

# Aluminium alloy EN AB-46200

Chemical designation:

EN AB- $\text{AlSi8Cu3}$

Swedish standard:

Type 4251, [1], [2]

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

	Min %	Max %
Si	7,5	9,5
Fe	-	0,7
Cu	2,0	3,5
Mn	0,15	0,65
Mg	0,15	0,55
Cr	-	-
Ni	-	0,35
Zn	-	1,2
Pb	-	0,094
Sn	-	0,15
Ti	-	0,20

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:

Not usually age hardened

## 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
600-490	680-750	Good	Good	S: 1-1,1 K: 0,9-1,1	Good

## 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: 90 K: 100	S: 1 K: 1	S: 60 K: 75

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

Density $\text{kg/dm}^3$	Strength	Machinability	Weldability	Resistance to corrosion
2,75	Good	Good	Good	Poor
Decorative anodizing	Ability to be polished	Linear thermal expansion 293-373°K, °K <sup>-1</sup>	Electrical conductivity MS/m	Thermal conductivity W/m°K
Not recom.	Satisfact.	$21 \times 10^{-6}$	14 – 18	110 - 130