



Continuous casting aluminium alloys.

Standard: **UNI EN 1676 and 1706**

Alloy group: **Al Si**

Alloy designation: **EN AB and AC 44500 Al Si 12 (Fe)(b)**

Replaces: **DIN 230 D**

CHEMICAL COMPOSITION %

ALLOY		ELEMENTS												
		Si	Fe	Cu	Mn	Mg	Cr	Ni	Zn	Pb	Sn	Ti	Individual impurities	Global impurities
EN AB 44500	min	10,5	0,45											
	max	13,5	0,90	0,18	0,55	0,40	-	-	0,30	-	-	0,15	0,05	0,25
DIN 230 D	min	10,5												
	max	13,5	0,8	0,08	0,40	0,05	-	-	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)									
SHELL (as cast)									
PRESSURE DIE (as cast)	F	240	220 - 280	140	140 - 180	1	1 - 3	60	60 - 100

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

DENSITY	2.68 Kg/dm ³
MELTING RANGE or MELTING POINT	570 °C 580 °C
SPECIFIC HEAT (at 100)°	0.90 J/Gk
LATENT HEAT OF MELTING	
LINEAR SHRINKAGE IN HIGH PRESSURE	0.4 - 0.6 %
ELECTRIC CONDUCTIVITY	16 - 22 MS/m
MODULUS OF ELASTICITY	7500 Kg/mm ²

THERMAL CONDUCTIVITY at 20°C	130 - 160 W/(m K)
LINEAR THERMAL EXPANSION from 20 t 100°C	-
LINEAR THERMAL EXPANSION from 20 t 200°C	20.0-10-6/°C
LINEAR THERMAL EXPANSION from 20 t 300°C	-
SUGGESTED MAXIMUM TEMPERATURE	740 °C
SUGGESTED CASTING TEMPERATURE	
°in sand	-
°in shell	-
°in pressure die	640 - 680

TECHNOLOGICAL FEATURES, QUALITATIVE INDICATIONS

STRENGTH AT ELEVATED TEMPERATURE(to 200°C)	CORRECT
GENERAL RESISTANCE TO CORROSION	MEDIOCRE
MACHINABILITY	MEDIOCRE
CASTABILITY	EXCELLENT
POLISHING	MEDIUM

RESISTANCE TO HOT TEARING	EXCELLENT
PRESSURE TIGHTNESS	CORRECT
WELDABILITY	MEDIOCRE
DECORATIVE ANODISING	OT RECOMMENDE
PROTECTIVE ANODISING	OT RECOMMENDE

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