



Highly machinable alloy from Děčín

Overview & application

- High mechanical properties
- Very good machinability with short chips (suitable for high-speed automatic turning)
- Excellent surface quality after machining, also good weldability
- Good corrosion resistance and anodizing quality
- Suitable for automotive, electrical, hydraulic & pneumatic industry
- This alloy will stop its production & use after 2025 based on existing EU regulation (CLP, RoHS)



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.	0,6	-	0,20	0,20	0,60	-	-	0,50
Max.	1,4	0,7	0,50	1,0	1,2	0,30	0,30	1,5
Remarks	Ti max. 0,20 / Pb max. 0,40			Others: each: 0,05 / total: 0,15				

Typical tempers

T6 (T6510, T6511), 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, T6510, T6511)	20<D≤125	370	300	8	95
Cold drawn bars (T8)	D≤80	345	315	4	95
Cold drawn bars (T9)	D≤80	360	330	4	95

Processing properties

Machinability	★★★★
Machining index (chips #/100g)	3500
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)	250



Physical properties

Density	2,74	g/cm ³
Young's modulus of elasticity	69600	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	891	J/kg*K
Electrical conductivity at 20°C	26	MS/m

Legend:

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

