



Zamak 3 - Zinc Die Casting Alloy

Physical Properties

Melting Range (°F)	718-728
Melting Range (°C)	381-387
Density: lb/cu in (g/cc)	0.240 (6.6)
Specific Heat: BTU/lb/deg F	0.10
Electrical Conductivity: %IACS	27
Thermal Conductivity: BTU/ft/hr/deg F	65.3
Coefficient of Thermal Expansion	15.2
Pattern or Die Shrinkage: in/in	0.007

Mechanical Properties

Ultimate Tensile Strength: ksi (MPa)	41 (283)
Yield Strength: ksi (MPa)	32 (221)
Elongation: % in 2"	10
Hardness: Brinell	82
Modulus of Elasticity: psi x 10 ⁶	12.4

Features

- Zamak 3 is the most common zinc die casting alloy in North America. Over 70% of all zinc die castings are made from this alloy.
- Superb castability and long-term dimensional stability
- Excellent finishing characteristics for plating, painting, and chromate treatments
- Great combination of strength, toughness, rigidity, bearing performance, and economical castability.

Chemical Specifications

ELEMENT	Ingot (ASTM B240) (%)	Die Cast (ASTM B86) (%)
Zinc (Zn)	BALANCE	BALANCE
Magnesium (Mg)	0.03 - 0.06	0.02-0.06
Cadmium (Cd)	0.0030	0.004
Lead (Pb)	0.0040	0.005
Aluminum (Al)	3.9 - 4.3	3.7 - 4.3
Copper (Cu)	0.1	0.1
Iron (Fe)	0.35	0.05
Tin (Sn)	0.0015	0.002
Nickel (Ni)	--	--

Bar Sizes

Margash Bar	For automatic feeder systems
Fisher Bar	For automatic feeder systems
Notch Bar	7 lb/15 lb/25 lb

Packaging - Wrapped and banded on a wooden pallet

Additional zinc alloys
offered by Nathan Trotter

Zamak 2
Zamak 5
Zamak 7
ZA-8
ZA-12
ZA-27
EZAC

Limits are % max unless otherwise shown as range or stated otherwise. The above properties are "typical" values. The information found in these tables should be used for initial reference and for comparative purposes only. This data should not be used to establish design limits or as a reason for quality acceptance or rejection.