KEY FEATURES

- Dual classified for both 100% CO₂ and 75% Argon / 25% CO₂ mixed gas
- Charpy V-Notch impact toughness tested to -40°C (-40°F)
  - High travel speeds
  - Spray like transfer with minimal spatter
  - Rod based manufacturing for industry leading wire stiffness and feedability
  - Increased rigidity allows for easy manual break-off

APPLICATIONS

- Bridge, ship, and barge
- General fabrication
- Machinery fabrication
- Structural fabrication
- Offshore applications

WELDING POSITIONS

All, except vertical down

SHIELDING GAS

100% CO₂
75% Argon / 25% CO₂
Flow Rate: 40 - 50 CFH

CONFORMANCE

AWS A5.20/A5.20M: 2005
& ASME SFA-A5.20:

ABS*:
Lloyd's Register:
DNV Grade:
BV Grade:
CWB/CSA W48-06:
MIL-E-24403/1:
3YSA H15
3YS H15
III YMS H10
SA3YH (CO₂ only)
E491T-9 , E491T-9M
MIL-71T-1C, MIL-71T-1M

DIAMETERS / PACKAGING

<table>
<thead>
<tr>
<th>Diameter in (mm)</th>
<th>10 lb (4.5 kg) Plastic Spool</th>
<th>25 lb (11 kg) Plastic Spool</th>
<th>33 lb (15 kg) Steel Spool</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.035 (0.9)</td>
<td>ED028604</td>
<td>ED028605</td>
<td>ED030007</td>
</tr>
<tr>
<td>0.045 (1.1)</td>
<td>ED020836</td>
<td>ED022659</td>
<td>ED030008</td>
</tr>
<tr>
<td>0.052 (1.3)</td>
<td>ED022660</td>
<td>ED022661</td>
<td>ED030009</td>
</tr>
<tr>
<td>1/16 (1.6)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Diameter in (mm)</th>
<th>50 lb (23 kg) Coil</th>
<th>300 lb (136 kg) Speed-Feed® Reel</th>
<th>500 lb (227 kg) Accu-Trak® Drum</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.045 (1.1)</td>
<td>ED020844</td>
<td>ED020845</td>
<td>ED027364</td>
</tr>
<tr>
<td>0.052 (1.3)</td>
<td>ED020845</td>
<td>ED020846</td>
<td>ED029776</td>
</tr>
<tr>
<td>1/16 (1.6)</td>
<td></td>
<td>ED020846</td>
<td>ED029779</td>
</tr>
</tbody>
</table>

*Only for 0.045, 0.052 and 1/16 in. diameters
## MECHANICAL PROPERTIES

<table>
<thead>
<tr>
<th>Requirements</th>
<th>Yield Strength[1] (MPa (ksi))</th>
<th>Tensile Strength (MPa (ksi))</th>
<th>Elongation</th>
<th>@ -18°C (0°F)</th>
<th>@ 20°C (-20°F)</th>
<th>@ -40°C (-40°F)</th>
</tr>
</thead>
<tbody>
<tr>
<td>AWS E71T-1C-J / E71T-1M-J</td>
<td>400 (58) min.</td>
<td>480 - 655 (70 - 95)</td>
<td>22 min.</td>
<td>27 (20) min.</td>
<td>–</td>
<td>27 (20) min.</td>
</tr>
</tbody>
</table>

### Test Results

As-Welded with 100% CO₂ and 75% Argon/25% CO₂

<table>
<thead>
<tr>
<th>%C</th>
<th>%Mn</th>
<th>%Si</th>
<th>%S</th>
<th>%P</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.12</td>
<td>1.75</td>
<td>0.90</td>
<td>0.03</td>
<td>0.03</td>
</tr>
</tbody>
</table>

Note: This product contains micro-alloying elements.

### TYPICAL OPERATING PROCEDURES

<table>
<thead>
<tr>
<th>Diameter, Polarity</th>
<th>Shielding Gas[2]</th>
<th>CTWD[3] (mm (in))</th>
<th>Wire Feed Speed</th>
<th>Voltage (volts)</th>
<th>Approx. Current (amps)</th>
<th>Melt-Off Rate (lb/hr)</th>
<th>Deposition Rate (lb/hr)</th>
<th>Efficiency (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.035 in (0.9 mm)</td>
<td>DC+ 100% CO₂</td>
<td>19-25 (3/4-1)</td>
<td>5.1 (200)</td>
<td>23-26</td>
<td>165</td>
<td>2.1 (4.6)</td>
<td>1.8 (3.9)</td>
<td>83</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>6.4 (250)</td>
<td>24-27</td>
<td>210</td>
<td>3.5 (7.7)</td>
<td>2.9 (6.5)</td>
<td>83</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>7.6 (300)</td>
<td>25-28</td>
<td>265</td>
<td>4.2 (9.3)</td>
<td>3.5 (7.8)</td>
<td>84</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>8.9 (350)</td>
<td>26-29</td>
<td>245</td>
<td>3.7 (8.1)</td>
<td>3.1 (6.8)</td>
<td>84</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>12.7 (500)</td>
<td>28-31</td>
<td>295</td>
<td>5.2 (11.5)</td>
<td>4.4 (9.7)</td>
<td>84</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>15.2 (600)</td>
<td>30-33</td>
<td>315</td>
<td>6.3 (13.8)</td>
<td>5.3 (11.7)</td>
<td>85</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>17.8 (700)</td>
<td>32-35</td>
<td>325</td>
<td>7.3 (16.1)</td>
<td>6.2 (13.7)</td>
<td>85</td>
</tr>
</tbody>
</table>

### DEPOSIT COMPOSITION

<table>
<thead>
<tr>
<th>Requirements</th>
<th>%C</th>
<th>%Mn</th>
<th>%Si</th>
<th>%S</th>
<th>%P</th>
</tr>
</thead>
<tbody>
<tr>
<td>AWS E71T-1C-J / E71T-1M-J</td>
<td>0.05-0.07</td>
<td>1.04-1.60</td>
<td>0.25-0.50</td>
<td>≤ 0.01</td>
<td>&lt; 0.01</td>
</tr>
</tbody>
</table>

## TEST RESULTS

Test results for mechanical properties, deposit or electrode composition and diffusible hydrogen levels were obtained from a weld produced and tested according to prescribed standards, and should not be assumed to be the expected results in a particular application or weldment. Actual results will vary depending on many factors, including, but not limited to, weld procedure, plate chemistry and temperature, weldment design and fabrication methods. Users are cautioned to confirm by qualification testing, or other appropriate means, the suitability of any welding consumable and procedure before use in the intended application.

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