

# Aluminium alloy EN AB-44100

Chemical designation:

EN AB- $\text{AlSi12(b)}$

Swedish standard:

Type 4261, [1], [2]

## Chemical composition<sup>1</sup>:

	Min %	Max %
Si	10,5	13,5
Fe	-	0,55
Cu	-	0,10
Mn	-	0,55
Mg	-	0,10
Cr	-	-
Ni	-	0,10
Zn	-	0,15
Pb	-	0,094
Sn	-	-
Ti	-	0,15

Others each max 0,05%  
and total max 0,15%

## General description of properties:

Eutectic alloy with excellent castability properties, excellent fluidity and high 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 elongation and corrosion resistance

## Heat treatment:

Can not be artificially aged. Annealed at 520-530°C for 3-5 hours, followed by quenching in water.

## Casting characteristics, S-Sand cast, K-Chill cast<sup>2</sup>:

Solidification range, °C, about	Casting temperature °C, about	Fluidity	Resistance to hot tearing	Shrinkage %, about	Pressure tightness
580-570	680-750	Excellent	Excellent	S: 1-1,1 K: 0,8-1	Excellent

## Mechanical properties of separately untreated cast test bars<sup>2</sup>:

Tensile strength, $R_m$ , MPa, min.	Proof stress $R_{p0,2}$ , MPa, min.	Elongation $A_{50}$ , %, min.	Brinell hardness HBS, min.
S: 150 K: 170	S: 70 K: 80	S: 4 K: 5	S: 50 K: 55

## Mechanical and physical properties<sup>2</sup>:

Density $\text{kg/dm}^3$	Strength	Machinability	Weldability	Resistance to corrosion
2,65	Poor	Satisfact.	Excellent	Good/Satisfact.
Decorative anodizing	Ability to be polished	Linear thermal expansion 293-373°K, °K <sup>-1</sup>	Electrical conductivity MS/m	Thermal conductivity W/m <sup>2</sup> K
Not recom.	Poor	$20 \times 10^{-6}$	16 – 23	130 - 160