SINGLE V-GROOVE WITH BACK GOUGE

WELDING PROCEDURE SPECIFICATION (WPS) AWS D1.5

Specifications & Codes: NCDOT Standard Specifications/AASHTO/AWS D1.5, Section 2, 5 and 12


Filler Metal Specification: AWS A5.1 Classification: E-7018

Manufacturer: NCDOT Approved Electrodes Single or Multiple Pass both

Position of Weld: Flat, Horizontal, Vertical, Overhead

Welding Current: DC Polarity: Positive Progression: N/A

Root Treatment: Back Gouge with a grinder to sound metal prior to applying the back weld.

Preheat Temp: 100° minimum Interpass: 450° maximum Post Heat: N/A

<table>
<thead>
<tr>
<th>Pass Num.</th>
<th>Electrode Size</th>
<th>Welding Current</th>
<th>Travel Speed</th>
<th>Position</th>
<th>Joint Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>All</td>
<td>1/8”</td>
<td>90-150</td>
<td>20-23</td>
<td>All</td>
<td>SEE ATTACHMENT</td>
</tr>
<tr>
<td></td>
<td>5/32”</td>
<td>120-200</td>
<td>21-24</td>
<td>All</td>
<td></td>
</tr>
<tr>
<td></td>
<td>3/16”</td>
<td>170-280</td>
<td>21-24</td>
<td>Flat, Horizontal</td>
<td></td>
</tr>
</tbody>
</table>

PREHEAT

<table>
<thead>
<tr>
<th>Thickness</th>
<th>Min. Temp.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Up to 3/4”</td>
<td>100°</td>
</tr>
<tr>
<td>Over 3/4” to 1 1/2”</td>
<td>100°</td>
</tr>
<tr>
<td>Over 1 1/2” to 2 1/2”</td>
<td>150°</td>
</tr>
<tr>
<td>Over 2 1/2”</td>
<td>225°</td>
</tr>
</tbody>
</table>

COMMENTS:
Remove all coating, rust, dirt and mill scale within one inch of the area to be welded. Remove all slag, spatter and weld discontinuities between passes. Clean the completed weld of all debris, slag and spatter.

Written By: Randy Dempsey, CWI/CWE, TT IV
Signature: Randy Dempsey

Authorized By: Steve Walton, Metals Engineer

Revision #: 1
Signature: [Signature]

NCDOT MATERIALS & TESTS UNIT (STEEL SECTION)
SINGLE V GROOVE with Back Gouge

JOINT DETAILS

Weld Symbol definitions per AWS A2.4:2007

- BACK WELD, OTHER SIDE
- Field Weld Symbol
- Back Gouge Required before welding side two
- Single V Groove, w/ Groove Angle

60°
Illustrations for a Single V-groove with Back Gouge.

Fit-up with a runoff tab.  Each pass is cleaned.

Completed Joint with edge finished with a grinder.

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