



### Continuous casting aluminium alloys.

Standard: **UNI EN 1676 and 1706**

Alloy group: **Al Si**

Alloy designation: **EN AB and AC 44000 and AC Al Si 11**

Replaces:

#### CHEMICAL COMPOSITION %

ALLOY		ELEMENTS												
		Si	Fe	Cu	Mn	Mg	Cr	Ni	Zn	Pb	Sn	Ti	Individual impurities	Global impurities
EN AB 44000	min	10,0												
	max	11,8	0,15	0,03	0,10	0,45	-	-	0,07	-	-	0,15	0,03	0,10
	min	10,0				0,10								
	max	11,8	0,15	0,02	0,05	0,45	-	-	0,07	-	-	0,15	0,03	0,10

#### 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) Hardened and Aged artif.	F	150	170 - 220	70	80 - 140	6	2 - 4	45	50 - 60
	T6		200 - 320		120 - 300		1 - 3		65 - 120
SHELL (as cast) Hardened and Aged artif.	F	170	180 - 230	80	80 - 130	7	5 - 16	45	55 - 75
	T6		210 - 350		125 - 320		4 - 15		70 - 125
PRESSURE DIE (as cast)									

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

DENSITY	2.67 Kg/dm <sup>3</sup>
MELTING RANGE or MELTING POINT	560 °C 590 °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 %
LINEAR SHRINKAGE IN HIGH PRESSURE	
ELECTRIC CONDUCTIVITY	18 - 24 MS/m
MODULUS OF ELASTICITY	7400 Kg/mm <sup>2</sup>

THERMAL CONDUCTIVITY at 20°C	140 - 170 W/(m K)
LINEAR THERMAL EXPANSION from 20 t 100°C	-
LINEAR THERMAL EXPANSION from 20 t 200°C	21.0-10-6/°C
LINEAR THERMAL EXPANSION from 20 t 300°C	-
SUGGESTED MAXIMUM TEMPERATURE	780 °C
SUGGESTED CASTING TEMPERATURE	
°in sand	670 - 740 °C
°in shell	670 - 740 °C
°in pressure die	-

#### TECHNOLOGICAL FEATURES, QUALITATIVE INDICATIONS

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

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

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