STAINLESS STEEL ELECTRODE

CLASSIFICATION:

IS : 5206-83 : E 19.9.2NbR26
AWS/A 5.4 : E 347-16

APPROVALS:

NPC, BHEL, DESEIN, TOYO

CHARACTERISTICS:

A rutile type stainless steel electrode designed for welding of AISI 304, 308, 321 and 347 grades and similar composition steels. Columbium plus titanium in the weld metal reduces the possibility of intergranular corrosion. Chemical and mechanical properties are excellent and consistent. Electrodes operate equally well on AC as well as DC(+) in all conventional positions.

APPLICATIONS:

- Welding of AISI 304, 308, 321 and 347 grades.
- Clad steels of similar compositions.
- Cladding of carbon steels and low alloy steels.

RECOMMENDATIONS:

Re-dry the electrodes at 200°C for one hour. Use low current, short arc and stringer bead technique and maintain interpass temperature 150°C max.

CHEMICAL ANALYSIS OF WELD-METAL(%):

<table>
<thead>
<tr>
<th>Element</th>
<th>C</th>
<th>Mn</th>
<th>Si</th>
<th>Cr</th>
<th>Ni</th>
<th>Nb</th>
<th>S</th>
<th>P</th>
<th>Cu</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>0.08</td>
<td>0.5-2.5</td>
<td>1.0</td>
<td>18-21</td>
<td>9-11</td>
<td>0.2-1.0</td>
<td>0.03</td>
<td>0.04</td>
<td>0.75</td>
</tr>
</tbody>
</table>

MECHANICAL PROPERTIES OF ALL WELD-METAL (AS PER AWS/A 5.4):

<table>
<thead>
<tr>
<th>Property</th>
<th>Ultimate Tensile Strength (N/mm²)</th>
<th>Elongation (GL=4d) (%)</th>
<th>CVN Impact Value at 27°C Joules</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>520 min</td>
<td>30 min</td>
<td>70 min</td>
</tr>
</tbody>
</table>

CURRENT CONDITIONS: USE AC OR DC (+)

- Size (mm): 2.5x350, 3.15x350, 4.0x350, 5.0x350
- Amps: 60-80, 80-110, 110-140, 150-180

SPECIAL CHARACTERISTICS:

DELTA FERRITE: 5 to 10 FN
**SS 347-15**

**STAINLESS STEEL ELECTRODE**

**CLASSIFICATION:**
- AWS/A 5.4 : E 347-15

**CHARACTERISTICS:** A rutile type stainless steel electrode designed for welding of AISI 304, 308, 321 and 347 grades and similar composition steels. Columbium plus tantalum in the weld metal reduces the possibility of intergranular corrosion. Chemical and mechanical properties are excellent and consistent. Electrodes operate equally well on DC(+) in all conventional positions.

**APPLICATIONS:**
- Welding of AISI 304, 308, 321 and 347 grades.
- Clad steels of similar compositions.
- Cladding of carbon steels and low alloy steels.
- This electrode should be preferred over the rutile coated version for highly restrained joints.

**RECOMMENDATIONS:** Re-dry the electrodes at 300°C for one hour. Use low current and short arc stringer bead technique. Maintain interpass temperature.

**CHEMICAL ANALYSIS OF WELD-METAL(%)**:

<table>
<thead>
<tr>
<th>Element</th>
<th>C</th>
<th>Mn</th>
<th>Si</th>
<th>Cr</th>
<th>Ni</th>
<th>Cb+Ta</th>
<th>S</th>
<th>P</th>
<th>Cu</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>max</td>
<td>0.08</td>
<td>0.5-2.5</td>
<td>1.0</td>
<td>18-21</td>
<td>0-1.0</td>
<td>0.03</td>
<td>0.04</td>
<td>0.75</td>
</tr>
</tbody>
</table>

**MECHANICAL PROPERTIES OF ALL WELD-METAL (AS PER AWS/A 5.4):**

- Ultimate Tensile Strength (N/mm²) 520 min
- Elongation (GL=4d) 30 min
- CVN Impact Value at 20°C Joules

**CURRENT CONDITIONS: USE DC (+) ONLY**

<table>
<thead>
<tr>
<th>Size (mm)</th>
<th>Amps</th>
<th>2.5x350</th>
<th>3.15x350</th>
<th>4.0x350</th>
<th>5.0x350</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.5x350</td>
<td>60-80</td>
<td>110-140</td>
<td>150-180</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3.15x350</td>
<td>80-110</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**DELTA FERRITE:** 5 to 10 FN

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