

### Highly machinable alloy from Děčín

#### Overview & application

- High mechanical properties, excellent surface quality after machining
- No contents of lead and tin (ELV, RoHS & REACH compatible)
- Excellent machinability with very short chips (tailored for high-speed turning)
- Better anodizing compared to 2007 or 2030 alloys

- Applied in automotive, general or electrical industry (high precision machining)
- 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 <sup>2</sup> )	Profiles (mm <sup>2</sup> )
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.	0,10	-	2,2	0,40	0,20	-	-	0,05
Max.	1,2	0,7	2,7	1,0	0,6	0,15	0,50	0,8
Remarks	Ni max. 0,15 / Ti max. 0,10			Others: each: 0,05 / total: 0,15				

#### Typical tempers

T3 (T351), T8, T6

#### Mechanical properties

Product (Temper)	Dimension (mm)	Minimal values			Typical
		Rm (MPa)	Rp 0.2 (MPa)	A (%)	HBW (2.5/62.5)
Extruded round bars, rectangular and hexagonal bars (T6)	D ≤ 80	370	250	8	100
	80 < D ≤ 125	340	220	8	100
Cold drawn round bars, rectangular and hexagonal bars (T3)	D ≤ 30	370	240	7	100
	30 < D ≤ 80	340	220	7	100
Cold drawn bars (T351)	D ≤ 80	370	240	5	100
Cold drawn bars (T8)	D ≤ 80	370	270	8	100

#### Processing properties

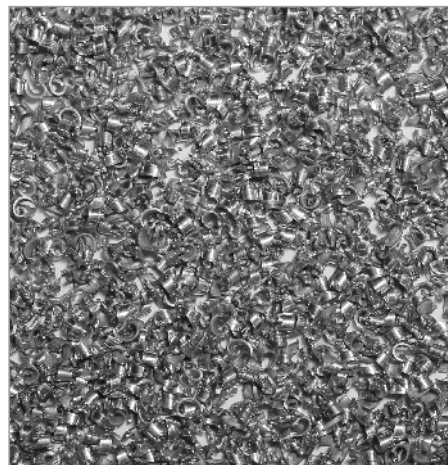
Machinability	★★★★★
Machining index (chips #/100g)	5000
MIG-TIG weldability	★
Resistance fusion weldability	★★★★
Soft soldering & brazing	★

#### Protective anodising

Hard anodising	★★★
----------------	-----

#### Corrosion

Corrosion resistance @ sea water	★
Corrosion resistance @ atmosphere	★★★
Corrosion depth ISO 11846B (µm)	50-300



#### Physical properties

Density	2,77	g/cm <sup>3</sup>
Young's modulus of elasticity	70000	MPa
Coeff. of thermal expansion (20-100°C)	22,9	x10 <sup>-6</sup> /°C
Thermal conductivity at 20°C	151-173	W/m*K
Specific heat capacity	882	J/kg*K
Electrical conductivity at 20°C	21,7	MS/m

#### Legend:

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

