Alloy 276 is a solid-solution strengthened, nickel-molybdenum-chromium alloy with a small amount of tungsten, which exhibits excellent corrosion resistance in an assortment of harsh environments. Applications include and are not limited to, stack liners, ducts, dampers, scrubbers, stack-gas re-heaters, heat exchangers, reaction vessels and evaporators. Industries where C276 can be utilized are petrochemical and chemical processing, power generation, pharmaceutical, pulp and paper production and waste treatment.

Alloy C276 has excellent resistance to pitting, stresscorrosion cracking and to oxidizing atmospheres. C276 also exhibits excellent resistance to corrosion by seawater especially under crevice conditions, which induce attack in other commonly used materials.

### Chemical Composition

<table>
<thead>
<tr>
<th></th>
<th>C</th>
<th>Mn</th>
<th>S</th>
<th>Si</th>
<th>Cr</th>
<th>Ni</th>
<th>Fe</th>
<th>Mo</th>
<th>Co</th>
<th>V</th>
<th>W</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>MIN/MAX</td>
<td>0.01 max</td>
<td>1.00 max</td>
<td>0.03 max</td>
<td>0.08 max</td>
<td>14.50-16.50 Balance</td>
<td>4.00-7.00</td>
<td>15.00-17.00</td>
<td>2.50 max</td>
<td>0.35 max</td>
<td>0.30-4.50</td>
<td>0.05 max</td>
<td></td>
</tr>
</tbody>
</table>

### Applicable Specifications

<table>
<thead>
<tr>
<th>Bar</th>
<th>Wire</th>
<th>Sheet/Plate</th>
<th>Tube</th>
<th>Pipe</th>
<th>Fitting</th>
<th>Forging</th>
</tr>
</thead>
<tbody>
<tr>
<td>ASTM B574</td>
<td>-</td>
<td>ASTM B575</td>
<td>ASTM B626</td>
<td>ASTM B626</td>
<td>ASTM B366</td>
<td>ASTM B564</td>
</tr>
</tbody>
</table>

### Applications

- Heat exchangers
- Transfer piping
- Pickling tanks
- Fan housings
- Reaction vessels
- Evaporators
- Dampers
- Pickling hooks

### Physical Properties

<table>
<thead>
<tr>
<th>Density</th>
<th>Electrical Resistivity</th>
<th>Coefficient of Thermal Expansion</th>
<th>Thermal Conductivity</th>
<th>Modulus of Elasticity</th>
<th>Specific Heat Capacity</th>
<th>Melting Point</th>
<th>Specific Gravity</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.321 lb/in³</td>
<td>75 ohm • circ mil/ft</td>
<td>6.2 x 10-6 in/in °F</td>
<td>67.9 btu • in/ft2 • h • °F</td>
<td>29806 ksi</td>
<td>0.102 Btu/lb-°F</td>
<td>2415-2500 °F</td>
<td>8.90</td>
</tr>
<tr>
<td>8.89 g/cm³</td>
<td>24 µW • cm</td>
<td>11.2 µm/m °C</td>
<td>9.8 W/m • °C</td>
<td>205.5 kN/mm²</td>
<td>425 J/kg-°K</td>
<td>1325-1370 °C</td>
<td>8.90</td>
</tr>
</tbody>
</table>

### Maximum Pressure Work

\[ P = \text{Maximum work pressure}(\text{psi}) \]
\[ S = \text{Minimum tensile strength of material for a specific temper}(\text{psi}) \]
\[ T = \text{Wall thickness of tube} \]

### Non Destructive Tests

- Eddy Current Testing
- Hydrostatic Testing
- An Underwater Testing
- Ultrasonic Testing
- (PMI) Positive Material Identification

### Destructive Tests

- Microstructure Test
- Tensile Test
- Expansion Test
- Optical Spectrometry Test