Nickel Alloy Wire

Alloy: WWG-3  Conforms to Certification: AWS A5.14
Class: ERNiCrMo-9  ASME SFA A5.14

Alloy: ERNiCrMo-9  (Alloy G-3)
Weld Process: GMAW, GTAW Welding Processes

AWS Chemical Composition Requirements
C = 0.015 max  Cu = 1.5 – 2.5
Mn = 1.0 max  Ni = Remainder
Fe = 18.0 – 21.0  Co = 5.0 max
P = 0.04 max  Cr = 21.0 – 23.5
S = 0.03 max  Nb+Ta = 0.50 max
Si = 1.0 max  Mo = 6.0 – 8.0
W = 1.5 max  Other = 0.50 max

Deposited All Weld Metal Properties % (AW)
Tensile Strength 96,000psi
Elongation 29%

Deposited Chemical Composition % (Typical)
C = 0.01  Cr = 22.0  Ni = Balance
Cu = 2.0  Mo = 7.1  Fe = 20.5
Co = 2.75

Deposited Charpy-V-Notch Impact Properties %
Not applicable

Application
ERNiCrMo-9 is used for welding nickel-chromium-molybdenum base materials to themselves, steel and other nickel base alloys, and for cladding steels.

Recommended Welding Parameters for TIG and MIG Welding of Nickel Alloys

<table>
<thead>
<tr>
<th>Process</th>
<th>Diameter of Wire</th>
<th>Voltage (V)</th>
<th>Amperage (A)</th>
<th>Gas</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tig</td>
<td>.035 inches x 36</td>
<td>12 -15</td>
<td>60 -90</td>
<td>100% Argon</td>
</tr>
<tr>
<td></td>
<td>.045 inches x 36</td>
<td>13 -16</td>
<td>80 - 110</td>
<td>100% Argon</td>
</tr>
<tr>
<td></td>
<td>1/16 inches x 36</td>
<td>14 - 18</td>
<td>90 - 130</td>
<td>100% Argon</td>
</tr>
<tr>
<td></td>
<td>3/32 inches x 36</td>
<td>15 – 20</td>
<td>120 -175</td>
<td>100% Argon</td>
</tr>
<tr>
<td></td>
<td>1/8 inches x 36</td>
<td>15 – 20</td>
<td>150 - 220</td>
<td>100% Argon</td>
</tr>
<tr>
<td>MIG</td>
<td>.035 inches</td>
<td>26 – 29</td>
<td>150 – 190</td>
<td>75% Argon + 25% Helium</td>
</tr>
<tr>
<td></td>
<td>.045 inches</td>
<td>28 – 32</td>
<td>180 – 220</td>
<td>75% Argon + 25% Helium</td>
</tr>
<tr>
<td></td>
<td>1/16 inches</td>
<td>29 – 33</td>
<td>200 - 250</td>
<td>75% Argon + 25% Helium</td>
</tr>
</tbody>
</table>

Note: Other shielding Gases may be used for Mig and Tig welding. Shielding gases are chosen taking Quality, cost, and Operability into consideration.