



Continuous casting aluminium alloys.

Standard: **UNI EN 1676 and 1706**

Alloy group: **Al Cu**

Alloy designation: **EN AB and AC 21000 - Al Cu 4 Mg Ti**

Replaces:

CHEMICAL COMPOSITION %

ALLOY		ELEMENTS												Individual impurities	Global impurities
		Si	Fe	Cu	Mn	Mg	Cr	Ni	Zn	Pb	Sn	Ti			
EN AB 21000	min			4,20		0,20						0,15			
	max	0,15	0,30	5,0	0,10	0,35	-	0,05	0,10	0,05	0,05	0,25	0,03	0,10	
	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) Aged naturally	F		165 - 195		145 - 185		1 - 3		80 - 90
	T4	300	295 - 335	200	215 - 255	5	5 - 9	90	95 - 110
SHELL (as cast) Hardened and Aged	F		195 - 235		165 - 195		1 - 4	85 - 95	85 - 95
	T4	320	325 - 370	200	215 - 255	8	7 - 14	90	100 - 115
PRESSURE DIE (as cast)									

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

DENSITY	2.79 Kg/dm³
MELTING RANGE or MELTING POINT	550 °C 645 °C
SPECIFIC HEAT (at 100)°	0.91 J/gK
LINEAR SHRINKAGE IN SAND PROCESS	1.3 - 1.5 %
LINEAR SHRINKAGE IN SHELL PROCESS	0.8 - 1.2 %
ELECTRIC CONDUCTIVITY	16 - 23 MS/m
MODULUS OF ELASTICITY	7200 Kg/mm²

THERMAL CONDUCTIVITY at 20°C	1.1 - 1.4 W/cmK
LINEAR THERMAL EXPANSION from 20 t 100°C	23.6-10-6/°C
LINEAR THERMAL EXPANSION from 20 t 200°C	24.4-10-6/°C
LINEAR THERMAL EXPANSION from 20 t 300°C	25.0-10-6/°C
SUGGESTED MAXIMUM TEMPERATURE	750 °C
SUGGESTED CASTING TEMPERATURE	
°in sand	700 - 750 °C
°in shell	700 - 730 °C
°in pressure die	

TECHNOLOGICAL FEATURES, QUALITATIVE INDICATIONS

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

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

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