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

**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 -20°C (0°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-1C-H8, E71T-1M-H8
- CWB/CSA W48-14: E491T-1-H8, E491T-1M-H8
- EN 13479: 2004
- ABS: 2YSAH10
- BV: SA2YMH10
- DNV: IIYMS(H10)
- LR: DXVudO, BF, 2YS, H10, NA

**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 composition</td>
<td>0.05</td>
<td>1.35</td>
<td>0.45</td>
<td>0.005</td>
<td>0.013</td>
<td>0.01</td>
</tr>
</tbody>
</table>

**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 -20°C</td>
</tr>
</tbody>
</table>

|                  | As welded 100% CO₂ | 556 (81) | 630 (91) | 29 | 74 J at -20°C | 55 lbf at 0°F |
|                  | As welded 75% Ar + 25% CO₂ | 558 (81) | 646 (94) | 28 | 55 J at -20°C | 41 lbf at 0°F |