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ALLOY DATA SHEET
EN-AW 7003[AlZn6Mg0.8Zr]
(Type: High strength structural alloy)

The alloy EN AW-7003 is a high strength extrusion alloy for highly loaded structural applications. Typical applications are scaffolding elements, mobile cranes, lifts, air freight containers, etc.

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

Si	Fe	Cu	Mn	Mg	Cr	Zn	Ti	remarks	others	
									each	total
max. 0.30	max. 0.35	max. 0.20	max. 0.30	0.50-1.0	max. 0.20	5.0-6.5	max. 0.00	Zr 0.05-0.25	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
T5	All	260	310	10	8	95

*Temper designation according to EN515: T4-Naturally aged to a stable condition, T5-cooled from an elevated temperature forming operation and artificially aged, 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]
2770	600-650	19-23	130-160	23.1	~70

Weldability[1]
Gas: 3 TIG: 2 MIG: 1
Typical filler materials (EN ISO18273): SG-AlMg5Cr(A) or SG-Al4.5Mn0.7(A) or SG-Al4.5MnZr. The alloy exhibits a good recovery of mechanical properties after welding, up to 90% of the original values of the base metal (depending on welding conditions). These properties can be achieved after natural aging for a prolonged period or after aan additional artificial aging treatment.

Machining characteristics[1]
T4 temper: 3 T5 temper: 2

Coating properties[1]
Hard protecting anodising: 2
Decorative/bright/colour anodising: 3

Corrosion resistance[1]
General: 2 Marine: 4
The alloy is however susceptible to stress corrosion cracking

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

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