DESCRIPTION: 1180 is an outstanding welding electrode for welding higher strength piping, castings and forgings. The coating is specially formulated to resist moisture pick-up under conditions of high heat and humidity. The electrode offers resistance to moisture reabsorption which helps prevent hydrogen cracking and aids in elimination of starting porosity. Definitely a preferred electrode with high operator appeal.

APPLICATIONS:
1180 is used in welding chrome-moly pipes and boiler work.

FEATURES:
• Excellent arc characteristics
• Low spatter level
• Quick and easy slag removal
• Low moisture reabsorption
• Low smoke level
• Low hydrogen, less than 4 ml/100g

BENEFITS:
• Stable, easy to control arc
• Improves weld bead appearance, higher deposition
• Reduce clean-up time
• Prevents starting porosity
• Welder safety and comfort
• Resistant to hydrogen-induced cracking
**Flux Color:** Grey

---

### ALL WELD METAL ANALYSIS (TYPICAL WEIGHT %)

<table>
<thead>
<tr>
<th>C</th>
<th>Mn</th>
<th>P</th>
<th>S</th>
<th>Si</th>
<th>Cr</th>
<th>Mo</th>
</tr>
</thead>
<tbody>
<tr>
<td>.10</td>
<td>.69</td>
<td>.01</td>
<td>.01</td>
<td>.50</td>
<td>2.35</td>
<td>1.06</td>
</tr>
</tbody>
</table>

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### TYPICAL MECHANICAL PROPERTIES

**Undiluted Weld Metal**

*Maximum Value Up to:*

- **Tensile Strength**: 125,000 PSI (865 MPa)
- **Yield Strength**: 111,000 PSI (765 MPa)
- **Elongation**: 18%
- **Diffusible Hydrogen**: 3.4 ml/100 gr

---

### WELDING CURRENT & INSTRUCTIONS

**Recommended Current:** DCEP or AC

<table>
<thead>
<tr>
<th>Diameter (mm)</th>
<th>3/32 (2.5)</th>
<th>1/8 (3.25)</th>
<th>5/32 (4.0)</th>
<th>3/16 (5.0)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Minimum Amperage</td>
<td>70</td>
<td>90</td>
<td>130</td>
<td>200</td>
</tr>
<tr>
<td>Maximum Amperage</td>
<td>110</td>
<td>160</td>
<td>220</td>
<td>300</td>
</tr>
</tbody>
</table>

*For out of position welding, reduce amperages shown by 15%.*

**Recommended Welding Procedures:**

**General:** Electrode positive, work negative (DCEP) or AC

**Arc Length:** Very short arc

**Flat:** Angle electrode 10-15° from 90°

**Vertical-Up:** Use weaving techniques

**Vertical-Down:** Not recommended

**Overhead:** Use slight weaving motion within the puddle

**Storage:** After opening, store in holding oven (250°F to 400°F) until used.

**Reconditioning:** If exposed to atmosphere for extended periods, reconditioned for

TDS 1180 – Revision 03/23/17
one (1) hour at 600°F.

**Welding Positions:** Flat, Vertical-Up, Overhead

**TYPICAL DEPOSITION RATES (at Optimum):**

<table>
<thead>
<tr>
<th>Diameter</th>
<th>Type of Power</th>
<th>Amperage</th>
<th>Deposition Rate Lbs/Hr.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inches</td>
<td>mm</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3/32</td>
<td>2.4</td>
<td>DCEP</td>
<td>100</td>
</tr>
<tr>
<td>1/8</td>
<td>3.2</td>
<td>DCEP</td>
<td>135</td>
</tr>
<tr>
<td>5/32</td>
<td>4.0</td>
<td>DCEP</td>
<td>170</td>
</tr>
<tr>
<td>3/16</td>
<td>4.8</td>
<td>DCEP</td>
<td>250</td>
</tr>
</tbody>
</table>

**APPROXIMATE ELECTRODE PACKAGING & DIMENSIONS**

<table>
<thead>
<tr>
<th>Diameter (mm)</th>
<th>3/32 (2.5)</th>
<th>1/8 (3.25)</th>
<th>5/32 (4.0)</th>
<th>3/16 (5.0)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Length (mm)</td>
<td>14&quot; (350)</td>
<td>14&quot; (350)</td>
<td>14&quot; (350)</td>
<td>14&quot; (350)</td>
</tr>
</tbody>
</table>