

Aluminium alloy EN AB-43100

Chemical designation:

EN AB- AlSi10Mg(b)

Swedish standard:

Type 4253, [1], [2]

Chemical composition¹:

	Min %	Max %
Si	9,0	11,0
Fe	-	0,45
Cu	-	0,08
Mn	-	0,45
Mg	0,25	0,45
Cr	-	-
Ni	-	0,05
Zn	-	0,10
Pb	-	0,05
Sn	-	0,05
Ti	-	0,15

Others each max 0,05%

and total max 0,15%

General description of properties:

Near-eutectic alloy with excellent castability properties and good resistance to hot tearing. Good machinability, excellent weldability and high resistance to chemical attack.

Suitable applications:

For complicated thin-wall, pressure-tight castings subjected to fatigue loading. Good resistance to corrosion and high strength after heat treatment.

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	Excellent	Excellent	S: 1-1,2 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: 150 K: 180	S: 80 K: 90	S: 2 K: 2,5	S: 50 K: 55

Mechanical and physical properties²:

Density kg/dm^3	Strength	Machinability	Weldability	Resistance to corrosion
2,65	Good	Good	Excellent	Good/Satisfact.
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}	18 - 25	140 - 170