

UNIDAL®

Alloy's Characteristics	
Alloy	EN AW 7019
Type of Alloy	heat treatable
Temper	T651
Surface	precision milled, roughness R_a 0.4 μm , foiled on both sides

Mechanical Properties ¹⁾		Typical values
Yield strength $R_{p0,2}$	[MPa]	330 - 370
Ultimate tensile strength R_m	[MPa]	390 - 420
Elongation A_{50}	[%]	8 - 13
Hardness HBW	[2,5/62,5]	125 - 130

Physical Properties ¹⁾		Typical values
Density	[g/cm ³]	2.75
Module of elasticity	[GPa]	71
Electrical conductivity	[m/ $\Omega \cdot \text{mm}^2$]	19 - 23
Coefficient of thermal expansion	[K ⁻¹ · 10 ⁻⁶]	23.6
Thermal conductivity	[W/m · K]	135 - 150
Specific heat capacity	[J/kg · K]	875

Processing Characteristics ²⁾	
Dimensional stability	2 - 3
Machinability	1
Erodability	1
Weldability (Gas / TIG / MIG / Resistance / EB)	3 / 2 / 1 / 6 / 3
Corrosion resistance (seawater / weather/ stress cracking)	3 / 2 / 4
Use at temperatures (max °C long/short terms) ³⁾	90 / 120
Anodising (technical / decorative / hard-) ⁴⁾	2 / 5 / 1
Polishability	1 - 2
Etching	1
Contact with food (according to EN 602)	no

Tolerances			
Thickness in [mm]	Flatness [mm] ⁵⁾	Thickness [mm]	Width & Length [mm]
≤ 15	≤ 0.5	+/- 0.1	
> 15	≤ 0.25	+/- 0.1	
cuts			DIN ISO 2768-1m

Standard Stock Sizes		
Plate Dimension [mm]	1,520 × 3,020	in thickness of 8 - 80 mm
	8, 10, 12, 15, 20, 25, 30	
	35, 40, 50, 60, 70, 80	
Other dimension upon request		

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- 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.
- 5) Surface flatness for whole plates is measured with a special, 1 meter long, digital flatness ruler.

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