

# Welding Procedure Specification (WPS)

Sheet 1 of 3

ASME Boiler and Pressure Vessel Code , Section IX

Company Name: [www.WPSAmerica.com](http://www.WPSAmerica.com)

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Welding Procedure Specification WPS No.: DEMO-WPS

Revision No.: (0)

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Supporting PQR No. (s): DEMO-PQR

Date: 11,12, 2005

### BASE METALS (QW-403)

P-No.: 4      Group No.: 1      Material Specification: SA-335      Type or Grade: P11

Welded to

P-No.: 4      Group No.: 1      Material Specification: SA-234      Type or Grade: WP11, Class 1

OR

Chem. Analysis and Mech. Prop.      N/A

Welded to Chem. Analysis and Mech. Prop.      N/A

Qualified Thickness Range mm (in)      Groove: 5 mm (3/16 in.) to 60 mm (2.36 in.)      Fillet: Unlimited

Qualified Diameter Range mm (in)      Groove: All Sizes      Fillet: Unlimited

Other information: This is a DEMO WPS from [www.WPSAmerica.com](http://www.WPSAmerica.com)

### FIRST PROCESS

### SECOND PROCESS

Welding Process (es):      Gas Tungsten Arc Welding (GTAW)      Shielded Metal Arc Welding (SMAW)

Type (s):      Manual      Manual

### FILLER METALS (QW-404)

AWS Classification      ER80S-G (see sheet 3)      E8016-B2 (see sheet 3)

Electrode-Flux Class (SAW)      SFA 5.28      SFA 5.5

SFA Specification      6      4

Filler Metal F-No.      -      3

Weld Metal Analysis A-No.      2.0 mm (see sheet 3)      3.25 mm (see sheet 3)

Size of Filler Metals mm (in)      Solid copper coated wire      Iron powder low hydrogen

Filler Metal Product Form      1/8 in.      3/16 in.

Max. Weld Pass Thickness mm (in)      10 mm (3/8 in.)      60 mm (2.36 in.)

Qualified Weld Metal Range: Groove mm (in)      Unlimited      Unlimited

Qualified Weld Metal Range: Fillet mm (in)      -      -

Weld Deposit Chemistry      N/A      N/A

Flux Trade Name and Flux Type (SAW)      -      -

Consumable Insert, Class and Size      -      -

Other information: This is a DEMO WPS from [www.WPSAmerica.com](http://www.WPSAmerica.com)

### POSITIONS (QW-405)

Position (s) of Groove      ALL Position      ALL Position

Welding Progression      Up      Up

Position (s) of Fillet      ALL Position      ALL Position

### PREHEAT (QW-406)

Preheat Temp. °C (°F)      150 °C      150 °C

Interpass Temp. Max. °C (°F)      280 °C      280 °C

Preheat Maintenance °C (°F)      New Joint      New Joint

### GAS (QW-408)

Shielding Gas Type (Mixture)      100% Ar      N/A

Flow Rate l/min. (CFH)      7 to 9 l/min.      -

Trailing Gas Type (Mixture)      N/A      N/A

Flow Rate l/min. (CFH)      -      -

Gas Backing (Mixture)      N/A      N/A

Flow Rate l/min. (CFH)      -      -

### POSTWELD HEAT TREATMENT (QW-407)

Holding Temperature Range °C (°F): 680 °C + or - 10 °C      Holding Time Range: 1 hr/in. (15 minutes Min.)

Heating Rate °C/hr (°F/hr): 120 °C/hr      Method: Furnace

Cooling Rate °C/hr (°F/hr): 120 °C/hr      Method: Open Air