

**Material data**

Material	Unit	Magnesium alloy		
Logogramm / trading designation		AZ 91 hp GD-MgAl9Zn1	AM 50 GD-MgAl5	AM 20 GD-MgAl2
Ultimate Tensile	MPa	200 - 250	180 - 220	160 - 200
Elongation	%	1-3	5-6	8-10
Tensile Yield	MPa	150 - 170	130 - 150	120 - 140
Brinell Hardness	HBS 1/5	65 - 85	50 - 70	40 - 60
Bending Change Strength	MPa	50 - 70	50 - 70	50 - 70
Elastic Module (Ten.)	GPa	ca. 50	ca. 50	ca. 50
Density	g/cm <sup>3</sup>	1,8	1,8	1,8
Thermal Conditions	W/K*m	51	65	95
Linear Expansion Factor	µm/m*K	26	26	26
Electrical Conditions	MS/m	6-7	8	9
Liquidus Temperature	°C	620	650	680

Material	Unit	Magnesium alloy		
Logogramm / trading designation		Al 226 GD-AlSi8Cu3	Al230 GD-AlSi12	Al 231 GD-AlSi12(Cu)
Ultimate Tensile	MPa	240 - 310	220 - 280	220 - 300
Elongation	%	0,5 - 3	1-3	1-3
Tensile Yield	MPa	140 - 240	140 - 180	140 - 200
Brinell Hardness	HBS 1/5	80 - 120	60 - 100	60 - 100
Bending Change Strength	MPa	70 - 90	60 - 90	60 - 90
Elastic Module (Ten.)	GPa	60	75	75
Density	g/cm <sup>3</sup>	2,75	2,65	2,65
Thermal Conditions	W/K*m	130	160	160
Linear Expansion Factor	µm/m*K	22	21	20
Electrical Conditions	MS/m	15 - 18	17 - 26	16 - 22
Liquidus Temperature	°C	600 - 650	600 - 700	600 - 680

**Production data**

Magnesium - Aluminium - diecasting  
Machine- tool building

**Foundry**

2 x 200 tons hot chamber - Magnesium  
4 x 315 tons hot chamber - Magnesium  
1 x 500 tons hot chamber - Magnesium  
2 x 750 tons hot chamber - Magnesium  
1 x 720 tons cold chamber - Magnesium /Aluminium  
2 x 880 tons cold chamber - Magnesium /Aluminium  
1 x 1100 tons cold chamber - Magnesium /Aluminium  
1 x 1200 tons cold chamber - Magnesium /Aluminium  
1 x 1300 tons cold chamber - Magnesium /Aluminium  
1 x 1600 tons cold chamber - Magnesium /Aluminium  
2 x 2500 tons cold chamber - Magnesium /Aluminium  
1 x 2700 tons cold chamber - Magnesium /Aluminium

**Item weights**

up to 5 kilogram in the magnesium hot chamber and 16  
kilogram in the aluminium cold chamber  
up to 20 kilogram in the magnesium cold chamber

**Moulding**

CNC-milling machine, CNC turning machine,  
CNC erosion etc.

**Processing**

Sliding, grinding and spraying facilities, screw-cutting  
trimming presses and special processing automatons,  
CNC processing center, surface processing, e.g.  
lacquering, chromium plating, chromicizing

**Securing of quality**

Radioscopy unit, CNC 3-dimensional measuring  
machine, incident light microscope, spectral analysis,  
traction and pressure testing machine, testing of  
scission

**Certificated**

DIN EN ISO 9001: 2000 und VDA 6, Teil 1