This page is mainly introduced the Ni-Cu-Ti Datasheet, including chemical information, mechanical properties, physical properties, mechanical properties, heat treatment, and Micro structure, etc. It also contains the use of Ni-Cu-Ti, such as it is commonly used in bars, sheet, plates, steel coils, steel pipes, forged and other materials application.

### Datasheet for Steel Grades Carbon Steel Ni-Cu-Ti

#### Ni-Cu-Ti Standard Number:

<table>
<thead>
<tr>
<th>ITEM</th>
<th>Standard Number</th>
<th>Descriptions</th>
</tr>
</thead>
</table>

#### Ni-Cu-Ti Chemical composition (mass fraction) (wt. %)

<table>
<thead>
<tr>
<th>Chemical</th>
<th>Min.(%)</th>
<th>Max.(%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>C</td>
<td>≤0.15</td>
<td>0.7</td>
</tr>
<tr>
<td>Si</td>
<td>≤0.5</td>
<td></td>
</tr>
<tr>
<td>Mn</td>
<td>≤1.0</td>
<td></td>
</tr>
<tr>
<td>P</td>
<td></td>
<td>≤0.05</td>
</tr>
<tr>
<td>S</td>
<td></td>
<td>≤0.05</td>
</tr>
<tr>
<td>Cr</td>
<td></td>
<td>≤0.05</td>
</tr>
<tr>
<td>Ni</td>
<td></td>
<td>≤0.05</td>
</tr>
<tr>
<td>Mo</td>
<td></td>
<td>≤0.05</td>
</tr>
<tr>
<td>V</td>
<td></td>
<td>≤0.05</td>
</tr>
<tr>
<td>Ta</td>
<td></td>
<td>≤0.05</td>
</tr>
<tr>
<td>W</td>
<td></td>
<td>≤0.3</td>
</tr>
<tr>
<td>N</td>
<td></td>
<td>≤0.05</td>
</tr>
<tr>
<td>Cu</td>
<td></td>
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</tr>
<tr>
<td>Co</td>
<td></td>
<td>≤0.05</td>
</tr>
<tr>
<td>Pb</td>
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</tr>
<tr>
<td>B</td>
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<tr>
<td>Nb</td>
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<td>≤0.05</td>
</tr>
<tr>
<td>Al</td>
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<td>≤0.05</td>
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<tr>
<td>Ti</td>
<td></td>
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<tr>
<td>Other</td>
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<td>≤0.05</td>
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#### Ni-Cu-Ti Physical Properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
<th>Description</th>
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</thead>
<tbody>
<tr>
<td>Tensile strength</td>
<td>115-234</td>
<td>MPa</td>
</tr>
<tr>
<td>Yield Strength</td>
<td>23</td>
<td>MPa</td>
</tr>
<tr>
<td>Elongation</td>
<td>65</td>
<td>%</td>
</tr>
</tbody>
</table>

Tel:+86-13880247006 Email:sales@steel-grades.com https://www.steel-grades.com/  Page 1 / 2
Steel Grade Ni-Cu-Ti  Chemical information, Mechanical properties

Physical properties, Mechanical properties, Heat treatment, and Micro structure

<table>
<thead>
<tr>
<th>Chemical properties</th>
<th>Mechanical properties</th>
<th>Heat treatment</th>
<th>Microstructure</th>
</tr>
</thead>
<tbody>
<tr>
<td>ψ</td>
<td>Ψ ≥ (%)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Akv</td>
<td>Akv ≥ J</td>
<td></td>
<td></td>
</tr>
<tr>
<td>HBS</td>
<td>123-321</td>
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<tr>
<td>HRC</td>
<td>30</td>
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### Ni-Cu-Ti Mechanical Properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
<th>Unit</th>
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</thead>
<tbody>
<tr>
<td>Tensile strength</td>
<td>231-231</td>
<td>MPa</td>
</tr>
<tr>
<td>Yield Strength</td>
<td>154</td>
<td>MPa ≥ 0.2</td>
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<tr>
<td>Elongation</td>
<td>56</td>
<td>(%)</td>
</tr>
<tr>
<td>ψ</td>
<td>-</td>
<td>(%)</td>
</tr>
<tr>
<td>Akv</td>
<td>-</td>
<td>J</td>
</tr>
<tr>
<td>HBS</td>
<td>235-268</td>
<td>J</td>
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<tr>
<td>HRC</td>
<td>30</td>
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</table>

### Ni-Cu-Ti Heat Treatment Regime

<table>
<thead>
<tr>
<th>Annealing</th>
<th>Quenching</th>
<th>Tempering</th>
<th>Normalizing</th>
<th>Q &amp; T</th>
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</thead>
<tbody>
<tr>
<td>√</td>
<td></td>
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<td>√</td>
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<tr>
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<td>√</td>
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</tr>
<tr>
<td></td>
<td></td>
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<td></td>
<td>√</td>
</tr>
</tbody>
</table>

### Ni-Cu-Ti Range of products

<table>
<thead>
<tr>
<th>Product type</th>
<th>Products</th>
<th>Dimension</th>
<th>Processes</th>
<th>Deliver Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Plates / Sheets</td>
<td>Plates / Sheets</td>
<td>0.08-200mm(T)<em>W</em>L</td>
<td>Forging, hot rolling and cold rolling</td>
<td>Annealed, Solution and Aging, Q+T, ACID-WASHED, Shot Blasting</td>
</tr>
<tr>
<td>Steel Bar</td>
<td>Round Bar, Flat Bar, Square Bar</td>
<td>Φ8-1200mm*L</td>
<td>Forging, hot rolling and cold rolling, Cast</td>
<td>Black, Rough Turning, Shot Blasting,</td>
</tr>
<tr>
<td>Coil / Strip</td>
<td>Steel Coil /Steel Strip</td>
<td>0.03-16.0x1200mm</td>
<td>Cold-Rolled &amp; Hot-Rolled</td>
<td>Annealed, Solution and Aging, Q+T, ACID-WASHED, Shot Blasting</td>
</tr>
<tr>
<td>Pipes / Tubes</td>
<td>Seamless Pipes/Tubes, Welded Pipes/Tubes</td>
<td>OD:6-219mm x WT:0.5-20.0mm</td>
<td>Hot extrusion, Cold Drawn, Welded</td>
<td>Annealed, Solution and Aging, Q+T, ACID-WASHED</td>
</tr>
</tbody>
</table>

We can produce Carbon Steel the specifications follows: