Constellium

2030

AlCu4PbMg

HIGH LEAD STOP EXPIRING IN 2025

Highly machinable alloy from Děčín

Overview & application

- High mechanical properties and fatigue strength, good ductility
- Very good machinability (very good chip breaking)
- Not suitable for welding and low corrosion resistance, due to high copper content
- Protective anodizing is possible, but not for decorative purposes

- Applied typically in variable high strength machined parts
- This alloy will stop its production & use after 2025 based on EU regulation (CLP, RoHS)

Product range	Round (mm)	Hexagonal (mm)	Shaped (mm²)	Profiles (mm²)
Drawn	6-80	13-80	200-6400	-
Extruded	20-125	15-85	200-14400	500-9900

Chemical composition (Weight %)	Si	Fe	Cu	Mn	Mg	Cr	Zn	Pb
Min.	-	-	3,3	0,20	0,50	-	-	0,8
Max.	0,8	0,7	4,5	1,0	1,3	0,10	0,5	1,3
Remarks	Ti, Bi max. 0,20			Others: each: 0,10 / total: 0,30				

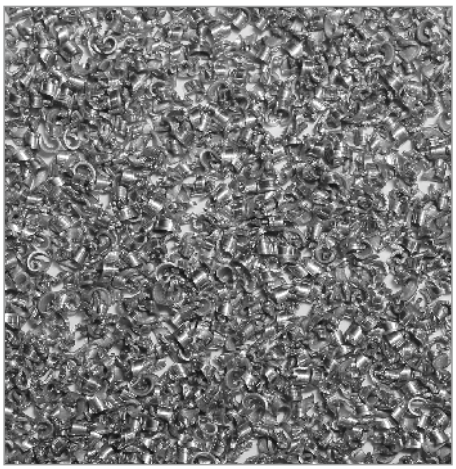
Typical tempers	
	T4 (T4510, T4511), T3 (T351)

Mechanical properties

Product (Temper)	Dimension (mm)	Minimal values (EN) Rm (MPa)	Rp 0.2 (MPa)	A (%)	Typical HBW (2.5/62.5)
Extruded bars (T4, T4510, T4511)	D≤80	370	250	8	115
	80<D≤125	340	220	8	115
Cold drawn bars (T3)	D≤30	370	240	7	115
	30<D≤80	340	220	6	115
Cold drawn bars (T351)	D≤80	370	240	5	115

Processing properties

Machinability	5
Machining index (chips #/100g)	5000
MIG-TIG weldability	1
Resistance fusion weldability	1
Soft soldering & brazing	1



Protective anodising	2
Hard anodising	3

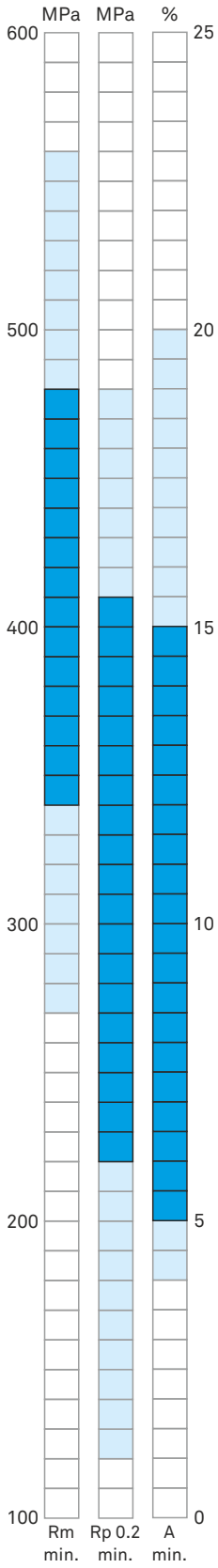
Corrosion

Corrosion resistance @ sea water	2
Corrosion resistance @ atmosphere	2
Corrosion depth ISO 11846B (µm)	100 (T4)

Physical properties

Density	2,81	g/cm³
Young's modulus of elasticity	72500	MPa
Coeff. of thermal expansion (20-100°C)	23	x10⁻⁶ /°C
Thermal conductivity at 20°C	130-160	W/m*K
Specific heat capacity	875	J/kg*K
Electrical conductivity at 20°C	18-22	MS/m

Legend:
- 5 Excellent
- 4 Good
- 3 Acceptable
- 2 Conditional
- 1 Not recommended



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