

# Aluminium alloy EN AB-43200

Chemical designation:

EN AB- $\text{AlSi10Mg(Cu)}$

Swedish standard:

Type 4253, [1], [2]

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

	Min %	Max %
Si	9,0	11,0
Fe	-	0,55
Cu	-	0,30
Mn	-	0,55
Mg	0,25	0,45
Cr	-	-
Ni	-	0,15
Zn	-	0,35
Pb	-	0,10
Sn	-	-
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 heat tearing. Good machinability and excellent weldability.

## Suitable applications:

For complicated thin-wall, pressure-tight, castings subjected to fatigue loading. High strength after heat treatment, but with limited corrosion resistance properties.

## 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 cast<sup>2</sup>:

Solidification range, °C, about	Casting temperature °C, about	Fluidity	Resistance to hot tearing	Shrinkage %, about	Pressure tightness
600-530	680-750	Excellent	Excellent	S: 1-1,2 K: 0,8-1	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: 160 K: 180	S: 80 K: 90	S: 1 K: 1	S: 50 K: 55

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

Density $\text{kg/dm}^3$	Strength	Machinability	Weldability	Resistance to corrosion
2,65	Good	Good	Excellent	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°K
Not recom.	Satisfact.	$21 \times 10^{-6}$	16 – 24	130 - 170