Rutile all-positional flux cored wire – AWS A5.20 / ASME SFA-A5.20: E71T-1C/M, E71T-9C/9M

AWS A5.36 E71T1(E491T1)-C1(M21)A2(3)-CS1-H5

Key Benefits
- For high strength steel and low temperature applications.
- Excellent welding properties, weld bead appearance, slag removal and arc transfer.
- Suitable for single pass as well as multi pass applications.
- Excellent mechanical properties down to -30°C (-20°F).
- Meets H8 weld metal hydrogen requirements.
- Produces tough and crack free weld metal

Conformity and Approvals
AWS A5.20: E71T-1C-H8, E71T-1M-H8
ASME SFA-A5.20: E71T-9C-H8, E71T-9M-H8
CWB/CSA W48-14: E491T-12-H8, E491T-12M-H8
EN 13479: 2004

Typical applications
- Heavy steel structures
- Pressure vessels
- Pipes
- Shipbuilding
- Petrochemical
- Energy and power generation

Welding Positions
All

Shielding Gas
100% CO₂
75-80% Argon / Balance CO₂
Gas flow rate: 40-50 CFH

All weld metal composition as per AWS A5.20/ASME SFA-A5.20

<table>
<thead>
<tr>
<th></th>
<th>%C</th>
<th>%Mn</th>
<th>%Si</th>
<th>%S</th>
<th>%P</th>
<th>%Ni</th>
</tr>
</thead>
<tbody>
<tr>
<td>Requirements</td>
<td>0.12 max</td>
<td>1.75 max</td>
<td>0.90 max</td>
<td>0.03 max</td>
<td>0.03 max</td>
<td>0.50 max</td>
</tr>
<tr>
<td>Typical all-weld-metal composition¹</td>
<td>0.04</td>
<td>1.45</td>
<td>0.58</td>
<td>0.011</td>
<td>0.012</td>
<td>0.008</td>
</tr>
</tbody>
</table>

¹ Mix gas: 75% Ar + 25% CO₂

Mechanical Properties as per AWS A5.20/ASME SFA-A5.20

<table>
<thead>
<tr>
<th></th>
<th>Yield Strength MPa (ksi)</th>
<th>Tensile Strength MPa (ksi)</th>
<th>Elongation %</th>
<th>Impact Energy J (ft = lbf)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Requirements (as welded)</td>
<td>390 (58) min</td>
<td>490-670 (70-95)</td>
<td>22 min.</td>
<td>27 J at -30°C</td>
</tr>
<tr>
<td>As welded</td>
<td>534 (77)</td>
<td>611 (89)</td>
<td>31</td>
<td>133 J at -30°C</td>
</tr>
</tbody>
</table>

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