



### Continuous casting aluminium alloys.

Standard: **UNI EN 1676 and 1706**

Alloy group: **Al Si**

Alloy designation: **EN AB and AC 44400 Al Si 9**

Replaces:

#### CHEMICAL COMPOSITION %

ALLOY		ELEMENTS												
		Si	Fe	Cu	Mn	Mg	Cr	Ni	Zn	Pb	Sn	Ti	Individual impurities	Global impurities
EN AB 44400	min	8,0												
	max	11,0	0,55	0,08	0,50	0,10	-	0,05	0,15	0,05	0,05	0,15	0,05	0,15
	min	9,5												
	max	10,6	0,4	0,02	0,4	0,05	-	0,05	0,10	0,05	0,05	0,10	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		EN 1706		EN 1706		EN 1706	
		Mpa	N/mm2	Mpa	N/mm2	%	%	HBW	HB
SAND (as cast)	F	180	-	80	-	4		50	
			-		-	-		-	
SHELL (as cast)	F	180	-	90	-	5		55	
			-		-	-		-	
PRESSURE DIE (as cast)	F	220	240 - 280	120	140 - 180	2	5 - 10	55	60 - 80

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

DENSITY	2.65 Kg/dm <sup>3</sup>
MELTING RANGE or MELTING POINT	550 °C 610 °C
SPECIFIC HEAT (at 100°)	0.91 J/Gk
LATENT HEAT OF MELTING	
LINEAR SHRINKAGE IN HIGH PRESSURE	0.4 - 0.6 %
ELECTRIC CONDUCTIVITY	16 - 22 MS/m
MODULUS OF ELASTICITY	7400 Kg/mm <sup>2</sup>

THERMAL CONDUCTIVITY at 20°C	130 - 150 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	740 °C
SUGGESTED CASTING TEMPERATURE	
°in sand	-
°in shell	-
°in pressure die	640 - 680

#### TECHNOLOGICAL FEATURES, QUALITATIVE INDICATIONS

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

RESISTANCE TO HOT TEARING	SMALL
PRESSURE TIGHTNESS	MEDIUM
WELDABILITY	MEDIUM
DECORATIVE ANODISING	
PROTECTIVE ANODISING	SUFFICIENT