

Standard Magnesium Alloys from
Galaxy Magnesium
Technical and Functional Specifications
<http://www.galaxymagnesium.com>

Alloy: Magnesium- ZE41



General Description: a magnesium casting alloy containing zirconium, rare-earths and zinc. This alloy is well-suited for high integrity castings that are operated at ambient temperatures or up to 149°C (300°F). It is easily weldable and pressure-tight.

Common Applications: major applications include: Aircraft components, Military equipment, Video cameras, Vibration testing equipment, Motorcycle wheels, Power tools, & Helicopter gearboxes.

Chemical Composition

Magnesium, Mg	94.34 - 95.23%
Zinc, Zn	3.55%
Rare earths	0.81 - 1.7%
Zirconium, Zr	0.41%

Physical Properties

	Metric	Imperial
Density	1.84 g/cm ³	0.0665 lb/in ³

Melting Point 532 - 638°C 990 -1180°

Mechanical Properties

	Metric	Imperial
Tensile strength	218 MPa	34000 psi
Yield strength	140 MPa	20300 psi
Poisson's ratio	0.35	0.35
Elastic modulus	44.12 Gpa	6400 ksi
Elongation at break	4.5%	4.5%
Hardness, Brinell	55 - 70	55 - 70

Thermal Properties

Thermal expansion coefficient	Metric	Imperial
(@20-100°C/68-212°F)	15.1 $\mu\text{m}/\text{m}^\circ\text{C}$	15.1 $\mu\text{in}/\text{in}^\circ\text{F}$
Thermal conductivity	24 W/mK	6 3 BTU in/hr.ft ² .°F

Delivery Format: Billet, bar or plate; other formats, dimensions, thickness to customer requirement

Available for immediate delivery from Galaxy Magnesium
email business@galaxymagnesium.com
or call 1 212-608-2020 (New York)

External Reference: <https://www.azom.com/article.aspx?ArticleID=9966>

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