



Continuous casting aluminium alloys.

Standard: **UNI EN 1676 and 1706**

Alloy group: **Al Si**

Alloy designation: **EN AB and AC 44200 Al Si 12 (a)**

Replaces: **DIN 230 A**

CHEMICAL COMPOSITION %

ALLOY		ELEMENTS												
		Si	Fe	Cu	Mn	Mg	Cr	Ni	Zn	Pb	Sn	Ti	Individual impurities	Global impurities
EN AB 44200	min	10,5												
	max	13,5	0,40	0,03	0,35	-	-	-	0,10	-	-	0,15	0,05	0,15
DIN 230 A	min	10,5												
	max	13,5	0,5	0,05	0,4	0,05	-	-	0,10	-	-	0,15	0,05	0,15

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)	F	150	150 - 200	70	70-100	5	5-10	50	45-60
	T5		150 - 200		70-100		6-12		45-60
SHELL (as cast)	F	170	170 - 230	80	80-110	6	6-12	55	50-65
	T5		170 - 230		80-110		6-12		50-65
PRESSURE DIE (as cast)									

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

DENSITY	2.65 Kg/dm ³
MELTING RANGE or MELTING POINT	570 °C 580 °C
SPECIFIC HEAT (at 100)°	0.23 cal/g °C
LINEAR SHRINKAGE IN SAND PROCESS	1.0 - 1.1%
LINEAR SHRINKAGE IN SHELL PROCESS	0.8 - 1.1%
ELECTRIC CONDUCTIVITY	16 - 23 MS/m
MODULUS OF ELASTICITY	7600 Kg/mm ²

THERMAL CONDUCTIVITY at 20°C	130 - 160 W/(m K)
LINEAR THERMAL EXPANSION from 20 t 100°C	20.0x10-6/°C
LINEAR THERMAL EXPANSION from 20 t 200°C	20.5x10-6/°C
LINEAR THERMAL EXPANSION from 20 t 300°C	21.5x10-6/°C
SUGGESTED MAXIMUM TEMPERATURE	780 °C
SUGGESTED CASTING TEMPERATURE	
°in sand	680-750 °C
°in shell	680-750 °C
°in pressure die	-

TECHNOLOGICAL FEATURES, QUALITATIVE INDICATIONS

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

RESISTANCE TO HOT TEARING	SMALL
PRESSURE TIGHTNESS	GOOD
WELDABILITY	GOOD
DECORATIVE ANODISING	LOW
PROTECTIVE ANODISING	LOW

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