Avesta 309L
Rutile stick electrode high-alloyed, stainless

Classifications
EN ISO 3581-A        AWS A5.4
E 23 12 L R          E309L-17

Characteristics and typical fields of application
Avesta 309L is a high-alloy low carbon electrode designed for welding dissimilar joints between stainless and mild or low-alloy steels.
The electrode is well suited as a buffer layer when overlay welding on mild steels, providing an 18 Cr 8 Ni deposit from the first layer.
Avesta 309L can also be used for welding some high temperature steels, such as 1.4833/ASTM 309S.

Corrosion resistance:
Superior to 308L. When used for overlay welding on mild steel a corrosion resistance equivalent to that of 1.4301/ASTM 304 is obtained already in the first layer.

Base materials
High-alloy low carbon electrode for surfacing unalloyed steel, joint welding of non-molybdenum-alloyed stainless steel to unalloyed steel and for welding clad material.

Typical analysis of all-weld metal (wt.-%)

<table>
<thead>
<tr>
<th>wt-%</th>
<th>C</th>
<th>Si</th>
<th>Mn</th>
<th>Cr</th>
<th>Ni</th>
</tr>
</thead>
<tbody>
<tr>
<td>C</td>
<td>0.02</td>
<td>0.8</td>
<td>0.8</td>
<td>23.0</td>
<td>13.3</td>
</tr>
</tbody>
</table>

Mechanical properties of all-weld metal

<table>
<thead>
<tr>
<th>Heat-treatment</th>
<th>Yield strength R_y N/mm²</th>
<th>Tensile strength R_m N/mm²</th>
<th>Elongation (L_0=5d_0)</th>
<th>Impact work ISO-V KV J</th>
<th>Hardness</th>
</tr>
</thead>
<tbody>
<tr>
<td>u</td>
<td>450</td>
<td>570</td>
<td>35</td>
<td>50</td>
<td>45</td>
</tr>
<tr>
<td>u untreated, as-welded</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Operating data

- Polarity: DC (+)
- Electrode identification:
  -ø (mm)    | 2.0  | 2.5  | 3.25 | 4.0  | 5.0  |
  - L mm     | 35 – 60 | 50 – 80 | 80 – 120 | 100 – 160 | 160 – 220 |

Approvals
-