

Aluminium alloy EN AB-46400

Chemical designation:

EN AB- AlSi9Cu1Mg

Swedish standard:

Type -, [1], [2]

Chemical composition¹:

	Min %	Max %
Si	8,3	9,7
Fe	-	0,7
Cu	0,8	1,3
Mn	0,15	0,55
Mg	0,30	0,65
Cr	-	-
Ni	-	0,20
Zn	-	0,8
Pb	-	0,10
Sn	-	0,10
Ti	-	0,18

Others each max 0,05%
and total max 0,25%

General description of properties:

Universal alloy with very good castability. Little tendency towards forming surface defects and internal cavities due to shrinkage on solidification. Good machinability and weldability.

Suitable applications:

For wide range of applications. Also for complicated and thin-wall castings.

Heat treatment:

Solution heat treated at 520-530°C for 3-6 hours followed by quenching in water and artificial ageing at 150-175°C for 15-5 hours.

Casting characteristics, S-Sand cast, K-Chill cast²:

Solidification range, °C, about	Casting temperature °C, about	Fluidity	Resistance to hot tearing	Shrinkage %, about	Pressure tightness
600-550	680-750	Good	Good	S: 1-1,1 K: 0,8-1	Good

Mechanical properties of separately untreated cast test bars²:

Tensile strength, R_m , MPa, min.	Proof stress $R_{p0,2}$, MPa, min.	Elongation A_{50} , %, min.	Brinell hardness HBS, min.
S: 135 K: 170	S: 90 K: 100	S: 1 K: 1	S: 60 K: 75

Mechanical and physical properties²:

Density kg/dm^3	Strength	Machinability	Weldability	Resistance to corrosion
2,65	Excellent	Good	Good	Poor
Decorative anodizing	Ability to be polished	Linear thermal expansion 293-373°K, °K ⁻¹	Electrical conductivity MS/m	Thermal conductivity W/m°K
Not recom.	Poor	21×10^{-6}	16 – 22	130 - 150