nano MAG
a revolution in magnesium Mg

AZ61L

Composition (wgt %): Mg-6.5Al-0.5Zn-0.14Mn

Room Temperature Tensile Properties:

Treatment	Test Direction*	YS, MPa	UTS, MPa	Elong, %
As Thixomolded	--	130	220	7
As TTMP	0°	311	370	8
TTMP + 20 min/250°C	0°	322	361	7
TTMP + 15 min/285°C	0°	260	296	15
TTMP + 15 min/285°C	45°	259	296	14
TTMP + 15 min/285°C	90°	256	293	14
TTMP + 20 min/300°C	0°	216	308	22

*Compared to Rolling Direction

Sheet Thickness: 0.8 to 2.5mm

Fatigue Strength: 10^9 Cycles at room temperature – 150MPa

Corrosion Resistance:

a. 0.28 mil/year in 10 cycle GM 9540 salt fog test – vs. 1.7 mil/year for die cast AZ91

b. In buffered salt solution – Open circuit potential = 1.316 volt
Breakdown potential = 1.271 volt
Polarization potential = 306 ohm

Formability: Warm Bulge – Lower pressure, shorter time than Al alloy 5182
Room Temperature – Radius of 0.75 inches

Liquidus Temperature: 612°C
Alpha Solidus Temperature: 505°C
Eutectic Temperature: 425°C

Microstructure: Grain Size – 2µm
Precipitate Size – 30-300 nanometers