

Material data sheet

EN AW-6012 [EN AW-Al MgSiPb]

1) Chemical composition according to DIN EN 573-3 [% by mass, remainder Al]

%	Si	Fe	Cu	Mn	Mg	Cr	Ni	Zn	Ti	Bi	Pb	Each
min.	0.6	-	-	0.40	0.6	-	-	-	-	-	0.40	0.15
max.	1.4	0.50	0.10	1.0	1.2	0.30	-	0.30	0.20	0.7	2.0	0.15

2) Mechanical properties according to DIN EN 754-2 drawn / DIN EN 755-2 extruded

Temper	Dimensions in mm		R _m MPa		R _{p0,2} MPa		A% min.	A _{50mm} %	HBW
	D ^a	S ^b	min.	max.	min.	max.	min.	min.	Typical value
T6^c	≤ 80	≤ 80	310	-	260	-	8	6	105
T6/T6510/ T6511^c	≤150 150<D≤200	≤150 150<S≤200	310 260	- -	260 200	- -	8 8	6 -	105 105

D^a= Diameter for round rod / S^b= Width across flat for square and hexagonal rod, Thickness for rectangular rod / ^c Properties may be obtained by press quenching.

Classification: 1=very good / 6=insufficient

Physical properties		General properties			
Density g/cm ³	2.75	Corrosion resistance to atmospheric influences seawater	2 3	Surface treatment Protection anodizing Decorative anodizing Painting/Coating	3 - 2
Modulus of elasticity MPa	70000				
Thermal conductivity W/(m K)	170-220	Brazeability: Brazing with flux Brazing without flux Friction soldering Soft soldering with flux	6 6 3 -		
Coefficient of thermal expansion (20-100 °) 10 ⁻⁶ /K	23.4				
Electrical conductivity MS/m	24-32				
Weldability		Machining properties			
Gas	-	Annealed		-	
TIG	6	Work hardened		-	
MIG	6	Precipitation hardened		2	
Resistance fusion welding	4	Cutting speed v=m/min		80-300	
		Chip shape		Short spirals	

Errors and changes excepted/This document is not subject to revision.