Aluminium alloys ingots for remelting

ALLOV DATA SHEET

ALLOY NU			MER	ICAL		CHEMICAL					S.A.V. ALLOY				
				IGN/	TION	1		DESI	GNAT	ION <sup>1</sup>			CODE		
				AB-4	AB-45000			EN AB-Al Si6Cu4					01014200		
						luminium a				for remelting	– Specifica				
					NGOT		EMIC		MDOS						
Alloy	% <sub>wt</sub>	Si	Fe	Cu	Mn	Mg	Cr	Ni	Zn	Pb⁺	Sn	Ti	Other Each	Other Total	
EN AB	- Min.	5,0	-	3,0	0,20	-	-	-	-	-	-	-	-	-	
45000 <sup>1</sup>	Max	7,0	0,9	5,0	0,65	0,55	0,15	0,45	2,0	0,29	0,15	0,20	0,05	0,35	
				<sup>1</sup> EN	1676:2020 Al The Alloy pr	uminium a oduced by	nd aluminiu S.A.V. S.p./	m alloys – A A. has a lead	lloyed ingots I content less	for remelting than 0,1%.	– Specifica	tions.			
				C/		GS CI	HEMIC	CAL C	омро	SITIO	N				
Alloy	% wt	Si	Fe	Cu	Mn	Mg	Cr	Ni	Zn	Pb*	Sn	Ti	Other Each	Other Total	
EN AC		5,0	-	3,0	0,20	-	-	-	-	-	-	-	-	-	
45000 <sup>2</sup>	<sup>2</sup> Max	7,0	1,0	5,0	0,65	0,55	0,15	0,45	2,0	0,29	0,15	0,25 cal properties.	0,05	0,35	
			L	N 1700.202	* The A	Alloy produ	ced by S.A.	– Castings - V. S.p.A. ha	s a lead cont	ent less than	0,1%.	car properties.			
									ERTIE						
				Min	Imum me Temper	chanica		ies for se strength		cast samp d strengt		Elongation	Brinn	nell hardnes	
Casting method designati					n				R <sub>p0,2</sub> [MPa] min			A [%] min HBW min			
Sand Casting					F		150		90			1	1 60		
	Chill Casting Low Pressure die Casting				F		<u>170</u> 170			<u> </u>		1 75		75	
L	Investmer				F 170				-					15	
Pressure die Casting -						-		-		-		-			
								-		-		-		-	
	tial mechanie	cal prope	rties of					- - 60							
test	tial mechanic specimens f	cal prope from cast	erties of ings <sup>3</sup> <sup>2</sup> EN 1706 alues can be	reached ti /alues and	- _4 ninium and a hroughout the the position	casting si of the area	1 lloys – Cast nce mechar where those	- 60 ings – Chen nical properti e values can	es strongly o be achieved	- 135 ition and mec lepend on the	solidification	- 2 perties		- 65	
test	tial mechanic specimens f	cal prope from cast	erties of ings <sup>3</sup> <sup>2</sup> EN 1706 alues can be	reached ti /alues and	- _4 ninium and a hroughout the the position o heat treatmo	e casting si of the area ent has to l	1 lloys – Cast ince mechar where those be defined a	- 60 ings – Chen nical properti e values can ccording to	es strongly o be achieved	- 135 tion and mec lepend on the l shall be agro asting produc	solidification	- 2 perties on rate, the heat		- 65	
test 3lt cannot	tial mechanic specimens f	cal prope from cast t the given va casting. The	erties of ings <sup>3</sup> <sup>2</sup> EN 1706 alues can be	e reached ti values and <sup>4</sup> The	- _4 ninium and a hroughout the the position o heat treatmo	e casting si of the area ent has to l	1 lloys – Cast ince mechar where those be defined a	- 60 ings – Chen nical properti e values can ccording to	es strongly a be achieved the type of ca RTIES	- 135 ition and mec lepend on the shall be agr asting produc	e solidificatio eed betwee ed.	- 2 perties on rate, the heat	ustomer.	- 65	
test 3lt cannot	tial mechanic specimens f t be assumed that the	cal prope from cast t the given va casting. The SANI	rties of ings <sup>3</sup> <sup>2</sup> EN 1706 alues can be erefore, the v	reached ti values and 4 The	- _4 hroughout the the position heat treatme PI	e casting si of the area ent has to l	11 Iloys – Cast ince mechar where those be defined a CAL P	- 60 ings – Chen nical properti e values can ccording to	es strongly a be achieved the type of ca RTIES MAC	- 135 tion and mecc epend on the shall be agri asting produc 2 HINABILIT	e solidificatio eed betwee ed. Y IN THE .	- 2 perties on rate, the heat n supplier and cu	ustomer.	- 65 the soundness o	
