



**ALLOY DATA SHEET**

ALLOY GROUP <sup>1</sup>	NUMERICAL DESIGNATION <sup>1</sup>	CHEMICAL DESIGNATION <sup>1</sup>	S.A.V. ALLOY CODE
<b>AICu</b>	<b>EN AB-21200</b>	<b>EN AB-AI Cu4MnMg</b>	<b>01011507</b>

<sup>1</sup>EN 1676:2010 Aluminium and aluminium alloys – Alloyed ingots for remelting – Specifications

**INGOTS CHEMICAL COMPOSITION**

Alloy	% wt	Si	Fe	Cu	Mn	Mg	Cr	Ni	Zn	Pb	Sn	Ti	Other each	Other Total
EN AB-21200 <sup>1</sup>	Min.	-	-	4,0	0,20	0,20	-	-	-	-	-	-	-	-
	Max	0,1	0,15	5,0	0,50	0,5	-	0,03	0,05	0,03	0,03	0,05	0,03	0,10

<sup>1</sup>EN 1676:2010 Aluminium and aluminium alloys – Alloyed ingots for remelting – Specifications

**CASTINGS CHEMICAL COMPOSITION**

Alloy	% wt	Si	Fe	Cu	Mn	Mg	Cr	Ni	Zn	Pb	Sn	Ti	Other each	Other Total
EN AC-21200 <sup>2</sup>	Min.	-	-	4,0	0,20	0,15	-	-	-	-	-	-	-	-
	Max	0,10	0,2	5,0	0,50	0,5	-	0,05	0,10	0,03	0,03	0,10	0,03	0,10

<sup>2</sup>EN 1706:2010 Aluminium and aluminium alloys – Castings – Chemical composition and mechanical properties

**MECHANICAL PROPERTIES<sup>2</sup>**

Minimum mechanical properties for separately cast sample

Casting method	Temper designation	Tensile strength <i>R<sub>m</sub></i> [MPa] min.	Yeld strenght <i>R<sub>p0,2</sub></i> [MPa] min	Elongation <i>A</i> [%] min	Brinnell hardness <i>HBW</i> min
Sand Casting	T4	330	225	3	100
	T7	370	310	2	110
Chill Casting	T4	400	240	8	110
	T7	410	325	5	120
Investment Casting	-	-	-	-	-
Pressure die Casting	-	-	-	-	-

<sup>2</sup>EN 1706:2010 Aluminium and aluminium alloys – Castings – Chemical composition and mechanical properties

**PHYSICAL PROPERTIES<sup>2</sup>**

CASTING METHOD	SAND CASTING		OTHER PROPERTIES	MACHINABILITY IN THE AS CAST STATE	
	PERMANENT MOULD CASTING	✓		MACHINABILITY AFTER HEAT TREATMENT	A
CASTABILITY	PRESSURE DIE CASTING	-	RESISTANCE TO CORROSION	D	
	INVESTMENT CASTING	-	DECORATIVE ANODIZING	C	
	FLUIDITY	D	ABILITY TO BE WELDED	C	
	RESISTENCE TO HOT TEARING	D	ABILITY TO BE POLISHED	B	
MECHANICAL PROPERTIES	PRESSURE TIGHTNESS	D	LINEAR THERMAL EXPANSION [10 <sup>-6</sup> /K] (293 K-373 K)	23	
	STRENGTH AT ROOM TEMPERATURE	A	ELECTRICAL CONDUCTIVITY [MS/m]	16 - 23	
	STRENGTH AT ELEVATED TEMPERATURE 200 °C	B	TERMAL CONDUCTIVITY [W/(m K)]	120 - 150	
	DUCTILITY (SHOCK RESISTENCE)	A			
	FATIGUE RESISTANCE [MPa]	80 - 110			

✓ Indicates the casting process most commonly used for each alloys

A: Optimal	B: good	C: Fair	D: Poor	E: Not Recommended	F: Unsuitable
---------------	------------	------------	------------	-----------------------	------------------

<sup>2</sup>EN 1706:2010 Aluminium and aluminium alloys – Castings – Chemical composition and mechanical properties



**HEAT TREATMENT DESIGNATION<sup>2</sup>**

ABBREVIATION	HEAT TREATMENT
F	AS CAST
O	ANNEALED
T1	CONTROLLED COOLING FROM CASTING AND NATURALLY AGED
T4	SOLUTION HEAT TREATED AND NATURALLY AGED WHERE APPLICABLE
T5	CONTROLLED COOLING FROM CASTING AND ARTIFICIALLY AGED OR OVER-AGED
T6	SOLUTION HEAT TREATED AND ARTIFICIALLY AGED
T64	SOLUTION HEAT TREATED AND ARTIFICIALLY UNDER-AGED
T7	SOLUTION HEAT TREATED AND ARTIFICIALLY OVER-AGED (STABILIZED)

<sup>2</sup>EN 1706:2010 Aluminium and aluminium alloys – Castings – Chemical composition and mechanical properties

**CORRELATION WITH OTHER STANDARDS**

EN AB-21200 / EN AC-21200

NATION	U.S.A.	JAPAN	INTERNATIONAL	ITALY	FRANCE	GERMANY	GREAT BRITAIN
STANDARD	B179	H2211	17615	UNI	NF A57-702	1725	BS 1490
STATUS	ACTIVE	ACTIVE	ACTIVE	SUPERSEDED	SUPERSEDED	SUPERSEDED	SUPERSEDED
IDENTICAL STANDARD	INGOT SPECIFICATION	-	-	-	-	-	-
SIMILAR STANDARD	INGOT SPECIFICATION	201.2 A201.1 206.2 A206.2	-	-	-	GB-AlCu4TiMg	-

The spread, copying and reproduction, even if only for extracts, of this document is prohibited.

The physical and mechanical properties shown in this data sheet have a mere informative purpose since they are detected on sample cast separately in specific cooling conditions. No liability is accepted for decisions based on the indicated physical and mechanical properties and no guarantee is given for the physical and mechanical properties indicated which depend on the specific conditions of casting of the cast pieces.