

6005 A

EN AW-6005A - EN AW-AI SiMg(A)



Chemical composition :

According to: EN 573-3:2009(F)

Si	Fe	Cu	Mn	Mg	Cr	Ni	Zn	Ti	Ga	V	remarks	Others		Aluminium min
												Each	Total	
0,50 - 0,90	0,35	0,30	0,50	0,40 - 0,70	0,30	...	0,20	0,10	...	...	0,12-0,50 Mn+Cr	0,05	0,15	Balance

Typical physical properties:

According to: "mill products general properties" Pechiney

1MPa = 1N/mm²

Density g/cm ³	2,7	Poisson ratio	0,33
Melting range °C	605 - 655	Thermal conductivity (0 to 100°C)- W/m °C (T6 temper)	178
Coefficient of linear expansion (0 to 100°C)-°C ⁻¹ x 10(6)	23,6	Resistivity at 20°C - μΩ cm (T6 temper)	3,5
Modulus of elasticity MPa (average)	69 500	Specific heat (0 to 100°C) J/kg °C	940

Technological properties :

According to: "mill products general properties" Pechiney

(A)-Very good (B)-Good (C)-Acceptable (D)-Poor or not recommended

Welding:

Electron beam
Inert gas (TIG or MIG)
Resistance welding
Soldering

A
B
B
B

Deep drawing:

Annealed
1/2 hard
4/4 hard
Spinning O temper

Normal behaviour

Atmospheric corrosion
Marine environments
Machinability T5 temper
Break-up of chip

A
B
C

Anodizing

Protective
Bright
Hard

A
C
A

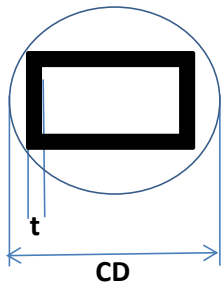
Tolerances on width, depth or flat width

According to: EN 755-8 2008 (F)

Extracts from EN standard, please refer to EN standard for full specifications.

Dimensions in millimeters

SQUARE/RECTANGULAR TUBE:



Width, depth or flat width		Tolerances on width, depth or flat width a) b)							
		CD <= 100		100 < CD <= 200		200 < CD <= 300		300 < CD <= 350	
Superior to	Inferior or equal to	Column I c)	Column II d)	Column I c)	Column II d)	Column I c)	Column II d)	Column I c)	Column II d)
...	10	± 0,25	± 0,40	± 0,30	± 0,50	± 0,35	± 0,55	± 0,40	± 0,60
10	25	± 0,30	± 0,50	± 0,40	± 0,70	± 0,50	± 0,80	± 0,60	± 0,90
25	50	± 0,50	± 0,80	± 0,60	± 0,90	± 0,80	± 1,00	± 0,90	± 1,20
50	100	± 0,70	± 1,00	± 0,90	± 1,20	± 1,10	± 1,30	± 1,30	± 1,60
100	150	...	...	± 1,10	± 1,50	± 1,30	± 1,70	± 1,50	± 1,80
150	200	...	...	± 1,30	± 1,90	± 1,50	± 2,20	± 1,80	± 2,40
200	300	...	...	...	...	± 1,70	± 2,50	± 2,10	± 2,80
300	350	...	...	...	...	...	...	± 2,80	± 3,50

(a) Not applicable to tubes that have a thickness inferior to 2,5% of the length, depth or external specified flat width (see EN standard for these special conditions).

(b) : These tolerances do not apply to O and Tx510 tempers. For these tempers, tolerances must be agreed between buyer and supplier.

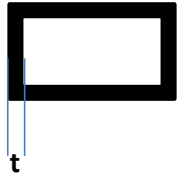
c) I column applies to 6060, 6005 alloys (see EN standard for other alloys)

d) II column applies for AW-6082 alloys (see EN standard for other alloys)

Thickness tolerances:

- a) I column applies to AW-6060, AW-6005 alloys (for other alloys, please refer to EN standard)
- b) II column applies to AW-6082 alloys (for other alloys, please refer to the EN standard)

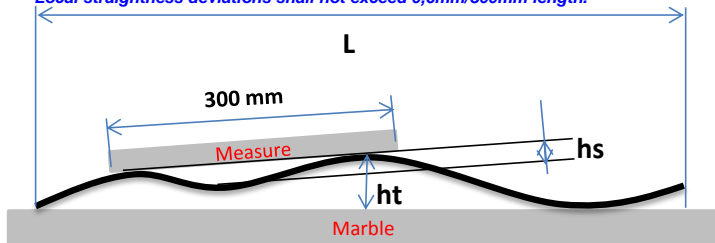
According to: EN 755-8 2008 (F) Extracts from EN standard, please refer to EN standard for full specifications.



