BAYRAM METAL

Continuous casting aluminium alloys.

Standard: **UNI EN 1676 and 1706**

Alloy group: **Al Si 9 Cu**

Alloy designation: **EN AB and AC 46100 - Al Si 11 Cu 2 (Fe)**

Replaces: **UNI 7363 SG Al Si 132**

CHEMICAL COMPOSITION %

ALLOY		ELEMENTS												
		Si	Fe	Cu	Mn	Mg	Cr	Ni	Zn	Pb	Sn	Ti	Individual impurities	Global impurities
EN AB 46100	min	10,0	0,45	1,5										
	max	12,0	1,0	2,5	0,55	0,30	0,15	0,45	1,7	0,25	0,15	0,20	0,05	0,25
UNI 7363 - SG Al Si 132	min	11,0	0,70	1,75										
	max	12,5	1,0	2,50	0,5	0,30	-	0,30	1,40	0,15	0,10	0,20		2,20

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	UNI 7363	EN 1706	UNI 7363	EN 1706	UNI 7363	EN 1706	UNI 7363
		Mpa	N/mm2	Mpa	N/mm2	%	%	HBW	HB
SAND (as cast)									
Annealed									
SHELL (as cast)									
Annealed									
PRESSURE DIE (as cast)	F	240	265-295	140	155-195	1	1,5-2,5	80	85-100

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

DENSITY	2.67 Kg/dm³
MELTING RANGE or MELTING POINT	565 °C 585 °C
SPECIFIC HEAT (at 100)°	0.23 cal/g °C
LATENT HEAT OF MELTING	93 cal/g
LINEAR SHRINKAGE	˜0.7 %
ELECTRIC CONDUCTIVITY	14 - 18 MS/m
MODULUS OF ELASTICITY	7600 Kg/mm²

THERMAL CONDUCTIVITY at 20°C	120 - 130 W/(m K)
LINEAR THERMAL EXPANSION from 20 t 100°C	19.7x10-6/°C
LINEAR THERMAL EXPANSION from 20 t 200°C	20.5x10-6/°C
LINEAR THERMAL EXPANSION from 20 t 300°C	21.3x10-6/°C
SUGGESTED MAXIMUM TEMPERATURE	750 °C
SUGGESTED CASTING TEMPERATURE	
°in sand	
°in shell	
°in pressure die	600-700 °C

TECHNOLOGICAL FEATURES, QUALITATIVE INDICATIONS

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

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

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