



Continuous casting aluminium alloys.

Standard: **UNI EN 1676 and 1706**

Alloy group: **Al Si 10 Mg**

Alloy designation: **EN AB and AC 43000 Al Si 10 Mg (a)**

Replaces: **DIN 239 A Al Si 10 Mg**

CHEMICAL COMPOSITION %

ALLOY		ELEMENTS											Individual impurities	Global impurities
		Si	Fe	Cu	Mn	Mg	Cr	Ni	Zn	Pb	Sn	Ti		
EN AB 43000	min	9,0				0,25								
	max	11,0	0,40	0,03	0,45	0,45	-	0,05	0,10	0,05	0,05	0,15	0,05	0,15
DIN 239 A - Al Si 10 Mg	min	9,0				0,20								
	max	11,0	0,50	0,05	0,4	0,50	-	0,05	0,10	0,05	0,05	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) Hardened and Aged artif.	F	150	160 - 210	80	80 - 110	2	2 - 6	50	50 - 60
	T6	220	220 - 320	180	180 - 260	1	1 - 4	75	80 - 110
SHELL (as cast) Hardened and Aged artif.	F	180	180 - 240	90	90 - 120	2,5	2 - 6	55	60 - 80
	T6	260	240 - 320	220	210 - 280	1	1 - 4	90	85 - 115
Hardened and Sub-aged artif.	T64	240		200		2		80	
PRESSURE DIE (as cast)									

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

DENSITY	2.68 Kg/dm ³
MELTING RANGE or MELTING POINT	550 °C 600 °C
SPECIFIC HEAT (at 100)°	0.91 J/Gk
LINEAR SHRINKAGE IN SAND PROCESS	1.0 - 1.2 %
LINEAR SHRINKAGE IN SHELL PROCESS	0.5 - 0.8 %
ELECTRIC CONDUCTIVITY	18 - 25 MS/m
MODULUS OF ELASTICITY	7400 Kg/mm ²

THERMAL CONDUCTIVITY at 20°C	140 - 170 W/(m K)
LINEAR THERMAL EXPANSION from 20 t 100°C	21 10-6/°K
LINEAR THERMAL EXPANSION from 20 t 200°C	22.0-10-6/K
LINEAR THERMAL EXPANSION from 20 t 300°C	-
SUGGESTED MAXIMUM TEMPERATURE	770 °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)	SUFFICIENT
GENERAL RESISTANCE TO CORROSION	GOOD
MACHINABILITY	GOOD
CASTABILITY	GOOD
POLISHING	MEDIUM

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

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