STAINLESS STEEL 304 / 304L

SPECIFICATION

304 & 304L are Austenitic Stainless Steels, also known as 1.4301 & 1.4307 respectively. This alloy contains 18% Chromium, 8% Nickel, the low yield strength and high elongation ensures the forming and weldability properties of 304 is excellent. 304L is an extra low (0.03%*) Carbon version of 304 which is extensively used in heavy gauge components. Some products like Plate and Pipe are available as dual certified material.

CHEMICAL COMPOSITION

<table>
<thead>
<tr>
<th></th>
<th>Min</th>
<th>Max</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chromium</td>
<td>17.50</td>
<td>19.50</td>
</tr>
<tr>
<td>Carbon</td>
<td>0.07*</td>
<td>0.03</td>
</tr>
<tr>
<td>Manganese</td>
<td>-</td>
<td>2.00</td>
</tr>
<tr>
<td>Silicon</td>
<td>-</td>
<td>1.00</td>
</tr>
<tr>
<td>Phosphorus</td>
<td>-</td>
<td>0.05</td>
</tr>
<tr>
<td>Nickel</td>
<td>8.00</td>
<td>10.50</td>
</tr>
<tr>
<td>Sulphur</td>
<td>-</td>
<td>0.03</td>
</tr>
<tr>
<td>Iron</td>
<td>-</td>
<td>balance (bal)</td>
</tr>
</tbody>
</table>

MECHANICAL PROPERTIES

<table>
<thead>
<tr>
<th></th>
<th>UTS Ksi (MPA)</th>
<th>0.2% YS Ksi (MPA)</th>
<th>Elongation</th>
<th>Hardness rockwell</th>
<th>Hardness brinell</th>
</tr>
</thead>
<tbody>
<tr>
<td>304</td>
<td>17.50</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>304L</td>
<td>19.50</td>
<td>0.07*</td>
<td>2.00</td>
<td>1.00</td>
<td>0.05</td>
</tr>
</tbody>
</table>

PHYSICAL PROPERTIES

- Density: 8.00kg / m³
- Melting point: 1450°C
- Modules of elasticity: 193 GPa
- Thermal conductivity: 0.072 x 10^{-6}Ω.m
- Thermal expansion: 16.2 W / m.K
- Electrical resistivity: 17.2 x 10^{-6} / K

TYPICAL APPLICATIONS

- Kitchen ware
- Sanitary ware
- Food / dairy / brewery
- Sinks & splash backs
- Nuts, bolts, screws, springs
- Pharmaceutical & chemical processing equipment
KEY FEATURES

5 = EXCELLENT, 4 = GOOD, 3 = REASONABLE, 2 = POOR, 1 = N/A

Machinability = 4
Formability = 5
Weldability = 5 (heavy welded sections may require post-weld annealing)
Heat resistance = 4
Corrosion resistance = 5 (stress corrosion can occur above 60°C)

AVAILABLE FORMS

Round Bar, Plate, Sheet, Pipe, Tube, Fittings & Flanges

HEAT TREATMENT

Can not be hardened by heat treatment

VALUE ADDED SERVICES OFFERED

**FLAT BED LASER**
- Stainless & Mild Steel > 25mm
- Aluminium > 15mm
- Bed size 4050mm x 2000mm
- Laser power 6kw

**TUBE LASER**
- Stainless, Mild Steel & Aluminium
- 3D processing / laser power 3.5kw
- Circular tube > 220mm / Square & Rectangular Tube > 200 x 200mm also available: Channels & Beams

**WATER JET**
- All materials available > 200mm
- Bed size 4000mm x 2200mm
- Zero heat affected zones from process

**PROFILING**
- Carbon Steel, Reversing Mill Plate & Strip Mill
- High Definition Plasma > 40mm & Oxy-Fuel > 250mm
- Bed size 14000mm x 4000mm
- CNC Plate drilling facility to profiles / hole diameter > 70mm

DISCLAIMER

This data is indicative only and as such is not to be relied upon in place of the full specification. In particular, mechanical property requirements vary widely with temper, product and product dimensions. All information is based on our present knowledge and is given in good faith. No liability will be accepted by the company in respect of any action taken by any third party in reliance thereon. The information provided in this datasheet has been drawn from various recognised sources, including EN Standards, recognised industry references (printed & online) and manufacturers’ data. No guarantee is given that the information is from the latest issue of those sources or about the accuracy of those sources. Material supplied by the company may vary significantly from this data, but will conform to all relevant and applicable standards. The products detailed may be used for a wide variety of purposes and as the company has no control over their use; the company specifically excludes all conditions or warranties expressed or implied by statute or otherwise as to dimensions, properties and / or fitness for any particular purpose, whether expressed or implied. Advice given by the company to any third party is given for that party’s assistance only and without liability on the part of the company. All transactions are subject to the company’s current conditions of sale. The extent of the company’s liabilities to any customer is clearly set out in those conditions; a copy of which is available on request.