



# Zamak 3

## Alternative Designations

ZnAl4

## Key Features

Dimensional stability • Outstanding finishing characteristics

## Description

Zamak 3 is a zinc-based alloy that is used in a variety of applications, ranging from automotive parts to electronic components. This alloy is known for its high strength and ductility, making it an ideal choice for many manufacturing applications. It is the most commonly used in the Zamak family. It blends its physical and mechanical properties excellently. It has long-term dimensional stability. It can be finished by plating, painting or chromate treatments.

## Mechanical Properties

Yield strength	221 MPa
Tensile strength	283 MPa
Elongation at break	10%
Hardness	82
Module of elasticity	85.5 GPa

## Chemical Composition

Al	3.5 – 4.3%	N	-
Bi	-	Nb	-
C	-	Ni	-
Cd	0.003 – 0.004%	O	-
Co	-	P	0.005%
Cr	-	Pb	0.004 – 0.005%
Cu	0.1%	S	-
Fe	0.05 – 0.035%	Si	-
H	-	Sn	0.0015 – 0.002%
Mg	0.02 – 0.06%	Ti	-
Mn	-	V	-
Mo	-	Zn	Rest is Zn

## Physical Properties

Density	6.6 g/cm <sup>3</sup>
Electrical conductivity	1.57E+07 m/Ω · mm <sup>2</sup>
Coefficient of thermal expansion	27.4 K <sup>-1</sup> · 10 <sup>-6</sup>
Thermal conductivity	113 W/m · K
Specific heat capacity	419 J/kg · K

## Reference

Datasheets provided by Xometry contain materials sourced through trusted OEMs, material distributors, and databases. Please visit [Materialdatacenter.com](https://Materialdatacenter.com) for further information on this material.