CP Grade 1
Technical Datasheet

Typical Applications
Components/equipment for architecture, medical engineering, automotive, chemical plant, pharmaceutical, brewing, food, oil & gas, pulp & paper and marine industries.

Product Description
CP (Commercially Pure) Grade 1 is unalloyed titanium providing optimum ductility and cold formability combined with useful mechanical strength (typical yield strength 221 MPa). Grade 1 titanium has a density of 4.51 g/cc - less than 60% that of steel.

Corrosion Resistance
This material offers high corrosion resistance in oxidising, neutral and mildly reducing media, including chlorides.

Material Specifications
- UNS R50250
- ASTM B348 Grade 1
- BS TA1
- AMS 4940
- A1R 9182 T-35
- ASTM 265 Grade 1

Fabrication
- Weldability - excellent
- Specified bend radius for <0.070 in. x thickness – 1.5
- Specified bend radius for >0.070 in. x thickness – 2.0
- Welded bend radius x thickness – 2.0 (min.)

Availability
Bar, wire, strip, sheet, plate, foil, extrusions, forgings, seamless pipe/tube.

Chemical Composition (weight %)

<table>
<thead>
<tr>
<th>Weight (%)</th>
<th>C</th>
<th>Fe</th>
<th>N</th>
<th>O</th>
<th>H (sheet)</th>
<th>H (bar)</th>
<th>Ti</th>
</tr>
</thead>
<tbody>
<tr>
<td>Min</td>
<td>0.1</td>
<td>0.2</td>
<td>0.03</td>
<td>0.18</td>
<td>0.015</td>
<td>0.0125</td>
<td>Balance</td>
</tr>
<tr>
<td>Max</td>
<td>0.1</td>
<td>0.2</td>
<td>0.03</td>
<td>0.18</td>
<td>0.015</td>
<td>0.0125</td>
<td>Balance</td>
</tr>
</tbody>
</table>

Mechanical Properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Minimum</th>
<th>Typical</th>
</tr>
</thead>
<tbody>
<tr>
<td>UTS, MPa</td>
<td>240</td>
<td>345</td>
</tr>
<tr>
<td>0.2% PS, MPa</td>
<td>138</td>
<td>221</td>
</tr>
<tr>
<td>Elongation on 2 in., %</td>
<td>24</td>
<td>37</td>
</tr>
<tr>
<td>Reduction of area, %</td>
<td>30</td>
<td>-</td>
</tr>
<tr>
<td>Elastic modulus, GPa</td>
<td>-</td>
<td>103</td>
</tr>
<tr>
<td>Hardness, HV</td>
<td>-</td>
<td>120</td>
</tr>
</tbody>
</table>

Technical Assistance
Our knowledgeable staff backed up by our resident team of qualified metallurgists and engineers, will be pleased to assist further on any technical topic.

www.smithmetal.com
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