

MAZAK 7+

Mazak 7+ has a very desirable combination of mechanical and physical properties which, coupled with its ability to be cast by hot chamber die-casting process, makes this a widely applicable alloy. It can be used for wide ranging applications including automotive engineering, builder`s hardware, locks, toys and giftware. Mazak 7+ is readily able to make a variety of surface finishes such as electroplating, powder coating, anodising, etc. for both decorative purposes and as extra protection for extra ordinarily severe corrosive environments. It is readily machined and good formability assists assembly and forming processes.

Mazak 7+ is available in standard ingot form, standard ingots are supplied on metal stools.

MECHANICAL PROPERTIES	AS-CAST	AGED
Tensile Strength (MPa)	283	241
Shear Strength (MPa)	241	
Elongation (% in 51mm)	10	4
Hardness (Brinell - 500Kg)	82	72
Impact Strength (Energy, Joules)	43	33.7
Fatigue Strength 5×10^8 cycles (MPa)	46.9	

PHYSICAL PROPERTIES	
Density	6.7 Kg/dm ³ at 21°C
Solidification shrinkage	1.17%
Casting shrinkage	0.60% (pressure diecast)
Freezing range	381 - 384°C
Casting temperature	400 - 420°C
Specific heat capacity	418.7 J/Kg/°C at 20 - 100°C
Thermal expansion	27 x 10 ⁻⁶ linear per °C at 20 - 100°C
Thermal conductivity	113 W/m/hr/m ² /°C at 70 - 140°C
Electrical conductivity	27% IACS
Electrical resistance	6.3694 μ ohm cm at 20°C

TYPICAL ANALYSIS

ALLOYING ELEMENTS	
Aluminum	4.5%
Magnesium	0.004%

IMPURITIES	
Copper	< 0.013%
Iron	< 0.005%
Lead	< 0.003%
Cadmium	< 0.002%
Tin	< 0.001%
Nickel	< 0.001%
Silicon	< 0.01%