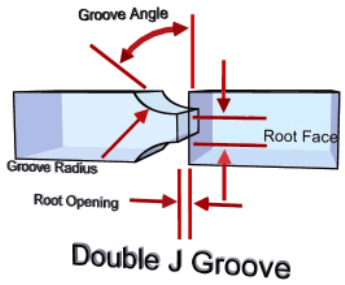
Pyramid Co.
123 Any Street
KC, MO 64015

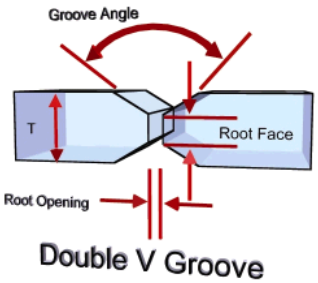
Welding Procedure Specification (WPS)

WPS No.: **Example 1b** Date: **3/11/2016** Rev. No.: **0**
Supporting PQR(s): **Example 1a**
Welding Process(es) / Type(s): **(1) GTAW / Manual (2) GMAW / Machine (3) SMAW / Manual**

Joint Design
Weld Type: Groove and fillet welds



Double J Groove



Double V Groove

Backing: With or without backing Backing Material: variable
Fillet Welds: All fillet sizes on all base metal thicknesses and all diameters.
Retainers: None
Joint notes would appear here.
WELD JOINT DESCRIPTIONS SHOWN ARE NOT INCLUSIVE OF ALL THOSE FOUND ON A JOB. WELD JOINT DESIGN REFERENCE IN AN ENGINEERING SPECIFICATION OR A DESIGN DRAWING SHALL TAKE PRECEDENCE OVER WELD JOINTS SHOWN IN THIS WPS.

Base Metals
P-No. 1 Thickness Range: 0.1875 in. to 2.0000 in.
to P-No. 1
Base Metal notes would appear here.

Preheat
Minimum Preheat Temperature: 300 °F
Maximum Interpass Temperature: 600 °F
Preheat Maintenance: None
Preheat notes would appear here.

Postweld Heat Treatment
PWHT Type: PWHT below lower transformation temperature
PWHT Temperature : 1275 °F
PWHT Holding Time: 1.0 hr./in., 0.25 hr. min.
PWHT notes would appear here.

Initial and Interpass Cleaning: With wire brush clean 1 inch (25 mm) on both sides of weld joint
Method of Back Gouging: When required, grind until all defects are removed.
Overall WPS Notes would appear here.

We certify that the statements in this record are correct and that the test welds were prepared, welded, and tested in accordance with the requirements of Section IX of the ASME Code.

Header 1 John Smith (John Smith) 3/11/2016 (Date) QA Manager

Header 2 John Smith (John Smith) 3/11/2016 (Date) QA Manager

Pyramid Co.

Welding Procedure Specification (WPS)

WPS No.: **Example 1b** Rev. No.: **0**

First Process: **GTAW** **Type:** **Manual**

Filler Metal

Weld Deposit Limits: 0.2500 in. maximum

AWS Classification: ER70S-2 SFA Specification: 5.18 F-No.: 6

A-No. or Chemical Composition: 1

Filler Metal Product Form: Bare (Solid)

Consumable Insert: NA GTAW Flux: NA

Position

Position of Joint: All Positions

Weld Progression: Any

Notes: Process1 position notes would appear here.

Gas

Shielding: 100% Argon / 14-18 CFH

Backing: None / - CFH

Trailing: None / - CFH

Technique

Thermal Process: No

Stringer or Weave Bead: Stringer and weave bead

Nozzle / Gas Cup Size: #5 to #10

Peening: None

Multiple / Single Pass (per side): Single and multipass

Electrical Characteristics

Current Type and Polarity: DCEN (straight)

Pulsed Current: NA

Tungsten Type: EWTh-2 Size: 3/32

Max. Heat Input (J/in): None

Process1 electrical notes would appear here.

First Process Welding Parameters

Layer(s) and/or Pass(es)	Filler Metal		Current		Voltage Range	Travel Speed Range (in/min)
	AWS Classification	Size (in.)	Type and Polarity	Amperage Range		
Any	ER70S-2	1/16	DCEN (straight)	70-150	n/r	Var.
Any	ER70S-2	3/32	DCEN (straight)	80-180	n/r	Var.
Any	ER70S-2	1/8	DCEN (straight)	130-275	n/r	Var.
Any	ER70S-2	3/16	DCEN (straight)	200-375	n/r	Var.

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Welding Procedure Specification (WPS)

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Second Process: **GMAW** **Type:** **Machine**

Filler Metal

Weld Deposit Limits: 1.0000 in. maximum — No Pass Greater Than ½" Allowed

AWS Classification: E70C-3C — SFA Specification: 5.18 — F-No.: 6

A-No. or Chemical Composition: 1

Filler Metal Product Form: Metal cored

Supplemental Filler Metal: n/a

Position

Position of Joint: All Positions

Weld Progression: Any

Notes: Process2 position notes would appear here.

Gas

Shielding: 100% Argon / 11-14 CFH

Backing: None / - CFH

Trailing: None / - CFH

Electrical Characteristics

Current Type and Polarity: DCEP (reverse)

Transfer Mode: Short-circuiting arc

Max. Heat Input (J/in): None

Process2 electrical notes would appear here.

Technique

Thermal Process: No

Stringer or Weave Bead: Stringer and weave bead

Nozzle / Gas Cup Size: 3/8" to 5/8"

Oscillation: n/a

Peening: None

Contact Tube to Work Distance: .5

Multiple or Single Electrode(s): Single electrode

Electrode Spacing: .2

Multiple / Single Pass (per side): Single and multipass

Second Process Welding Parameters

Layer(s) and/or Pass(es)	Filler Metal		Current		Voltage Range	Travel Speed Range (in/min)
	AWS Classification	Size (in.)	Type and Polarity	Amperage Range		
Any	E70C-3C	0.035	DCEP (reverse)	80-145	17-22	Var.
Any	E70C-3C	0.045	DCEP (reverse)	110-145	18-23	Var.
Any	E70C-3C	1/16	DCEP (reverse)	165-300	20-25	Var.

Third Process: **SMAW** **Type:** **Manual**

Filler Metal

Weld Deposit Limits: 0.7500 in. maximum — No Pass Greater Than ½" Allowed

AWS Classification: E7018 — SFA Specification: 5.1 — F-No.: 4

A-No. or Chemical Composition: 1

Position

Position of Joint: All Positions

Weld Progression: Any

Notes: Process3 position notes would appear here.

Electrical Characteristics

Current Type and Polarity: DCEN (straight)

Max. Heat Input (J/in): None

Process3 electrical notes would appear here.

Technique

Thermal Process: No

Stringer or Weave Bead: Stringer bead

Peening: None

Multiple / Single Pass (per side): Single and multipass

Third Process Welding Parameters

Layer(s) and/or Pass(es)	Filler Metal		Current		Voltage Range	Travel Speed Range (in/min)
	AWS Classification	Size (in.)	Type and Polarity	Amperage Range		
Any	E7018	3/32	DCEN (straight)	70-110	n/r	Var.
Any	E7018	1/8	DCEN (straight)	90-160	n/r	Var.
Any	E7018	5/32	DCEN (straight)	130-220	n/r	Var.
Any	E7018	3/16	DCEN (straight)	200-300	n/r	Var.
Any	E7018	7/32	DCEN (straight)	250-350	n/r	Var.

Notes

Additional Optional Notes would appear here.