DEF STAN 02-779 (NES779)

Technical Datasheet

Cupronickel - Copper Nickel Alloy

Typical Applications

- Architectural panelling & fascias
- Marine hardware
- Heat exchangers
- Cooling plants
- Valves & pumps
- Crankshafts
- Flanges
- Hot water tanks

Product Description

DEF STAN 02-779 (NES779) is a cupronickel alloy (copper nickel) which contains 90% copper and 10% nickel. The chemical structure of the alloy is further enhanced by the introduction of iron and manganese to improve overall strength and corrosion resistance. Corrosion resistance of the alloy is outstanding and DEF STAN 02-779 (NES779) is traditionally used in marine environments due to the low rates of corrosion in seawater. The alloy also offers excellent resistance from crevice and stress corrosion. With excellent durability, it is easy joined, formed and fabricated.

Chemical Composition (weight %)

<table>
<thead>
<tr>
<th></th>
<th>Cu</th>
<th>Ni</th>
<th>Fe</th>
<th>Mn</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rem</td>
<td>10.00</td>
<td>1.00</td>
<td>0.50</td>
<td></td>
</tr>
<tr>
<td>Rem</td>
<td>11.00</td>
<td>2.00</td>
<td>1.00</td>
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</table>

Mechanical Properties

<table>
<thead>
<tr>
<th>Tensile Strength</th>
<th>0.2% Proof Strength</th>
<th>Elongation</th>
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<tbody>
<tr>
<td>Rods</td>
<td>300 N/mm²</td>
<td></td>
</tr>
<tr>
<td></td>
<td>105 N/mm²</td>
<td></td>
</tr>
<tr>
<td></td>
<td>30%</td>
<td></td>
</tr>
<tr>
<td>Sheet</td>
<td>310 N/mm²</td>
<td></td>
</tr>
<tr>
<td></td>
<td>-</td>
<td></td>
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<tr>
<td></td>
<td>30%</td>
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</tbody>
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Key features:

- Outstanding corrosion resistance
- Aesthetically pleasing colour
- High ductility
- Easily joined
- Excellent durability
- Oxidation resistant

Related material specifications

- CN102
- C70600
- CW352H
- 90/10 Cupronickel

Corrosion Resistance

Outstanding. Used extensively in marine environments as it resists bio-fouling, low rates of corrosion in seawater and brackish water. DEF STAN 02-779 (NES779) has a high resistance to ammonia stress corrosion cracking and good pitting resistance.

Weldability

Readily weldable.

Availability

Bar, hexagon, sheet and tube.

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.

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