vedanta transforming for good | HINDUSTAN ZINC Zinc & Silver of India

Hindustan Zinc Die Casting Alloy (HZDA)

HZDA is a Zinc Die Casting alloy (Zinc alloy with Aluminium, Magnesium and Copper), especially developed for hot chamber die casting process. It is an outstanding choice for countless decorative & functional applications. Due to its unique physical & mechanical properties, Zinc die casting alloy can be cast into virtually limiltless shapes and sizes ranging from simple toy cars to complex auto components. Commonly known in the market as ZAMAK.

Grades: HZDA 3 & HZDA 5.

Chemical Specifications

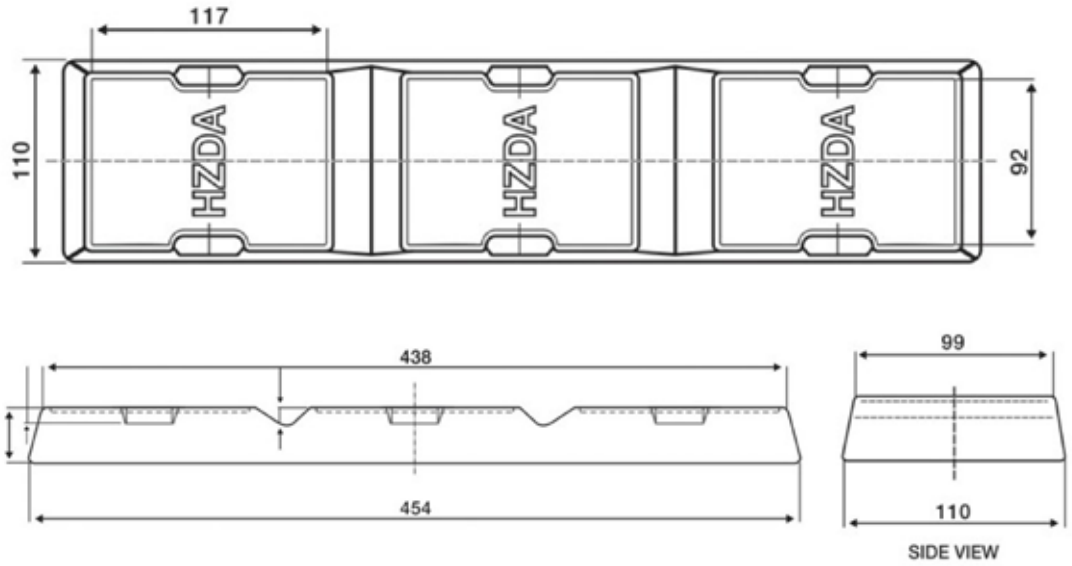
HZDA 3

Component	Composition
Aluminium (Ai)	3.9-4.2%
Magnesium (Mg)	0.035-0.060%
Copper (Cu)	0.0300%Max
Iron (Fe)	0.0050% Max
Lead (Pb)	0.0030% Max
Cadmium (Cd)	0.0010% Max
Tin (Sn)	0.0010% Max
Nickel (Ni)	0.0010% Max
Zinc (Zn)	Balance

HZDA 5

Component	Composition
Aluminium (Ai)	3.9-4.2%
Magnesium (Mg)	0.035-0.060%
Copper (Cu)	0.7-1.1%
Iron (Fe)	0.0050% Max
Lead (Pb)	0.0030% Max
Cadmium (Cd)	0.0010% Max
Tin (Sn)	0.0010% Max
Nickel (Ni)	0.0010% Max
Zinc (Zn)	Balance

Slab Dimensions and View



Physical Specifications: All Dimensions in mm

Bundle Specifications

Ingot Weight	: 9 Kg each (+ /-0.5 Kg)
Bundle Weight	: 1 Tonn each (+ /-40 Kg)
Bundle Configuration	: 8 Ingots x 14 Layers
Bundle Dimensions	: 890(+/-10) mm (L)
	: 440(+/-10) mm (W)
	: 500(+/-10) mm (H)

(Bottom layer with legs for handling)

HZDA Bundle

Benefits	Applications
• Excellent castability	• Defence equipment
• Long term dimensional stability	• Automobile components
• Fast and trouble-free machining characteristics	• Sanitary-ware components like bathroom fixtures
• Excellent finishing Characteristics for plating, painting and chromate treatments	• Household appliances like door handles, locks, regulators, gas valves etc.

Importance of Additive Elements in Die Cast Alloy

Aluminium
The impact strength is affected significantly by excessive amounts of Aluminium . The drop in this property begins at 4.5% and at 5.0%, the alloy becomes extremely brittle. It is particularly important that the maximum Aluminium content be set at an amount which does not impair the strength and for this reason, the maximum value is set at 4.2% in the alloy.

Copper
The effect of adding Copper in increasing amounts in alloy is to increase the tensile strength & hardness, approximately in proportion to the amount added.

Magnesium
The primary reason for the Magnesium addition is to counteract the harmful corrosive effects of normal impurities in the zinc alloys.

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