and supplier of high-performance engineering materials. We are material supply chain partners supporting high-technology market sectors.

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