



### Continuous casting aluminium alloys.

Standard: **UNI EN 1676 and 1706**

Alloy group: **Al Si 7 Mg**

Alloy designation: **EN AB and AC 42100 Al Si 7 Mg 0.3**

Replaces:

#### CHEMICAL COMPOSITION %

ALLOY		ELEMENTS											Individual impurities	Global impurities
		Si	Fe	Cu	Mn	Mg	Cr	Ni	Zn	Pb	Sn	Ti		
<b>EN AB 42100</b>	min	6,5				0,30						0,10		
	max	7,5	0,15	0,03	0,10	0,45	-	-	0,07	-	-	0,18	0,03	0,10
	min	6,5				0,30						0,10		
	max	7,5	0,15	0,02	0,10	0,45	-	-	0,07	-	-	0,18	0,03	0,10

#### MECHANICAL FEATURES DETECTED FROM SEPARATE CASTING TEST SPECIMENS

Casting process	Temper designations	Rm Tensile strength		Sp 0,2 Yield strength		A Elongation		HB Brinell hardness	
		EN 1706	N/mm <sup>2</sup>	EN 1706	N/mm <sup>2</sup>	EN 1706	%	EN 1706	HBW
		Mpa		Mpa		%		HBW	HB
<b>SAND</b> (as cast) Partially Aged Hardened and Aged artif.	<b>F</b>		140 - 220		80 - 140		2 - 6		45 - 60
	<b>T64</b>		200 - 270		120 - 170		4 - 10		60 - 80
	<b>T6</b>	230	240 - 320	190	220 - 280	2	3 - 6	75	80 - 110
<b>SHELL</b> (as cast) Partially Aged Hardened and Aged artif.	<b>F</b>		180 - 240		90 - 150		4 - 8		50 - 65
	<b>T6</b>	290	250 - 340	210	220 - 280	4	5 - 9	90	80 - 100
	<b>T64</b>	250	220 - 270	180	120 - 180	8	6 - 12	80	65 - 85

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

DENSITY	2.66 Kg/dm <sup>3</sup>
MELTING RANGE or MELTING POINT	550 °C 625 °C
SPECIFIC HEAT (at 100)°	0.92 J/Gk
LINEAR SHRINKAGE IN SAND PROCESS	1.1 - 1.2 %
LINEAR SHRINKAGE IN SHELL PROCESS	0.8 - 1.1 %
ELECTRIC CONDUCTIVITY	21 - 27 MS/m
MODULUS OF ELASTICITY	7400 m/mm <sup>2</sup>

THERMAL CONDUCTIVITY at 20°C	160 - 180 W/(m K)
LINEAR THERMAL EXPANSION from 20 t 100°C	-
LINEAR THERMAL EXPANSION from 20 t 200°C	22.0-10-6/°C
LINEAR THERMAL EXPANSION from 20 t 300°C	-
SUGGESTED MAXIMUM TEMPERATURE	780 °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)	LOW
GENERAL RESISTANCE TO CORROSION	GOOD
MACHINABILITY	GOOD
CASTABILITY	GOOD
POLISHING	MEDIUM

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

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