Aluminium alloy STENAL 460

Chemical designation: STENAL 460 (EN AB-AlSi9Cu3(Fe))

Chemical composition[1]:

Ämne	Min %	Max %
Si	8,70	9,40
Fe	0,5	0,60
Cu	2,70	3,30
Mn	0,30	0,47
Mg	0,35	0,45
Cr	-	-
Ni	-	0,30
Zn	-	1,20
Pb	-	0,20
Sn	-	0,10
Ti	0,05	0,10
Sr	0,030	0,05
Sb	-	0,005
P	-	0,002
Ca	-	0,003

General description of properties:
This alloy is a development of the most common alloy for pressure die casting, AlSi9Cu3(Fe)[1], but with better strength properties.

Suitable applications:
This alloy is a good alternative to certain primary based alloys.

Heat treatment:
Can be heat treated.

Other elements, each max 0,05%
total max 0,25%

Remark: Sr-content is higher for delivery condition of ingots (for castings 0,02-0,03%). Sr will be consumed in liquid state and needs to be maintained with separately added Sr.

Proof stress, $R_{p0,2}$, MPa, min.	Tensile strength R_m, MPa, min.	Elongation A_{25mm}, %.	Brinell hardness $HB_{5/250}$,
ac 220 (22)	361 (25)	2,8 (0,6)	118
wc 226 (8)	352 (6)	2,6 (0,3)	123

- These mechanical properties for air (ac) and water cooled (wc) tensile test bars are typical for wall thickness up to 4 mm
- Figures within brackets are the standard deviation (1s)
- The properties are highly dependent up on casting conditions, where component thickness, geometry, location are critical parameters
- The values given are for guidance only. To test the entire casting with loads reflecting the intended service conditions is more meaningful.

STENA ALUMINIUM

[1]: EN 1676:2010
EN 1706:2010