Super Duplex Stainless Steel 32750

STANDARDS: UNS S32750 : Euronorm X2CrNiMoN2574 : Werkstoff 1.4410 : F55 : Alloy 2507

PRODUCT FORMS / ASTM REFERENCES

Sheet / Plate
Round bar
Forgings

ASTM A240 / A240M
ASTM A276 / ASTM A479
ASTM A182

DESCRIPTION

UNS S32750 Super Duplex is an Austenitic-ferritic Stainless Steel designed for applications requiring excellent corrosion resistance and high strength. High Chromium content with the addition of Molybdenum and Nitrogen provides 32750 with outstanding resistance to pitting, crevice and general corrosion.

TYPICAL APPLICATIONS

• Chemical processing
• Offshore / Oil & Gas
• Heat exchangers
• Desalination
• Pumps
• Heat exchangers

CHEMICAL COMPOSITION

<table>
<thead>
<tr>
<th></th>
<th>Phosphorus</th>
<th>Manganese</th>
<th>Molybdenum</th>
<th>Chromium</th>
<th>Carbon</th>
<th>Sulphur</th>
<th>Nitrogen</th>
<th>Silicon</th>
<th>Nickel</th>
<th>Iron</th>
</tr>
</thead>
<tbody>
<tr>
<td>32750</td>
<td>0.035 (max)</td>
<td>1.20 (max)</td>
<td>3.0 - 5.0</td>
<td>24.0 - 26.0</td>
<td>0.03 (max)</td>
<td>0.02 (max)</td>
<td>0.32 (max)</td>
<td>0.8 (max)</td>
<td>6.0 - 8.0</td>
<td>Bal</td>
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MECHANICAL PROPERTIES*

<table>
<thead>
<tr>
<th>PROPERTY</th>
<th>32750</th>
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<tbody>
<tr>
<td>Proof stress 0.2</td>
<td>500 N / mm² min</td>
</tr>
<tr>
<td>Tensile strength</td>
<td>795 N / mm² min</td>
</tr>
<tr>
<td>Elongation % in mm</td>
<td>&gt; 15%</td>
</tr>
<tr>
<td>Brinell hardness HB</td>
<td>&lt; 310</td>
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*Typical room temperature properties A240 product
STRESS CORROSION CRACKING
The duplex structure of 2507 provides excellent resistance to chloride stress corrosion cracking (SCC). Because of its higher alloy content, 2507 is superior to 2205 in corrosion resistance and strength. 2507 is especially useful in offshore oil and gas applications and in wells with either naturally high brine levels or where brine has been injected to enhance recovery.

PITTING CORROSION
Different testing methods can be used to establish the pitting resistance of steels in chloride-containing solutions. The data above were measured by an electrochemical technique based on ASTM G 61. The critical pitting temperatures (CPT) of several high-performance steels in a 1M sodium chloride solution were determined. The results illustrate the excellent resistance of 2507 to pitting corrosion. The normal data spread for each grade is indicated by the dark gray portion of the bar.

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.