



**Continuous casting aluminium alloys.**

Standard: **UNI EN 1676 and 1706**

Alloy group: **Al Si 9 Cu**

Alloy designation: **EN AB and AC 46200 - Al Si 8 Cu 3**

Replaces: **DIN 226 A Al Si 9 Cu 3**

**CHEMICAL COMPOSITION %**

ALLOY		ELEMENTS												
		Si	Fe	Cu	Mn	Mg	Cr	Ni	Zn	Pb	Sn	Ti	Individual impurities	Global impurities
<b>EN AB 46200</b>	min	7,5		2,0	0,15	0,15								
	max	9,5	0,7	3,5	0,65	0,55	-	0,35	1,2	0,25	0,15	0,20	0,05	0,25
<b>DIN 226 A</b>	min	8,0		2,00	0,15	0,15								
	max	11,0	0,80	3,50	0,5	0,55	-	0,35	1,20	0,25	0,15	0,15	0,05	0,25

**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	DIN 1725	EN 1706	DIN 1725	EN 1706	DIN 1725	EN 1706	DIN 1725
		Mpa	N/mm2	Mpa	N/mm2	%	%	HBW	HB
<b>SAND (as cast)</b>	<b>F</b>	<b>150</b>	<b>160 - 200</b>	<b>90</b>	<b>100 - 150</b>	<b>1</b>	<b>1 - 3</b>	<b>60</b>	<b>65 - 90</b>
		-	-	-	-	-	-	-	-
<b>SHELL (as cast)</b>	<b>F</b>	<b>170</b>	<b>180 - 240</b>	<b>100</b>	<b>110 - 160</b>	<b>1</b>	<b>1 - 3</b>	<b>75</b>	<b>70 - 110</b>
		-	-	-	-	-	-	-	-
<b>PRESSURE DIE (as cast)</b>	<b>F</b>	<b>240</b>	<b>-</b>	<b>140</b>	<b>-</b>	<b>1</b>	<b>-</b>	<b>80</b>	<b>-</b>

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

DENSITY	<b>2.76 Kg/dm<sup>3</sup></b>
MELTING RANGE or MELTING POINT	<b>500 °C</b> <b>600 °C</b>
SPECIFIC HEAT (at 100)°	<b>0.88 J/Gk</b>
LINEAR SHRINKAGE IN SAND PROCESS	<b>1.0 - 1.2 %</b>
LINEAR SHRINKAGE IN SHELL PROCESS	<b>0.6 - 0.9 %</b>
LINEAR SHRINKAGE IN HIGH PRESSURE	
ELECTRIC CONDUCTIVITY	<b>14 - 18 MS/m</b>
MODULUS OF ELASTICITY	<b>7500 Kg/mm<sup>2</sup></b>

THERMAL CONDUCTIVITY at 20°C	<b>110 - 130 W/(m K)</b>
LINEAR THERMAL EXPANSION from 20 t 100°C	<b>21 10-6/°K</b>
LINEAR THERMAL EXPANSION from 20 t 200°C	<b>-</b>
LINEAR THERMAL EXPANSION from 20 t 300°C	<b>-</b>
SUGGESTED MAXIMUM TEMPERATURE	<b>750 °C</b>
SUGGESTED CASTING TEMPERATURE	
°in sand	<b>680 - 750 °C</b>
°in shell	<b>680 - 750 °C</b>
°in pressure die	<b>-</b>

**TECHNOLOGICAL FEATURES, QUALITATIVE INDICATIONS**

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

RESISTANCE TO HOT TEARING	<b>SMALL</b>
PRESSURE TIGHTNESS	<b>GOOD</b>
WELDABILITY	<b>GOOD</b>
DECORATIVE ANODISING	<b>LOW</b>
PROTECTIVE ANODISING	

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