NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
SOLDIER-PILE
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: Vertical – up

Root Treatment: N/A

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>Joint Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>All</td>
<td>1/8”</td>
<td>90-150 Amperes</td>
<td>20-23 Volts</td>
<td>6-9 ipm</td>
</tr>
<tr>
<td></td>
<td>5/32”</td>
<td>120-200 Amperes</td>
<td>21-24 Volts</td>
<td>6-10 ipm</td>
</tr>
</tbody>
</table>

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

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>

WPS Description: SOLDIER-PILE Written By: Randy Dempsey, CWI/CWE, TT IV

Signature:

WPS #: 030811018 Authorized By: Steve Walton, Metals Engineer

Revision #: 1 Signature:

NCDOT MATERIALS & TESTS UNIT (STEEL SECTION)

18-1
WPS SOLDIER-PILE 030811018 R1 JOINT DETAIL ATTACHMENT 1,
(cut holes in flange and remove web material)

SOLDIER-PILE WEB DETAILS

Weld Symbol definitions per AWS A2.4:2007

FIELD WELD SYMBOL

FILLET WELD, ARROW SIDE with WELD SIZE

18-2
WPS SOLDIER-PILE 030811018 R1 JOINT DETAIL ATTACHMENT 2,
(Install stiffener plates, near and far side)

SOLDIER-PILE STIFFENER DETAILS

Weld Symbol definitions per AWS A2.4:2007

FIELD WELD SYMBOL

FILLET WELD, ARROW SIDE with WELD SIZE

18-3
SOLDIER-PILE ANCHOR DETAILS

Weld Symbol definitions per AWS A2.4:2007

FIELD WELD SYMBOL

FILLET WELD, ARROW SIDE with WELD SIZE
WPS SOLDIER-PILE 030811018 R1 JOINT DETAIL ATTACHMENT 4,
(install gusset, near and far side in line with stiffener)

SOLDIER-PILE ANCHOR DETAILS

Weld Symbol definitions per AWS A2.4:2007

FIELD WELD SYMBOL

FILLET WELD, ARROW SIDE with WELD SIZE
Illustrations for soldier pile field welding.

Unacceptable (arc strikes need to be removed by grinding and base metal inspected for cracks, slag needs to be removed).

Completed Piles.

NCDOT MATERIALS & TESTS UNIT (STEEL SECTION)