

Highly machinable alloy from Děčín

Overview & application

- Very good machinability with short chips (suitable for high-speed automatic turning)
- Excellent surface quality after machining, suitable for hard anodizing
- Very good weldability and also corrosion resistance
- Ideal lead-free alternative to 6012, 6262, 6064A, 2007 and 2030 alloys
- Suitable for automotive, electrical, hydraulic & pneumatic industry
- Alloy future lead compliant with Pb ≤ 0.1% (EU regulation under consideration for later 2020s)



Product range

	Round (mm)	Hexagonal (mm)	Shaped (mm ²)	Profiles (mm ²)
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	Bi
Min.	0,40	-	0,15	-	0,8	0,04	-	0,40
Max.	0,8	0,7	0,40	0,15	1,2	0,14	0,25	0,9
Remarks	Ti max. 0,10 / Sn 0,40-1,0			Others: each: 0,05 / total: 0,15				

Typical tempers

T6, T8, T9

Mechanical properties

Product (Temper)	Dimension (mm)	Minimal values (EN)			Typical
		Rm (MPa)	Rp 0.2 (MPa)	A (%)	HBW (2.5/62.5)
Extruded bars (T6)	D≤125	260	240	10	95
Cold drawn bars (T8)	D≤80	345	315	4	100
Cold drawn bars (T9)	D≤80	360	330	4	100

Processing properties

Machinability	★★★★
Machining index (chips #/100g)	4000
MIG-TIG weldability	★★★★
Resistance fusion weldability	★★★★
Soft soldering & brazing	★★★

Protective anodising

Protective anodising	★★★★
Hard anodising	★★★★

Corrosion

Corrosion resistance @ sea water	★★★
Corrosion resistance @ atmosphere	★★★★
Corrosion depth ISO 11846B (µm)	400

Physical properties

Density	2,72	g/cm ³
Young's modulus of elasticity	69000	MPa
Coeff. of thermal expansion (20-100°C)	23,4	x10 ⁻⁶ /°C
Thermal conductivity at 20°C	172	W/m*K
Specific heat capacity	895	J/kg*K
Electrical conductivity at 20°C	26	MS/m

Legend:

- ★★★★★ Excellent
- ★★★★ Good
- ★★★ Acceptable
- ★★ Conditional
- ★ Not recommended

