

Aluminum Alloy EN AB and AC 46100 – Al Si 11 Cu 2 (Fe)

- Reference standard

Reference:	UNI EN 1676 and 1706
Group:	Al Si 9 Cu
Description:	EN AB and AC 46100 – Al Si11 Cu2 (Fe)

- Chemical composition (%)

Alloy		Elements													
		Al	Si	Fe	Cu	Mn	Mg	Cr	Ni	Zn	Pb	Sn	Ti	Single Impurities	Global Impurities
EN AC 46100	min	80,45	10,00	0,45	1,50										
EN AC-Al Si11Cu2(Fe)	max	88,05	12,00	1,00	2,50	0,55	0,30	0,15	0,45	1,70	0,25	0,15	0,20	0,05	0,25
%															

- Mechanical Characteristics on separate casting specimen

Casting Physical State	Symbol	R Unit Breaking Load		S Yeld Point ultimate tensile stress		A Elongation		HB Brinell Hardness	
		EN1706	UNI7363	EN 1706	UNI7363	EN1706	UNI7363	EN1706	UNI7363
		R _m Mpa min.	N/mm ²	R _{p0.2} Mpa min.	N/mm ²	% min.	%	HBW min.	HB
Pressurised (Raw)	F	240	265-295	140	155-195	< 1	1,5-2,5	80	85-100

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- Physical Properties (Indicative Values taken from UNI EN References)

Specific Weight	2,67 Kg/dm ³	Tensile Modulus	7600 Kg/mm ²
Solidification and Melting Range	565 °C 585 °C	Thermal Conductivity at 20 °C	120 – 130 W/(m K)
Specific Heat (at 100°)	0,23 cal/g °C	Thermal Conductivity from 20 to 100 °C	19,7x10-6/°C
Latent Heat of Melting	93 cal/g	Thermal Conductivity from 20 to 200 °C	20,5x10-6/°C
Linear Shrinkage	~0,7 %	Thermal Conductivity from 20 to 300 °C	21,3x10-6/°C
Electrical Conductivity	14 – 18 MS/m	Maximum Melting Temperature	750 °C
Casting optimal range - Pressurised		600-700 °C	

- Technological Characteristics, Qualitative information

Mechanical Strength (warm)	Medium	Polishability	Medium
General Corrosion Resistance	Medium	Resistance to Shrinkage Cracking	Small
Machinability	Sufficient	Leakproofness	Sufficient
Castability	Good	Weldability	Sufficient
Attitude to anodising		poor	