ARM Assisi Recycling Maclodio Spa
Via Roma 55 - 25030 Maclodio (Bs) - Tel. +39.030.9787396
qualita.maclodio@assisi-spa.it - www.assisi-spa-it

TECHNICAL DATA-SHEET

ALLOY DESCRIPTION: EN AB ed AC 21000 - Al Cu 4 Mg Ti
ALLOY GROUP: Al Cu
STANDARD: UNI EN 1676 e 1706

CHEMICAL COMPOSITION %

Alloy	Elements	Si	Fe	Cu	Mn	Mg	Cr	Ni	Zn	Pb	Sn	Ti	Others each	Others tot.
EN AB 21000	Min			4,2		0,20						0,15		
	Max	0,15	0,30	5,0	0,10	0,35	0,03	0,05	0,10	0,05	0,05	0,25	0,03	0,10
EN AC 21000	Min			4,2		0,15						0,15		
	Max	0,20	0,35	5,0	0,10	0,35	0,03	0,05	0,10	0,05	0,05	0,30	0,03	0,10

MECHANICAL PROPERTIES - EN 1706:2020

CASTING PROCESS	TEMPER DESIGNATIONS	TENSILE STRENGHT	YIELD STRENGHT	ELONGATION	BRINELL HARDNESS
		(Mpa)	(Mpa)	(%)	(HBW)
SAND CASTING	T4	300	200	5	90
SHELL CASTING	T4	320	200	8	90
INVESTMENT CASTING	T4	300	220	5	90

PHYSICAL PROPERTIES - EN 1706:2020

DENSITY	2,79 Kg/dm^3	**SOLIDIFICATION AND MELTING RANGES**	550-645 °C
FATIGUE RESISTANCE	80-110 MPA	**OPTIMUM RANGE OF SAND CASTING**	700-750°C
ELECTRIC CONDUCTIVITY	16-23 MS/m	**OPTIMUM RANGE OF SHELL CASTING**	700-730°C
THERMAL CONDUCTIVITY	120-150 W/(m K)	**THERMAL EXPANSION (from 20°C to 100°C)**	$23 \cdot 10^{-6}$/K

TECHNOLOGICAL PROPERTIES - EN 1706:2020

CASTABILITY	MEDIUM	**RESISTANCE TO HOT TEARING**	SUFFICIENT
WELDABILITY	SUFFICIENT	**STRENGHT AT ELEVATED TEMPERATURE**	GOOD
POLISHING	GOOD	**PRESSURE TIGHTNESS**	SUFFICIENT
MACHINABILITY	EXCELLENT	**DECORATIVE ANODIZING**	MEDIUM
CORROSION RESISTANCE	SUFFICIENT	**PROTECTIVE ANODIZING**	MEDIUM

APPLICATIONS

Alloy used for the production of castings subjected to strong stresses, particularly in aviation and transport construction in general.
Alloy not compliant with the Food standard EN 601.

HEAT TREATMENTS

		SOLUBILISATION TEMPERATURE	SOLUBILISATION DURATION	WATER HARDENING TEMPERATURE	AGEING TEMPERATURE	AGEING DURATION
F	RAW STATE	-	-	-	-	-
O	ANNEALING	520-530 °C	6-8 hours	20 °C	-	-
T1	SELF-HARDENING	-	-	-	-	-
T4	SOLUBILISATION AND NATURAL AGEING	480-530 °C	2-16 hours	20-80 °C	15-30 °C	120 hours
T5	CONTROLLED COOLING AND ARTIFICIAL AGEING	-	-	AIR	210-230 °C	5-12 hours
T6	SOLUBILISATION AND ARTIFICIAL AGEING	480-555 °C	2-20 hours	20-80 °C	130-185 °C	2-15 hours
T64	SOLUBILISATION AND PARTIAL AGEING	520-545 °C	4-10 hours	20-50 °C	135-160 °C	2-7 hours
T7	HYPERAGEING	480-530 °C	1-8 hours	20 °C	190-240 °C	1-8 hours

The temperatures and the duration of the treatments vary according to the type of alloy, melting (shell, sand or die casting) and the result you want to obtain.
Ideal parameters shall be determined by a test.

EQUIVALENTS OR SIMILARS FOREIGN REGULATIONS

	ITALY	GERMANY	FRANCE	G.B.R.	USA	ISO	JAPAN	TURKEY
	UNI	Din1725/5-86	NFA57-105	BS1490-88	ASTM 179-82	3522-84	JIS H2211-92	ETIAL
Equivalents		220/1	A U 5 G T		204.2	AlCu 4 MgTi		
Similars					201.2			