

## Casting alloys

# MAXXALLOY® - 59

### GBD- $\text{AlMg5Si2Mn}$

#### Properties and application

MAXXALLOY® - 59 is a low-iron aluminium alloy for use in die casting. The long solidifying interval ensures good mould filling. The tendency to warm crack formation is low. Despite the low iron content, the alloy does not tend toward sticking; thanks to the presence of manganese, even thin-walled parts can be moulded well.

Depending on the wall thickness, excellent mechanical properties can be achieved without heat treatment. In particular, the high ductile yield in thin-walled parts should be emphasised. The alloy is corrosion resistant and is excellently suited for welding.

The alloy is used anywhere that die cast parts with very high ductility and good strength are required without heat treatment. Examples are safety parts in vehicle engineering (chassis parts, pressure tanks, car seats, structural parts).

#### Composition in the block in % by mass:

Si	Fe	Cu	Mn	Mg	Zn	Ti	Other
1.8 – 2.6	0.15	0.02	0.5 – 0.8	5.0 – 6.0	0.07	0.05-0.15	0.02 each

#### Guiding values for the achievable mechanical properties

Wall thickness mm	0.2% Yield strength $R_{p0.2}$ [N/mm <sup>2</sup> ]	Tensile strength $R_m$ [N/mm <sup>2</sup> ]	Ductile yield A 5 [%]	Brinell hardness HB 5/250
2 – 4	150 – 195	270 - 310	10 – 18	85 – 100
4 – 6	130 - 175	250 – 280	9 – 16	75 – 95
6 - 12	100 - 145	210 - 250	7 – 10	70 - 85

Alloy MAXXALLOY®-59 is delivered exclusively in the form of pigs produced through horizontal continuous casting (HCC). In this way, we offer the following advantages:

- Less scrap through maximum metal purity and uniformity
- Clean pigs without oxide inclusions
- No hard non-metallic inclusions
- Low gas content in the pigs thanks to inline degassing during production
- Lower costs through
  - Reduced metal loss during melting
  - Good and safe stackability
  - Low space requirements thanks to compact pig bunches



**Materials Group**  
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