Nominal wall thickness t		Wall thickness tolerances for circumscribed CD					
		CD ≤ 100		100 < CD ≤ 300		300 < CD ≤ 350	
Superior to	Inferior or equal to	Column I c)	Column II d)	Column I c)	Column II d)	Column I c)	Column II d)
≥ 0,5	1,5	± 0,20	± 0,30	± 0,30	± 0,40	...	...
1,5	3	± 0,25	± 0,35	± 0,40	± 0,50	± 0,60	± 0,70
3	6	± 0,40	± 0,55	± 0,60	± 0,70	± 0,80	± 0,90
6	10	± 0,60	± 0,75	± 0,80	± 1,00	± 1,00	± 1,20
10	15	± 0,80	± 1,00	± 1,00	± 1,30	± 1,20	± 1,50
15	20	± 1,20	± 1,50	± 1,50	± 1,80	± 1,70	± 2,00
20	30	± 1,50	± 1,80	± 1,80	± 2,20	± 2,00	± 2,50
30	40	...	...	± 2,00	± 2,50	± 2,00	± 3,00

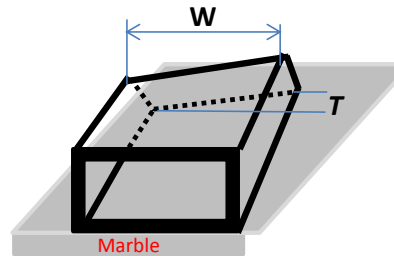
Tolerances on straightness:

Straightness tolerance shall not exceed 1,5mm/m length.
Local straightness deviations shall not exceed 0,6mm/300mm length.



Twist tolerances:

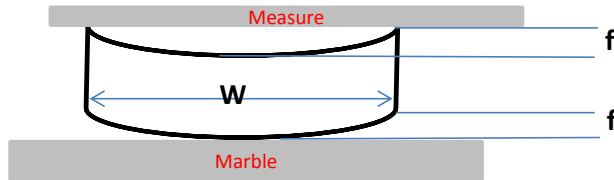
Straightness tolerance ht shall not exceed 1,5mm



Dimensions in millimeters

Width W		Twist tolerances T		
		On a 1000 mm length	On a total length of	
> to	≤ to		≤ to 6000 mm	> to 6000 mm
≥ 10	30	1,2	2,5	3,0
30	50	1,5	3,0	4,0
50	100	2,0	3,5	5,0
100	200	2,5	5,0	7,0
200	350	2,5	6,0	8,0

Concavity - convexity tolerances:



Dimensions in millimeters

Width W		Maximum allowable deviation f	
> to	≤ or = to	Wall thickness ≤ 5	Wall thickness > 5
...	30	0,30	0,20
30	60	0,40	0,30
60	100	0,60	0,40
100	150	0,90	0,60
150	200	1,20	0,80
200	350	1,80	1,20

Mechanical properties at room temperature :

According to: EN 755-2 : 2008 (F) in MPA 1mpa = 1 N/m/m2

* Values offered merely as a guide

Extruded SQUARE or RECTANGULAR tube:

Product	Temper	Thickness t mm	TENSILE PROPERTIES					Hardness		
			Rm-UTS min (Mpa)	Rm-UTS max (Mpa)	Rp0,2MPa-0,2%ps	A% min	A% 50mm	HBW *		
6005A Extruded tube	T6 c)	<= 5	270	„„	225	8	6			90
6005A Extruded tube	T6 c)	5 < t <= 10	260	„„	215	8	6			85

c) Characteristics can be obtained by press quenching