

## 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 <sub>0.2</sub> [MPa]	Tensile strength Rm [MPa]	Elongation		Hardness** HB
				A [%]	A <sub>50</sub> [%]	
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 <sup>3</sup> ]	Melting range [°C]	Electrical Conductivity [MS/m]	Thermal Conductivity [W/m.K]	Co-efficient of thermal Expansion 10 <sup>-6</sup> /K	Modulus of Elasticity [GPa]
2770	600-650	19-23	130-160	23.1	~70

#### Weldability<sup>1</sup>

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 an additional artificial aging treatment.

#### Machining characteristics<sup>1</sup>

T4 temper: 3      T5 temper: 2

#### Coating properties<sup>1</sup>

Hard protecting anodising: 2      Decorative/bright/colour anodising: 3

#### Corrosion resistance<sup>1</sup>

General: 2      Marine: 4

The alloy is however susceptible to stress corrosion cracking

<sup>1</sup>Relative qualification ranging from 1-very good to 6 unsuitable