test 3lt cannot	tial mechanic specimens f t be assumed that the PE	cal prope rom cast t the given v. casting. The SANE RMANENT	rties of ings <sup>3</sup> <sup>2</sup> EN 1706 alues can be erefore, the D CASTING	reached tu values and 4 The 3 3 CASTING	- _4 hroughout the the position heat treatme PI	e casting si of the area ent has to l	1 Iloys – Cast nce mechar where thos be defined a CAL P	- 60 ings – Chen nical properti e values can ccording to	es strongly a be achieved the type of ca RTIES MAC	- 135 ition and mec lepend on the shall be agri sating produce 2 HINABILITY	e solidificatio eed betwee ed. Y IN THE A	- 2 perties on rate, the heat n supplier and co AS CAST STA	ustomer.	- 65 the soundness of B	
test	tial mechanic specimens f t be assumed that the PE	cal prope from cast t the given v. casting. The SANE RMANENT PRESSUR	rties of ings <sup>3</sup> <sup>2</sup> EN 1706 alues can be erefore, the v D CASTING	e reached tu values and 4 The 3 3 3 3 3 5 5 1 1 1 3 5 1 1 1 3 5 1 1 1 3 5 1 1 1 3 5 5 5 5	- _4 hroughout the the position heat treatme PI	e casting si of the area ent has to l	11 Iloys – Cast ince mechai where thos be defined a CAL P	- 60 ings – Cherr inical properti e values car ccording to <b>ROPE</b>	es strongly a be achieved the type of ca RTIES MAC	- 135 tion and mecc epend on the shall be agri sting produc 2 HINABILIT RESISTAN	y IN THE AFTER H	- 2 perties on rate, the heat n supplier and co AS CAST STA EAT TREATM	ustomer.	- 65 the soundness of B -	
test 3/lt cannot	tial mechanic specimens f t be assumed that the PE	cal prope rom cast t the given vic casting. The SANE RMANENT PRESSUR INVESTN	rties of ings <sup>3</sup> <sup>2</sup> EN 1706 alues can be erefore, the v D CASTING MOULD C RE DIE CAS	e reached tu values and 4 The 3 3 3 3 3 5 5 1 1 1 3 5 1 1 1 3 5 1 1 1 3 5 1 1 1 3 5 5 5 5	- _4 hroughout the the position heat treatme PI	e casting si of the area ent has to l	11 Iloys – Cast nce mechar where thos be defined a CAL P CAL P	- 60 ings – Cherr inical properti e values car ccording to <b>ROPE</b>	es strongly a be achieved the type of ca RTIES MAC	- 135 ition and meccepend on the shall be agri asting produce 2 HINABILITY RESISTAN DECORA	y IN THE AFTER H	- 2 perties on rate, the heat n supplier and co AS CAST STA EAT TREATM DRROSION ODIZING	ustomer.	- 65 the soundness of B - D	
Castino Rest	tial mechanic specimens f t be assumed that the PE	cal prope from cast the given v. casting. The SANE RMANENT PRESSUR INVESTN FI	rties of ings <sup>3</sup> <sup>2</sup> EN 1706 alues can be erefore, the v D CASTINC MOULD C E DIE CAS IENT CAS	A reached ti values and 4 The 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3	- _4 hinium and a hroughout the the position o heat treatmos P	e casting si of the area ent has to l	11 Iloys – Cast nce mechar where thos be defined a CAL P V V –	- 60 ings – Cherr inical properti e values car ccording to <b>ROPE</b>	es strongly d be achieved the type of ca RTIES MAC MACH	- 135 ition and mecc lepend on the l shall be agri asting produc 2 HINABILIT RESISTAN DECOR ABILITY ABILITY	Y IN THE . AFTER H ICE TO C ATIVE AN Y TO BE V TO BE P	- 2 perties on rate, the heat n supplier and co AS CAST STA EAT TREATM DRROSION ODIZING VELDED OLISHED	ustomer.	- 65 the soundness of B - D D	
test 3lt cannot	tial mechanic specimens f t be assumed that the PE	cal prope rom cast the given vic casting. The SANE RMANENT PRESSUR INVESTM FI SISTANCE	rties of ings <sup>3</sup> <sup>2</sup> EN 1706 alues can be erefore, the v D CASTING C MOULD C E DIE CAS IENT CAS <sup>2</sup> LUIDITY	A reached til values and 4 The CASTING STING TING TEARING	- _4 hinium and a hroughout the the position o heat treatmos P	e casting si of the area ent has to l	11 Iloys – Cast ince mechar where those be defined a <b>CAL P</b> • • • • • • • <b>B</b>	- 60 ings – Chen nical properti e values can ccording to	es strongly d be achieved the type of ca RTIES MAC MACH	- 135 ition and mec lepend on the l shall be agri sating produc 2 HINABILITY RESISTAN DECOR ABILITY ABILITY LINEAR TH	Y IN THE . AFTER H ICE TO C ATIVE AN Y TO BE V TO BE P	2 perties on rate, the heat n supplier and co AS CAST STA EAT TREATM ORROSION ODIZING VELDED OLISHED EXPANSION	ustomer.	- 65 the soundness of B - D D -	

