|  |  |  |  |
| --- | --- | --- | --- |
| Company -  | WPS # - **WPS-D1.1-006** | Rev # - **0** | Date – **11/16/2017** |
| Authorized By –  | Date – **11/13/2017** | Supporting PQR(s) – **Prequalified 9.10.1.1, Figure 9.11 (side matched – p.304)** | CVN Report - **No** |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **BASE METALS** | Specification | Type or Grade | AWS Group # | **BASE METAL THICKNESS** | As Welded | With PWHT |
| Base Material | ASTM A500 | C | I | CJP Groove Welds | NA | NA |
| Welded To | ASTM A500 | C | 1 | CJP Groove W/CVN | NA | NA |
| Backing Material | NONE | NA | NA | PJP Groove Welds | 3/16” - Unlimited | NA |
| Details – Procedure for performing PJP flare groove welds in matched box connections | Fillet Welds | NA | NA |
| **DIAMETER** | NA | NA |

**WELDING PROCEDURE SPECIFICATION – AWS D1.1**

|  |  |
| --- | --- |
| **JOINT DETAILS** | **JOINT DETAILS** (Sketch) |
| Groove Type | Flare Bevel Groove | **See Page 2 and 3 For Sketches** |
| Groove Angle | See Sketch for Details |
| Root Opening | 0” – 3/16” |
| Root Face | See Sketch for Details |
| **Backgouging** | NA |
|  Method | NA |
| **POSTWELD HEAT TREATMENT** |
| Temperature | NA |
| Time at Temperature | NA |
| Other | NA |
|  **PROCEDURE** |
| Weld Layer(s) | 1 |  |  |  |  |
| Weld Pass(es) | 1 |  |  |  |  |
| **Process** | GMAW |  |  |  |  |
|  Type (manual, mechanized, etc) | Semi-Automatic |  |  |  |  |
| **Position** | Flat |  |  |  |  |
| **Filler Metal (AWS Spec)** | A5.18 |  |  |  |  |
|  AWS Classification | ER70S-6 |  |  |  |  |
|  Diameter | .035” |  |  |  |  |
| **Shielding Gas Composition** | Don Will Advise |  |  |  |  |
|  Flow Rate CFH | Don Will Advise |  |  |  |  |
| **Preheat Temperature** | 32°F (If material temperature is below 32°F, it is to be brought to 70°F before welding and that temperature is to be maintained while welding) |  |  |  |  |
| Interpass Temperature | 32°F (If material temperature is below 32°F, it is to be brought to 70°F before welding and that temperature is to be maintained while welding) |  |  |  |  |
| **Electrical Characteristics**  |  |  |  |  |  |
|  Current Type and Polarity | DCEP |  |  |  |  |
|  Transfer Mode | Spray |  |  |  |  |
|  Power Source Type (cc, cv, etc) | CV |  |  |  |  |
|  Amps | 190 - 280 |  |  |  |  |
|  Volts | 22 – 30 (to be adjusted) |  |  |  |  |
|  Wire Feed Speed | 350 – 600 (to be adjusted) |  |  |  |  |
|  Travel Speed | Time welder to calculate |  |  |  |  |
|  Maximum Heat Input | Calculate using Heat Input = (60 x Amps x Volts) / (1,000 x Travel Speed in in/min) = KJ/in |  |  |  |  |
| **Technique** |  |  |  |  |  |
| Weld Size  | 1/16” minimum -  |  |  |  |  |
| Stringer or Weave | Either |  |  |  |  |
|  Multi or Single Pass (per side) | Single |  |  |  |  |
|  Oscillation (mechanized, auto) | NA |  |  |  |  |
|  Contact Tube to Work Distance | 1/2" – 3/4" |  |  |  |  |
|  Peening | None |  |  |  |  |
|  Interpass Cleaning | NA |  |  |  |  |
| **Other** | Per 9.10.1.1 & Figure 9.11 |  |  |  |  |

Joint Details – Sketch 1

(Figure 9.11 – Side Matched)

(See Sketch 2 for application)

C = CORNER DIMENSION

C ≥ tb + 1/8in AND r ≥ 2tb OR ROOT OPENING ≥ 1/16in OR SEE 9.10.1.1

Tb

Root Opening = 0” – 3/16”

C

r = RADIUS

Weld Face Reinforcement

1.5tb MIN OR AS REQUIRED TO FLUSH OUT (WHICHEVER IS LESS)

Notes

* Root opening shall be 0” – 3/16”
* Welding shall be carried continuously around the corners, with corners fully built up and all weld starts and stops within flat faces
* Welds are to be flush with the top of the joint. No concavity is allowed.
* Weld face reinforcement is not to exceed 1/8” per Table 5.9

Joint Details – Sketch 2