### WELDING PROCEDURE DATA SHEET (WPDS)

**WPDS No.:** FCAW - PLUG1  
**Rev:** 0  
**Date:** July 28, 2019  
**Ref. WPS:** FCAW-CS  
**Ref. Standards:** CSA W47.1, CSA W59

**Prequalified joint no.:** CSA W47.1 Clause 11.2.2. b) ii

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**RC Technical Services**  
512 MacDougall Road  
MacDougall Settlement, N.B.

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**Base Metal:**  
CSA W59, Table 11.1, GROUPS 1, 2, 3

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**Filler Metal / Classification**  
CSA W48: E491T-9-H8  
AWS A5.20: E71T-9-H8

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**Process:** FCAW

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**Shielding:** 100% CO2  
**Gas Flow Rate:** 30 - 40 CFH  
**Metal Transfer Mode:** SPRAY  
**Process Mode:** SEMI-AUTOMATIC  
**Position:** FLAT  
**Joint Type:** TEE  
**Weld Type:** PLUG  
**Penetration:** PARTIAL  
**Electrode Stickout:** 1/2” to 3/4”  
**Effective Area:** AREA OF HOLE  
**Preheating Temp.:** 10°C & Table 5.3 W59  
**Interpass Temp.:** 260°C (500°F) MAX  
**Backgouging Method:** N/A  
**Backgouging Depth:** N/A  
**Backing Material:** See base metal above  
**Backing Thickness:** SEE SKETCH

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**Preheating Temp.:** 10°C & Table 5.3 W59  
**Interpass Temp.:** 260°C (500°F) MAX

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**Hole diameter = 21mm (13/16")**  
Ladder rung diameter = 19mm (3/4")  
Fill thickness = 5mm (3/16")

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**Weld Technique:**  
Continuous pass shall be deposited around the root of the joint and then deposited along a spiral path to the center of the hole. If the arc is broken or the slag is allowed to cool, remove the slag completely before restarting the weld.

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**Welding Parameters:**

<table>
<thead>
<tr>
<th>Fill Thickness mm</th>
<th>Side</th>
<th>Layer</th>
<th>Pass</th>
<th>Electrode Diameter inch</th>
<th>Current Polarity</th>
<th>Amperes (+/-10%)</th>
<th>WFS inch / min. (+/-10%)</th>
<th>Volts (+/-7%)</th>
<th>Arc Travel in/min (+/-15%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>3/16</td>
<td>1</td>
<td>1</td>
<td>1/16</td>
<td>DCRP</td>
<td>325</td>
<td>300</td>
<td>27</td>
<td>20</td>
</tr>
</tbody>
</table>