

Highly machinable alloy from Děčín

General overview & application

- Medium mechanical properties
- Very good machinability with short chips, excellent surface quality after machining
- Good weldability and also corrosion resistance
- Very good anodising response

- Applied in automotive and electrical industry (brake pistons, hydraulic parts etc.)
- Applied typically in variable high strength machined parts
- 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	Sn
Min.	0,40	-	0,30	-	0,6	-	-	0,9
Max.	0,9	0,50	0,9	0,35	1,2	0,15	0,20	1,5
Remarks	Ti max. 0,15			Others: each: 0,05 / total: 0,15				

Typical tempers

T6, T8

Mechanical properties

Product (Temper)	Dimension (mm)	Minimal values			Typical
		Rm (MPa)	Rp 0.2 (MPa)	A (%)	HBW (2.5/62.5)
Extruded bars (T6)	80<D≤125	260	240	10	95
	D≤10	295	275	12	100
Cold drawn bars (T8)	10<D≤50	290	270	12	100
	50<D≤80	270	245	12	100

Processing properties

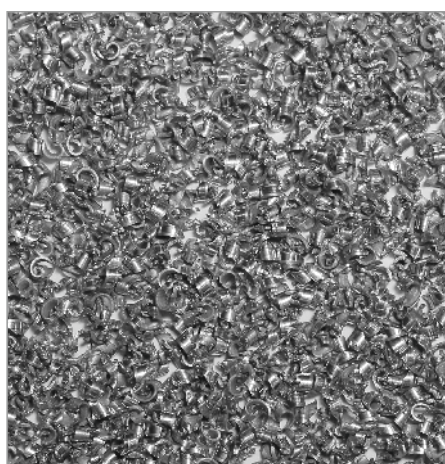
Machinability	★★★★★
Machining index (chips #/100g)	6000
MIG-TIG weldability	★★★★
Resistance fusion weldability	★★★
Soft soldering & brazing	★★

Protective anodising

Protective anodising	★★★★
Hard anodising	★★★

Corrosion

Corrosion resistance @ sea water	★★★
Corrosion resistance @ atmosphere	★★★★
Corrosion depth ISO 11846B (µm)	300



Physical properties

Density	2,73	g/cm ³
Young's modulus of elasticity	68000	MPa
Shear modulus	25500	MPa
Coeff. of thermal expansion (20-100°C)	23,4	x10 ⁻⁶ /°C
Thermal conductivity at 20°C	170-220	W/m*K
Specific heat capacity	885	J/kg*K
Electrical conductivity at 20°C	24-32	MS/m

Legend:

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

