Nedal Aluminium BV
Groenewoudsedijk 1
3528 BG Utrecht

P.O. Box 2020
3500 GA Utrecht
The Netherlands

+31 (0)30 292 57 11
info@nedal.com
www.nedal.com

ALLOY DATA SHEET
EN-AW 6106[AlMgSiMn]
(Type: General Extrusion Alloy)

The alloy EN AW-6106 is an extrusion alloy designed to provide an optimum combination of mechanical properties, complexity of shape, minimum section thickness and good surface finish together with the good resistance, weldability and formability. Very complex shapes are possible.
The minor addition of Mn serves to refine the metal structure, thus enhancing formability and surface quality after subsequent forming operations. The alloy EN AW-6106 is suitable for applications where modest strength properties are required. Typical application fields are carbody parts, tubes and conductors.

Chemical composition according to EN573-3 (weight%, remainder Al)

Si	Fe	Cu	Mn	Mg	Cr	Zn	Ti	remarks	others	
									each	total
0.30-0.6	max. 0.35	max. 0.25	0.05-0.20	0.40-0.8	max. 0.20	max. 0.10	-		max. 0.05	max. 0.15

Mechanical properties according to EN755-2

Temper*	Wallthickness e [mm]	Yield stress $Rp_{0.2}$ [MPa]	Tensile strength Rm [MPa]	Elongation A [%]	Elongation A_{50} [%]	Hardness** HB
T6	≤ 10	200	250	8	6	70

*Temper designation according to EN515: T6-Solution heat treated, quenched and artificially aged, (T6 properties can be achieved by press quenching)
** Hardness values are for indication only

Physical properties (approximate values, 20°C)

Density [kg/m^3]	Melting range [°C]	Electrical Conductivity [MS/m]	Thermal Conductivity [W/m.K]	Co-efficient of thermal Expansion 10^{-6}/K	Modulus of Elasticity [GPa]
2700	585-650	28-34	200-220	23.4	~70

Weldability[1]
Gas: 3 TIG: 2 MIG: 2
Typical filler materials (EN ISO18273): SG-AlMg5Cr(A) or AlSi5, and AlMg3 when the product has to be anodised. Due to the heat input during welding the mechanical properties will be reduced by approximately 50% (ref. EN1999-1).

Machining characteristics[1]
T6 temper: 2

Coating properties[1]
Hard protecting anodising: 1
Decorative/bright/colour anodising: 2

Corrosion resistance[1]
General: 1 Marine: 2

[1]Relative qualification ranging from 1-very good to 6 unsuitable

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