**Highly machinable alloy from Děčín**

**Overview & application**
- Material of choice for highest tensile strength, good ductility and resistance to fatigue
- Very good stress corrosion resistance with overaged heat treatment
- Suitable for hard and protective anodising
- Good machinability, but not suitable for welding
- Applied in high-stressed structural parts and tools (industry, aircraft, defense etc.)
- Fully RoHS compliant with Pb ≤ 0,1% (EU regulation 2018/740/EU, as of May 2021)

### Product range

<table>
<thead>
<tr>
<th>Product (Temper)</th>
<th>Dimension (mm)</th>
<th>Rm (MPa)</th>
<th>Rp 0.2 (MPa)</th>
<th>A (%)</th>
<th>HBW (2.5/62.5)</th>
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</thead>
<tbody>
<tr>
<td>Extruded bars (T6, T6510, T6511)</td>
<td>25≤D≤125</td>
<td>560</td>
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<td>150</td>
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<tr>
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<td>25≤D≤75</td>
<td>475</td>
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<tr>
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<td>Cold drawn bars (T7351)</td>
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<td>455</td>
<td>385</td>
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### Typical tempers
- T6 (T651, T6510, T6511), T7 (T7351, T73510, T73511)

### Mechanical properties

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### Physical properties

- Density: 2,81 g/cm³
- Young's modulus of elasticity: 72000 MPa
- Coefficient of thermal expansion (20-100°C): 23,4 x10⁻⁶/°C
- Thermal conductivity at 20°C: 130-160 W/m*K
- Specific heat capacity: 862 J/kg*K
- Electrical conductivity at 20°C: 19-23 MS/m

**Legend:**
- Excellent
- Good
- Acceptable
- Conditional
- Not recommended

**Chemical composition (Weight %)**

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<tr>
<th>Element</th>
<th>Si</th>
<th>Fe</th>
<th>Cu</th>
<th>Mn</th>
<th>Mg</th>
<th>Cr</th>
<th>Zn</th>
<th>Ti</th>
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<td>Min.</td>
<td>0.40</td>
<td>0.50</td>
<td>2.0</td>
<td>0.30</td>
<td>2.9</td>
<td>0.28</td>
<td>6.1</td>
<td>0.20</td>
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<tr>
<td>Max.</td>
<td>6.1</td>
<td>2.0</td>
<td>0.50</td>
<td>2.1</td>
<td>0.20</td>
<td>1.2</td>
<td>0.30</td>
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**Remarks:**
- (Zr+Ti max. 0.25 if agreed)
- Others: each: 0.05 / total: 0.15

**Processing properties**
- Machinability
- Machining index (chips#/100g): 4500
- MIG-TIG weldability
- Resistance fusion weldability
- Soft solder brazeability

**Protective anodising**
- Hard anodising

**Corrosion**
- Corrosion resistance @ sea water
- Corrosion resistance @ atmosphere
- Corrosion depth ISO 11846B (µm): 150-450

**Legend:**
- White: Not recommended
- Green: Excellent
- Yellow: Good
- Blue: Acceptable
- Red: Conditional