



Continuous casting aluminium alloys.

Standard: **UNI EN 1676 and 1706**

Alloy group: **Al Mg**

Alloy designation: **EN AB and AC 51400 - Al Mg 5 (Si)**

Replaces: **DIN 245**

CHEMICAL COMPOSITION %

ALLOY		ELEMENTS												
		Si	Fe	Cu	Mn	Mg	Cr	Ni	Zn	Pb	Sn	Ti	Individual impurities	Global impurities
EN AB 51400	min					4,8								
	max	1,3	0,45	0,03	0,45	6,5	-	-	0,10	-	-	0,15	0,05	0,15
DIN 245	min	0,9				4,50								
	max	1,5	0,5	0,05	0,45	5,50	-	-	0,10	-	-	0,20	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	160	160 - 200	100	110 - 130	3	2 - 4	60	60 - 75
SHELL (as cast)	F	180	180 - 240	110	110 - 150	3	2 - 5	65	65 - 85
PRESSURE DIE (as cast)									

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

DENSITY	2.66 Kg/dm ³
MELTING RANGE or MELTING POINT	550 °C 630 °C
SPECIFIC HEAT (at 100°)	0.93 J/Gk
LINEAR SHRINKAGE IN SAND PROCESS	1.0 - 1.5 %
LINEAR SHRINKAGE IN SHELL PROCESS	1.0 - 1.2 %
LINEAR SHRINKAGE IN HIGH PRESSURE	
ELECTRIC CONDUCTIVITY	15 - 21 MS/m
MODULUS OF ELASTICITY	6900 Kg/mm ²

THERMAL CONDUCTIVITY at 20°C	110 - 140 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	780 °C
SUGGESTED CASTING TEMPERATURE	
°in sand	690 - 730 °C
°in shell	690 - 730 °C
°in pressure die	-

TECHNOLOGICAL FEATURES, QUALITATIVE INDICATIONS

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

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