BAYRAM METAL

Continuous casting aluminium alloys.

Standard: **UNI EN 1676 and 1706**

Alloy group: **Al Si (Cu)**

Alloy designation: **EN AB and AC 47100 - Al Si 12 Cu 1 (Fe)**

Replaces: **UNI 5079 GD Al Si 13 Fe**

CHEMICAL COMPOSITION %

ALLOY		ELEMENTS												
		Si	Fe	Cu	Mn	Mg	Cr	Ni	Zn	Pb	Sn	Ti	Individual impurities	Global impurities
EN AB 47100	min	10,5	0,6	0,7										
	max	13,5	1,1	1,2	0,55	0,35	0,10	0,30	0,55	0,20	0,10	0,15	0,05	0,25
UNI 5079	min	11,5	0,70											
	max	13,0	1,0	0,80	0,3	0,30		0,20	0,50	0,15	0,10	0,15		2,0*

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 5079	EN 1706	UNI 5079	EN 1706	UNI 5079	EN 1706	UNI 5079
		Mpa	N/mm2	Mpa	N/mm2	%	%	HBW	HB
SAND (as cast)									
Annealed									
SHELL (as cast)									
Annealed									
PRESSURE DIE (as cast)	F	240	225-265	140	130-165	1	1,5-2,5	70	75-95

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

DENSITY	2.65 Kg/dm³
MELTING RANGE or MELTING POINT	570 °C 590 °C
SPECIFIC HEAT (at 100)°	0.23 cal/g °C
LATENT HEAT OF MELTING	93 cal/g
LINEAR SHRINKAGE	˜0.7 %
ELECTRIC CONDUCTIVITY	15 - 20 MS/m
MODULUS OF ELASTICITY	7600 Kg/mm²

THERMAL CONDUCTIVITY at 20°C	120 - 150 W/(m K)
LINEAR THERMAL EXPANSION from 20 t 100°C	
LINEAR THERMAL EXPANSION from 20 t 200°C	20.5x10-6/°C
LINEAR THERMAL EXPANSION from 20 t 300°C	
SUGGESTED MAXIMUM TEMPERATURE	750 °C
SUGGESTED CASTING TEMPERATURE	
°in sand	
°in shell	
°in pressure die	630-680 °C

TECHNOLOGICAL FEATURES, QUALITATIVE INDICATIONS

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

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

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