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 43300 - Al Si 9 Mg

ALLOY GROUP: Al Si 10 Mg

STANDARD: UNI EN 1676 e 1706

CHEMICAL COMPOSITION %

Elements	Si	Fe	Cu	Mn	Mg	Cr	Ni	Zn	Pb	Sn	Ti	Others each	Others tot.
Min	9,0				0,25								
Max	10,0	0,15	0,03	0,10	0,45	0,03	0,03	0,07	0,03	0,03	0,15	0,03	0,10

MECHANICAL PROPERTIES

CASTING PROCESS	TEMPER DESIGNATIONS	TENSILE STRENGHT	YIELD STRENGHT	ELONGATION	BRINELL HARDNESS
		(Mpa)	(Mpa)	(%)	(HBW)
SAND Artificially Hardened and Aged	F	160	80	2	50
	T6	230	190	2	75
Artificially Hardened and Aged	F	170	90	2,5	55
	T6	290	210	4	90
Partially aged	T64	250	180	6	80
DIECASTING (As Cast)	F				

PHYSICAL PROPERTIES

DENSITY	2,66 Kg/dm3	**OPTIMUM RANGE OF SAND CASTING**	680-750 °C
MELTING RANGE	550-600 °C	**OPTIMUM RANGE OF SHELL CASTING**	680-730 °C
ELECTRIC CONDUCTIVITY	20-26 MS/m	**FATIGUE RESISTANCE**	80-110 MPA
THERMAL CONDUCTIVITY	150-180 W/(m K)		

TECHNOLOGICAL PROPERTIES

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

APPLICATIONS

Alloy with excellent runnability and mechanical strength, following artificial aging.
Used in mechanical engineering and the automotive industry.
Alloy compliant with Food standard EN 601

HEAT TREATMENTS

		SOLUBILIZATION TEMPERATURE	SOLUBILIZATION DURATION	WATER HARDENING TEMPERATURE	AGING TEMPERATURE	AGING DURATION
F	**RAW STATE**	-	-	-	-	-
O	**ANNEALING**	520-530 °C	6-8 hours	20 °C	-	-
T1	**SELF-HARDENING**	-	-	-	-	-
T4	**NATURAL AGING**	480-530 °C	2-16 hours	20-80 °C	15-30 °C	120 hours
T5	**ARTIFICIAL HARDENING AND AGING**	-	-	AIR	210-230 °C	5-12 hours
T6	**ARTIFICIAL AGING**	480-555 °C	2-20 hours	20-80 °C	130-185 °C	2-15 hours
T64	**PARTIAL AGING**	520-545 °C	4-10 hours	20-50 °C	135-160 °C	2-7 hours
T7	**HYPERAGING**	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		GB AlSi 9 Mg					AC4A.2	
Similars	3051							ETIAL-171

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Everything that involves decisions based on the information stated here is direct responsibility of the end user, as well as any risks, not excluded from the verification.
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