303 STAINLESS

READILY MACHINABLE STAINLESS STEEL

PRODUCT DESCRIPTION

Benefitting from being the most machinable of all austenitic stainless steels available today, Type 303 stainless steel's machinability is improved due to the presence of sulphur in the alloying process. However, the presence of sulphur slightly reduces the alloy's overall toughness and results in a decrease in corrosion resistance. Used in a variety of engineering applications, Type 303, as with most austenitic grades, has excellent toughness though weldability is poor.

KEY FEATURES

- Very good machinability but reduced formability
- Welding not recommended
- Lower corrosion resistance than 1.4301
- Excellent toughness

APPLICATIONS

- Electrical switchgear components
- Aircraft components
- Gears, bushes, shafts, fastenings

CHEMICAL COMPOSITION (weight %)

<table>
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<th></th>
<th>C</th>
<th>Mn</th>
<th>Si</th>
<th>P</th>
<th>S</th>
<th>Cr</th>
<th>Ni</th>
<th>Fe</th>
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<tbody>
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<td>2.00</td>
<td>1.00</td>
<td>0.40</td>
<td>0.15</td>
<td>17.00</td>
<td>8.00</td>
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<td>0.15</td>
<td>19.00</td>
<td>10.00</td>
<td>Bal</td>
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</tbody>
</table>

MECHANICAL PROPERTIES

- Tensile strength: 500 - 700 MPa
- Proof Stress: 190 min MPa
- Elongation A5: 35%

PHYSICAL PROPERTIES

- Density: 8.03 kg/m³
- Melting Point: 1455 °C
- Modulus of Elasticity: 193 GPa
- Electrical Resistivity: 0.072 x10⁻⁶ Ω.m
- Thermal Conductivity: 16.3 W/m.K
- Thermal Expansion: 17.3 x10⁻⁶ /K

AVAILABLE

Round bar, wire and hexagon

CORROSION RESISTANCE

Good in mild environments

WELDABILITY

Poor weldability

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.

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