



Continuous casting aluminium alloys.

Standard: **UNI EN 1676 and 1706**

Alloy group: **Al Si 9 Cu**

Alloy designation: **EN AB and AC 46000 - Al Si 9 Cu 3 (Fe)**

Replaces: **DIN 226 D - GD Al Si 9 Cu 3**

CHEMICAL COMPOSITION %

ALLOY		ELEMENTS												
		Si	Fe	Cu	Mn	Mg	Cr	Ni	Zn	Pb	Sn	Ti	Individual impurities	Global impurities
EN AB 46000	min	8,0	0,6	2,0		0,15								
	max	11,0	1,1	4,0	0,55	0,55	0,15	0,55	1,2	0,35	0,15	0,20	0,05	0,25
DIN 226 D	min	8,0		2,00	0,10	0,10								
	max	11,0	1,0	3,50	0,5	0,50	0,10	0,30	1,20	0,20	0,10	0,15	0,05	0,25

MECHANICAL FEATURES DETECTED FROM SEPARATE CASTING TEST SPECIMENS

Casting process	Temper designations	Rm Tensile strenght		Sp 0,2 Yield strenght		A Elongation		HB Brinell hardness	
		EN 1706	DIN 1725	EN 1706	DIN 1725	EN 1706	DIN 1725	EN 1706	DIN 1725
		Mpa	N/mm2	Mpa	N/mm2	%	%	HBW	HB
SAND (as cast) Annealed									
SHELL (as cast) Annealed									
PRESSURE DIE (as cast)	F	240	240 - 310	140	140 - 240	1	0,5 - 3	80	80 - 120

PHYSICAL PROPERTIES (indicative values subject to the UNI EN and ex DIN Standards)

DENSITY	2.76 Kg/dm³	THERMAL CONDUCTIVITY at 20°C	110 - 120 W/(m K)
MELTING RANGE or MELTING POINT	500 °C 600 °C	LINEAR THERMAL EXPANSION from 20 t 100°C	21 10-6/°K
SPECIFIC HEAT (at 100)°	0.88 J/Gk	LINEAR THERMAL EXPANSION from 20 t 200°C	
LINEAR SHRINKAGE IN SAND PROCESS		LINEAR THERMAL EXPANSION from 20 t 300°C	
LINEAR SHRINKAGE IN SHELL PROCESS		SUGGESTED MAXIMUM TEMPERATURE	750 °C
LINEAR SHRINKAGE IN HIGH PRESSURE	0.4 - 0.6 %	SUGGESTED CASTING TEMPERATURE	
ELECTRIC CONDUCTIVITY	13 - 17 MS/m	°in sand	
MODULUS OF ELASTICITY	7500 Kg/mm²	°in shell	
		°in pressure die	630-710 °C

TECHNOLOGICAL FEATURES, QUALITATIVE INDICATIONS

STRENGTH AT ELEVATED TEMPERATURE(to 200°C)	GOOD	RESISTANCE TO HOT TEARING	MEDIUM
GENERAL RESISTANCE TO CORROSION	LOW	PRESSURE TIGHTNESS	MEDIUM
MACHINABILITY	EXCELLENT	WELDABILITY	GOOD
CASTABILITY	GOOD	DECORATIVE ANODISING	INSUFFICIENT
POLISHING	MEDIUM	PROTECTIVE ANODISING	MEDIUM

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