

MAZAK 5

ZnAl4Cu1

EN1774 ZL0410, ASTM B86 (AC4 A), R301(ZnAl4Cu1)

Mazak 5 like Mazak 3 can be cast by the hot chamber diecasting process. Mazak 5 is preferred where its slightly higher tensile strength and hardness are desired or wherer maximum castability is required.

As cast dimentional stability is not quite as good as that of Mazak 3. Mazak 5 is easily machined and formed and can be readily finished by a variety of techniques including painting, powder coating and electroplating where required.

MECHANICAL PROPERTIES	AS-CAST	AGED
Tensile Strength (MPa)	328	269
Shear Strength (MPa)	262	
Elongation (% in 51mm)	7	13
Hardness (Brinell - 500Kg)	91	80
Impact Strength (Energy, Joules)	65.1	54.2
Fatigue Strength 5×10^8 cycles (MPa)	56.5	

PHYSICAL PROPERTIES	
Density	6.7 Kg/dm ³ at 21°C
Solidification shrinkage	1.17%
Casting shrinkage	0.6% (pressure diecast)
Freezing range	380 - 386°C
Casting temperature	400 - 420°C
Specific heat capacity	418.7 J/Kg/°C at 20 - 100°C
Thermal expansion	27.4 x 10 ⁻⁶ linear per °C at 20 - 100°C
Thermal conductivity	108.9 W/m/hr/m ² /°C at 70 - 140°C
Electrical conductivity	26% IACS
Electrical resistance	6.5359 μ ohm cm at 20°C

TYPICAL ANALYSIS

ALLOYING ELEMENTS	
Aluminum	4.0%
Copper	0.8%
Magnesium	0.05%

IMPURITIES	
Iron	< 0.01%
Lead	< 0.003%
Cadmium	< 0.003%
Tin	< 0.001%
Nickel	< 0.001%
Thallium	< 0.02%
Indium	< 0.0005%
Manganese	< 0.01%