

Casting alloys

SILAFONT® - 36

GBD-ALSi9MnMg

1. Properties and application

SILAFONT® - 36 is a low-iron aluminium die casting alloy. Modification with strontium gives components high ductility. Manganese used as an alloying element prevents sticking and improves deformation behaviour.

The alloy is weldable and can (assuming a suitable processing technique is used) be used for structural and safety parts. The deliberate setting of the magnesium content influences the mechanical properties as required. High ductile yield values are achievable when cast, which can be further improved through heat treatment.

2. Composition in the block in % by mass:

Si	Fe	Cu	Mn	Mg	Zn	Ti
9.5-11.5	0.15	0.03	0.5-0.8	0.1-0.5	0.10	0.01-0.15

3. Mechanical properties

The values in the following table show the potential of the alloy, taking into consideration the scatter range caused by casting. The values can be adjusted within the ranges given by varying the magnesium content.

Casting process condition	0.2 Yield strength $R_{p0.2}$ N/mm ²	Tensile strength R_m N/mm ²	Ductile yield A 5 %	Brinell hardness HB 5/250
GD F	120 - 150	250 - 290	5 - 10	75-100
GD T 5	150 - 240	260 - 330	3 - 10	90 - 115
GD T 6	200 - 280	290 - 350	6 - 12	100 - 115
GD T 4	95 - 140	210 - 260	15 - 22	60 - 75
GD T 7	120 - 170	200 - 240	15 - 20	60 - 75

Alloy SILAFONT® - 36 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