Material data sheet

AA-2015 unleaded free-cutting quality

Compliance with the requirements of the EU directives RoHS 2011/65/EU and ELV 2000/53/EC

1) Chemical composition [% by mass, remainder Al]

<table>
<thead>
<tr>
<th>%</th>
<th>Si</th>
<th>Fe</th>
<th>Cu</th>
<th>Mn</th>
<th>Mg</th>
<th>Cr</th>
<th>Ni</th>
<th>Zn</th>
<th>Ti</th>
<th>Bi</th>
<th>Sn</th>
<th>Each</th>
</tr>
</thead>
<tbody>
<tr>
<td>min.</td>
<td>-</td>
<td>-</td>
<td>3.9</td>
<td>0.40</td>
<td>0.6</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>0.7</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>max.</td>
<td>0.8</td>
<td>0.4</td>
<td>4.5</td>
<td>0.8</td>
<td>1.1</td>
<td>0.15</td>
<td>-</td>
<td>0.5</td>
<td>0.20</td>
<td>0.40</td>
<td>1.3</td>
<td>0.15</td>
</tr>
</tbody>
</table>

2) Mechanical properties

<table>
<thead>
<tr>
<th>Temper</th>
<th>Dimensions in mm</th>
<th>Rm MPa</th>
<th>Rp0.2 MPa</th>
<th>A% min.</th>
<th>A5mm%</th>
<th>HBW</th>
</tr>
</thead>
<tbody>
<tr>
<td>D°</td>
<td>S°</td>
<td>min.</td>
<td>max.</td>
<td>min.</td>
<td>max.</td>
<td>min.</td>
</tr>
<tr>
<td>T3</td>
<td>6 ≥ 80</td>
<td>15 ≥ 80</td>
<td>370</td>
<td>-</td>
<td>250</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>80 ≥ 160</td>
<td>80 ≥ 120</td>
<td>340</td>
<td>-</td>
<td>220</td>
<td>-</td>
</tr>
<tr>
<td>T4</td>
<td>20 ≥ 80</td>
<td>15 ≥ 80</td>
<td>370</td>
<td>-</td>
<td>250</td>
<td>-</td>
</tr>
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<td>-</td>
<td>220</td>
<td>-</td>
</tr>
</tbody>
</table>

D° = Diameter for round rod / S° = Width across flat for square and hexagonal rod, Thickness for rectangular rod / c Properties may be obtained by press quenching

Classification: 1 = very good / 6 = insufficient

Physical properties

- Density g/cm³
- Modulus of elasticity MPa
- Thermal conductivity W/(m K)
- Coefficient of thermal expansion (20-100 °) 10^-6/K
- Electrical conductivity MS/m

General properties

- Corrosion resistance to atmospheric influences seawater
- Brazability:
  - Brazing with flux
  - Brazing without flux
  - Friction soldering
  - Soft soldering with flux
- Surface treatment
  - Protection anodizing
  - Painting/Coating

Weldability

- Gas ns
- TIG ns
- MIG ns

Machining properties

- Precipitation hardened
- Cutting speed v=m/min
- Chip shape
- Scales

Errors and changes excepted/This document is not subject to revision.