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✓ Indicates the most commonly casting process used

for each alloys

STRENGTH AT HIGH TEMPERATURE

200 °C

DUCTILITY (SHOCK RESISTANCE)

FATIGUE RESISTANCE

[MPA]

MECHANICAL PROPERTIES

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Α

С

60 - 90

B:

good

COMPANY WITH MANAGEMENT SYSTEM CERTIFIED = ISO 9001 = = IATF 16949 =

A:

Optimal

<sup>2</sup>EN 1706:2020 Aluminium and aluminium alloys – Castings

COMPANY WITH MANAGEMENT SYSTEM CERTIFIED = ISO 14001 = = ISO 45001 = = ISO 50001 =

C:

Fair

THERMAL CONDUCTIVITY

[W/(m K)]

D:

Poor

- Chemical composition and mechanical properties

VERIFIED ENVIRONMENTAL MANAGEMENT EMAS IT-00184

E:

Not Recommended

110 - 120

F:

Unsuitable

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Aluminium alloys ingots for remelting

HEAT TREATMENT DESIGNATION <sup>2</sup>							
ABBREVIATION	HEAT TREATMENT						
F	AS CAST						
0	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 1706:2020 Aluminium and aluminium alloys – Castings – Chemical composition and mechanical properties						

CORRELATION WITH OTHER STANDARDS EN AB-45000 / EN AC-45000										
NATION		U.S.A. JAPAN		INTERNATIONAL	ITALY	FRANCE	GERMANY	GREAT BRITAIN		
STAND	ARD	B179	H2211	17615	UNI	NF A57-702	1725	BS 1490		
STAT	US	ACTIVE	ACTIVE	ACTIVE	SUPERSEDED	SUPERSEDED	SUPERSEDED	SUPERSEDED		
IDENTICAL STANDARD SP	INGOT PECIFICATION	-	-	AlSi6Cu4	-	-	-	-		
SIMILAR STANDARD SP	INGOT PECIFICATION	318.1	AC2A AC2B	-	3052	A-S5UZ A-S5U3	GB-AlSi6Cu4 (225)	LM4 LM21 LM22		

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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, as they depend on the specific conditions of casting of the cast pieces.

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