



Continuous casting aluminium alloys.

Standard: **UNI EN 1676 and 1706**

Alloy group: **Al Si 5 Cu**

Alloy designation: **EN AB and AC 45100 Al Si 5 Cu 3 Mg**

Replaces:

CHEMICAL COMPOSITION %

ALLOY		ELEMENTS												Individual impurities	Global impurities
		Si	Fe	Cu	Mn	Mg	Cr	Ni	Zn	Pb	Sn	Ti			
EN AB 45100	min	4,5		2,6		0,20									
	max	6,0	0,50	3,6	0,55	0,45	-	0,10	0,20	0,10	0,05	0,20	0,05	0,15	
	min														
	max														

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		EN 1706		EN 1706		EN 1706	
		Mpa	N/mm2	Mpa	N/mm2	%	%	HBW	HB
SAND (as cast)									
SHELL (as cast)	T4	270	270 - 360	180	180 - 220	2,5	9	85	85 - 100
	T6	320	320 - 415	280	280 - 345	1	4	110	110 - 125
PRESSURE DIE (as cast)									

PHYSICAL PROPERTIES (indicative values subject to the UNI ENI Standards)

DENSITY	2.75 Kg/dm ³
MELTING RANGE or MELTING POINT	510 °C 620 °C
SPECIFIC HEAT (at 100)°	0.91 J/Gk
LATENT HEAT OF MELTING	
LINEAR SHRINKAGE IN SHELL PROCESS	~1.30 %
ELECTRIC CONDUCTIVITY	16 - 19 MS/m
MODULUS OF ELASTICITY	7200 Kg/mm ²

THERMAL CONDUCTIVITY at 20°C	130 W/(m K)
LINEAR THERMAL EXPANSION from 20 t 100°C	-
LINEAR THERMAL EXPANSION from 20 t 200°C	22.0-10-6°C
LINEAR THERMAL EXPANSION from 20 t 300°C	-
SUGGESTED MAXIMUM TEMPERATURE	780 °C
SUGGESTED CASTING TEMPERATURE	
°in sand	-
°in shell	670 - 740 °C
°in pressure die	-

TECHNOLOGICAL FEATURES, QUALITATIVE INDICATIONS

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

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

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