



Continuous casting aluminium alloys.

Standard: **UNI EN 1676 and 1706**

Alloy group: **Al Mg**

Alloy designation: **EN AB and AC 51500 - Al Mg 5 Si2 Mn**

Replaces:

CHEMICAL COMPOSITION %

ALLOY		ELEMENTS											Individual impurities	Global impurities	
		Si	Fe	Cu	Mn	Mg	Cr	Ni	Zn	Pb	Sn	Ti			
EN AB 51500	min	1,8			0,4	5,0									
	max	2,6	0,20	0,03	0,8	6,0	-	-	0,07	-	-	0,20	0,05	0,15	
	min	1,8			0,50	5,00						0,05			
	max	2,6	0,15	0,02	0,80	6,00	-	-	0,07	-	-	0,15	0,02	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		EN 1706		EN 1706		EN 1706	
		Mpa	N/mm2	Mpa	N/mm2	%	%	HBW	HB
SAND (as cast) Annealed									
SHELL (as cast) Annealed									
PRESSURE DIE (as cast)	F	250	250 - 280	140	130 - 175	5	9 - 16	70	75 - 95

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

DENSITY	2.65 Kg/dm ³
MELTING RANGE or MELTING POINT	580 °C 618 °C
SPECIFIC HEAT (at 100)°	
LINEAR SHRINKAGE IN SAND PROCESS	
LINEAR SHRINKAGE IN SHELL PROCESS	
LINEAR SHRINKAGE IN HIGH PRESSURE	0.6 - 1.1 %
ELECTRIC CONDUCTIVITY	15 - 21 MS/m
MODULUS OF ELASTICITY	70 - 80 Gpa

THERMAL CONDUCTIVITY at 20°C	110 - 130 W/(m K)
LINEAR THERMAL EXPANSION from 20 t 100°C	-
LINEAR THERMAL EXPANSION from 20 t 200°C	24.0-10-6/°C
LINEAR THERMAL EXPANSION from 20 t 300°C	-
SUGGESTED MAXIMUM TEMPERATURE	770 °C
SUGGESTED CASTING TEMPERATURE	
°in sand	
°in shell	
°in pressure die	650 - 730 °C

TECHNOLOGICAL FEATURES, QUALITATIVE INDICATIONS

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

RESISTANCE TO HOT TEARING	MEDIOCRE
PRESSURE TIGHTNESS	MEDIOCRE
WELDABILITY	GOOD
DECORATIVE ANODISING	T RECOMMEND
PROTECTIVE ANODISING	T RECOMMEND

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