

## UNIDAL®

### Alloy's characteristics

Alloy:	EN AW-7019 [AlZn4Mg2Mn]
Type of Alloy:	heat treatable
Temper:	T651
Surface:	precision milled, roughness $R_a$ 0,4 $\mu\text{m}$ , foiled on both sides

### Mechanical Properties <sup>1)</sup>

Yield strength $R_{p0,2}$	[MPa]	330 – 370
Ultimate tensile strength $R_m$	[MPa]	390 – 420
Elongation $A_{50}$	[%]	8 – 13
Hardness HBW		125 - 130

### Physical Properties <sup>1)</sup>

Density	[g/cm <sup>3</sup> ]	2,75
Module of elasticity	[GPa]	71
Electrical conductivity	[M/ $\Omega$ ·mm <sup>2</sup> ]	19 – 23
Coeffic. of thermal expansion	[K <sup>-1</sup> ·10 <sup>-6</sup> ]	23,6
Thermal conductivity	[W/m·K]	135 – 150
Specific heat capacity	[J/kg·K]	875

### Processing Characteristics <sup>2)</sup>

Dimensional stability	2 – 3
Machinability	1
Erodability	1
Weldability (Gas / TIG / MIG / Resistance / EB)	3 / 2 / 1 / 2 / 3
Corrosion resistance (seawater / weather/ stress cracking)	3 / 2 / 4
Use at temperatures (max °C long/short terms) <sup>3)</sup>	90 / 120
Anodising (technical / decorative / hard-) <sup>4)</sup>	2 / 5 / 1
Polishability	1 – 2
Etching	1
Contact with food (according to EN 602)	no

### Tolerances

Thickness in [mm]	Flatness [mm/m]	Thickness [mm]	Length & width [mm]
≤ 15	≤ 0,50	+/- 0,10	-0/+30 / -0/+20
> 15	≤ 0,25	+/- 0,10	-0/+30 / -0/+20
cuts			DIN 2769:2023-04

### Standard Lieferprogramm

Plate Dimension [mm]	1.520 x 3.020	in thickness of 8 – 80 mm
Plate Thickness [mm]	8; 10; 12; 15; 20; 25; 30	
	35; 40; 50; 60; 70; 80	

Other dimension upon request

Date: 18.10.2023

1) Typical values at room temperature

2) Ratings evaluation rating from 1 (very good) to 6 (inapplicable)

3) Without loss of strength after cooling down..

4) Technical anodising only - no warranty towards optical demands

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### Characteristics:

- ✓ very good machinability
- ✓ high strength
- ✓ narrow tolerances of thickness and flatness
- ✓ good weldability
- ✓ good anodising capability

### Applications:

- ✓ Installation technology
- ✓ Device construction and mechanical engineering
- ✓ Printing industry
- ✓ Automation technology