Key Benefits

- For high strength steels such as structural steel, bridges, storage tanks etc.
- High deposition rates.
- Excellent welding properties, weld bead appearance and arc transfer.
- Suitable for single pass as well as multi pass applications.
- Excellent mechanical properties down to -30°C (-20°F)
- Low hydrogen in weld metal (max 4 ml/100 g)

Conformity and Approvals

AWS A5.18: E70C-6M H4
ASME SFA-A5.20: E70C-6M H4
AWS A5.36: E70T15-M21A2-CS1-H4
AWS A5.36: E70T15-M20A2-CS1-H4
CWB/CSA W48-18: E491T15-M12A3-CS1-H4 (E491-6M-H4)
E491T15-M20A3-CS1-H4 (E491-6M-H4)
E491T15-M21A3-CS1-H4 (E491-6M-H4)

Typical applications

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

Shielding Gas

Ar + 5% CO₂
Ar + 25% 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>0.04</td>
<td>1.40</td>
<td>0.55</td>
<td>0.02</td>
<td>0.01</td>
<td>0.35</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>400 (58) min</td>
<td>480 (70)</td>
<td>22 min.</td>
<td>27 J at -30°C</td>
</tr>
<tr>
<td>Typical Results (all weld metal)</td>
<td>As welded (Ar + 5% CO₂)</td>
<td>475 (69)</td>
<td>565 (82)</td>
<td>28</td>
</tr>
<tr>
<td></td>
<td>As welded (Ar + 25% CO₂)</td>
<td>475 (69)</td>
<td>565 (82)</td>
<td>28</td>
</tr>
</tbody>
</table>