Aluminium alloy EN AB-44100

Chemical designation: EN AB-AlSi12(b)
Swedish standard: Type 4261, [1], [2]

Chemical composition[1]:

	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	-	0,10
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 520-530ºC for 3-5 hours, followed by quenching in water.

Casting characteristics, S-Sand cast, K-Chill cast[2]:

Solidification range, ºC, about	Casting temperature ºC, 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[2]:

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[2]:

Density kg/dm³	Strength	Machinability	Weldability	Resistance to corrosion
2,65	Poor	Satisfact.	Excellent	Good/Satisfact.

Decorative anodizing	Ability to be polished	Linear thermal expansion 293-373ºK, $ºK^{-1}$	Electrical conductivity MS/m	Thermal conductivity W/mºK
Not recom.	Poor	20 x 10^{-6}	16 – 23	130 - 160

STENA ALUMINIUM

[1]: SS-EN 1676:2010
[2]: SS-EN 1706:2010