**Typical Applications**

- Missile casings
- Tooling
- Ordnance breach blocks
- High performance autosport components
- Bearings
- Transmission shafts

**Product Description**

Type C300 cobalt containing grade of maraging steel, produced by vacuum arc re-melting, provides very high strength (nominally 300 ksi tensile) with an above average level of toughness. The alloy retains its strength up to 450°C and good notch impact is maintained down to minus 50°C and below. This material may be nitrided. C300 is usually supplied in the annealed condition where the microstructure consists of fine martensite. This structure is then maraged (precipitation hardened) to achieve final properties employing a relatively low temperature that results in the required combination of high strength and toughness. The alloy has a density of 8.02 g/cc.

**Chemical Composition (weight %)**

<table>
<thead>
<tr>
<th>C</th>
<th>Si</th>
<th>Mn</th>
<th>Ni</th>
<th>Co</th>
<th>Mo</th>
<th>Al</th>
<th>Ti</th>
<th>Fe</th>
</tr>
</thead>
<tbody>
<tr>
<td>Min</td>
<td>18.00</td>
<td>8.50</td>
<td>4.60</td>
<td>0.05</td>
<td>0.50</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Max</td>
<td>0.3</td>
<td>0.10</td>
<td>0.10</td>
<td>19.00</td>
<td>9.50</td>
<td>5.20</td>
<td>0.15</td>
<td>0.80</td>
</tr>
</tbody>
</table>

**Mechanical Properties (annealed and maraged condition)**

<table>
<thead>
<tr>
<th>Property</th>
<th>Annealed</th>
<th>Maraged</th>
</tr>
</thead>
<tbody>
<tr>
<td>UTS, MPa</td>
<td>2,035</td>
<td>2,000</td>
</tr>
<tr>
<td>0.2% PS, MPa</td>
<td>2,000</td>
<td></td>
</tr>
<tr>
<td>Elongation on 4D, %</td>
<td>12</td>
<td></td>
</tr>
<tr>
<td>Charpy notch impact, J</td>
<td>17</td>
<td></td>
</tr>
<tr>
<td>Young’s modulus, GPa</td>
<td>195</td>
<td></td>
</tr>
</tbody>
</table>

Hardness (HRC) in the annealed condition is 36 max. and for the maraged condition 52 min.

**Corrosion Resistance**

The corrosion resistance of C300 maraging steel is similar to that of standard martensitic stainless steels.

**Related Specifications**

- UNS K93120
- AMS 6514
- Wr. N 1.6358

**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.

**Contact Information**

- Biggleswade: 01767 604604
- Birmingham: 0121 7284940
- Bristol: 0117 9712800
- Chelmsford: 01245 466664
- Gateshead: 0191 4695428
- Horsham: 01403 261981
- Leeds: 0113 3075167
- London: 020 72412430
- Manchester: 0161 7948650
- Nottingham: 0115 9254801
- Norwich: 01603 789878
- Redruth: 01209 315512
- Verwood: 01202 824347
- General: 0845 5273331

All information in our data sheet is based on approximate testing and is stated to the best of our knowledge and belief. It is presented apart from contractual obligations and does not constitute any guarantee of properties or of processing or application possibilities in individual cases. Our warranties and liabilities are stated exclusively in our terms of trading. © Smiths Metal Centres 2018