

DATA SHEETS

Aluminium



Special material:

FORMODAL® 036 compact

High-strength compressed special casting free of microporosity

Application areas:

- Mould and tool making
- Polishing and graining
- Fast rotating components
- Components with alternating mechanical load

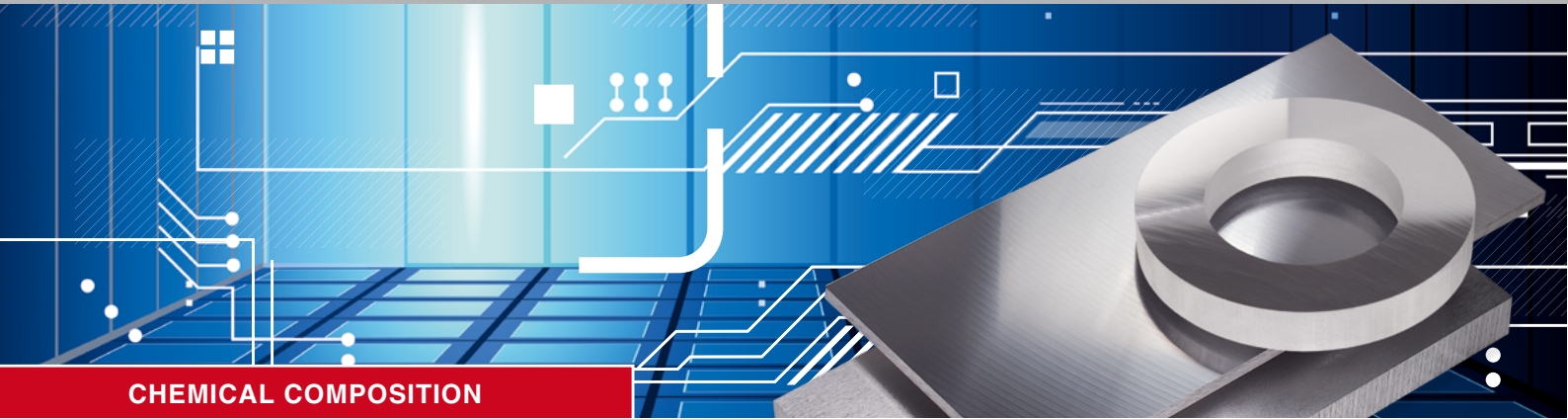


ALUMINIUM

COOPER

BRASS

BRONZE



CHEMICAL COMPOSITION

Aluminium and aluminium alloys

High-strength compressed special casting free of microporosity



Alloy name:

EN AW	7021
EN AW	Al Zn5,5 Mg1,5
Alloy type	hardenable
Material condition	T6
Italy UNI	
Spain	
Sweden	
Norway	
France AFNOR	

Typical physical properties¹:

Density [g/cm³]		2,8
Modulus of elasticity [GPa]		72
Thermal conductivity [W/m*K]		150
Coefficient of thermal expansion [K ⁻¹ *10 ⁻⁶]	-50°C – 20°C	
	20°C – 100°C	23,7
	20°C – 200°C	
	20°C – 300°C	
Specific heat J/(kg * K)		
electrical conductivity [m/Ω*mm²]		19 – 23

¹ Reference values

Chemical composition:

Figures in % Remainder: Aluminium												Other	
Si	Fe	Cu	Mn	Mg	Cr	Ni	Zn	Ti	Zr	V	Comment	Single	Total ²
0,25	0,40	0,25	0,10	1,2 – 1,8	0,05		5,0 - 6,0	0,10	0,08 – 0,18				
^x	Chemical data in %. If no ranges are given, the alloy content represents the maximum value.												
²	Includes all listed elements for which no limits are specified.												

Special features of this material:

- Increased fatigue strength
- Extremely non-porous with very homogeneous microstructure
- Very good machinability
- Very good polishability
- Very good stretching and damping properties
- Suitable for use under varying loads

Areas of use:

- Mould and tool making
- Polishing and graining
- Fast rotating components
- Components with alternating mechanical load

Available shapes:

Sheets · Plates · Blanks · Circular blanks · Rings · Drawing parts

Other dimensions on request.

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Heat treatment:

Solution annealed and artificially aged

Other data:

Machining / Machinability

Dimensional stability / residual stress	1 – 2
Machinability	1
Eroding	

Surface treatment

Polishability	1
Suitability for structural etching	2
Anodise	
technical	3
decorative	5
Hard anodising	2

Welding

Gas		
WIG	3	Welding filler AA5183
MIG		
Resistance welding	1	

Go to shop

Legend:

- 1 very good
- 2 good
- 3 moderate
- 4 bad
- 5 unsuitable
- EQ Anodising quality must be ordered and confirmed separately

Soldering

Brazing with flux	
Brazing without flux	
Friction soldering	
Soft soldering with flux	

Corrosion resistance

in normal atmosphere/weather	2
Seawater atmosphere	4
Stress corrosion cracking	3

Forming

Cold forming		Delivery condition
Bending		
Press		
Deep drawing (conditional)		
Upsetting (conditional)		
Impact extrusion		
Hot forming		
Drop forging		
Extrusion		
Open-die forging		
Temperature insert		
max. °C at duration		110
Short-term assignment		140

Food industry suitable according to DIN EN 602	no
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The information in our data sheets is without guarantee and is only intended as a reference. Any liability in this respect is excluded. We reserve the right to make changes to the standards and informative values. The agreements in our order confirmation are always authoritative. With regard to anodisability, we would like to point out that no liability is assumed for the anodising result and the colour formation in the decorative area. The same applies to corrosion resistance. Special agreements must be made in writing.



FORMODAL® 036 compact



Aluminium and aluminium alloys

High-strength compressed special casting free of microporosity

Typical mechanical properties ¹:

Delivery condition	Nominal thickness mm		Tensile strength R_m MPa	Yield strength $R_{p0.2}$ MPa	Elongation at break A50 typ.	Hardness ⁹ HB typ.
T6	about	to	typ.	typ.	4 - 6	130
	10	500	370 - 390	340 - 350		
⁹	For information only					

Aluminium - We supply sheets and plates of the alloy FORMODAL® 036 compact in the following dimensional ranges:

Thickness mm	Length x width mm
10 – 500	1.395 x 1.030

Tolerances:

thickness tolerance mm	Flatness mm	Thickness mm	Length & width mm
10 – 500	–	-0/ +3	-0/ +3

Other tolerances on request.

Available shapes:

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