

Standard: **UNI EN 1676 and 1706**

Alloy group: **Al Si 7 Mg**

Alloy designation: **EN AB and AC 42200 Al Si 7 Mg 0.6**

Replaces:

CHEMICAL COMPOSITION %

ALLOY		ELEMENTS											Individual impurities	Global impurities
		Si	Fe	Cu	Mn	Mg	Cr	Ni	Zn	Pb	Sn	Ti		
EN AB 42200	min	6,5				0,50						0,10		
	max	7,5	0,15	0,03	0,10	0,70	-	-	0,07	-	-	0,18	0,03	0,10
	min	6,5				0,50						0,10		
	max	7,5	0,15	0,02	0,05	0,70	-	-	0,07	-	-	0,20	0,03	0,10

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) Hardened and Aged artif.	T6	250	250 - 320	210	220 - 280	1	1 - 2	85	90 - 110
SHELL (as cast) Partially Aged	T64	290	290 - 320	210	210 - 240	6	6 - 8	90	90 - 100
PRESSURE DIE (as cast) Hardened and Aged artif.	T6	320	300 - 350	240	240 - 280	3	4 - 6	100	100 - 115

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

DENSITY	2.66 Kg/dm ³	THERMAL CONDUCTIVITY at 20°C	150 - 180 W/(m K)
MELTING RANGE or MELTING POINT	550 °C	LINEAR THERMAL EXPANSION from 20 t 100°C	-
	625 °C	LINEAR THERMAL EXPANSION from 20 t 200°C	22.0-10-6/°C
SPECIFIC HEAT (at 100)°	0.92 J/Gk	LINEAR THERMAL EXPANSION from 20 t 300°C	-
LINEAR SHRINKAGE IN SAND PROCESS	1.1 - 1.2 %	SUGGESTED MAXIMUM TEMPERATURE	780 °C
LINEAR SHRINKAGE IN SHELL PROCESS	0.8 - 1.1 %	SUGGESTED CASTING TEMPERATURE	
ELECTRIC CONDUCTIVITY	20 - 26 MS/m	°in sand	680 - 750 °C
MODULUS OF ELASTICITY	7400 Kg/mm ²	°in shell	680 - 750 °C
		°in pressure die	-

TECHNOLICICL FEATURES, QUALITATIVE INDICATIONS

MECHANICAL RESISTANCE WHEN HOT	MEDIUM	RESISTANCE TO SHRINKAGE CRACKING	SMALL
GENERAL RESIANTANCE TO CORROSION	GOOD	PRESSURE SEALING	GOOD
MACHINABILITY	GOOD	WELDABILITY	GOOD
CASTABILITY	GOOD	SUITABILITY FOR DECORATIVE ANODISING	LOW
POLISHING	GOOD	SUITABILITY FOR PROTECTIVE ANODISING	

COMPARISON WITH EQUIVALENT OR SIMILAR FOREIGN STANDARDS

	ITALY	GERMANY	FRANCE	G.B.R.	USA	ISO	JAPAN	TURKEY
	UNI	(Din1725/5-86)	(NFA57-105)	(BS1490-88)	(ASTM B179-82)	(3522-84)	(JIS H2211-92)	(ETIAL)
Equivalent	UNI 8392	GALSI 7 MG	AS 7 G06	LM 25	A 356.2	Al Si 7 Mg	C 4 CV	
Similar								

HEAT TREATMENTS

Hardening 520 - 535°C after pre-heating of 4 - 10 hours in aging conditions. Complete Artificial Aging at 155 - 165°C for 6 - 8 hours. Partial aging at 150 - 160°C for 2-3 hours.