



Welding Procedure Specification (WPS)
AWS D1.5
AASHTO / AWS D1.5 Qualification Type Prequal

Company Name: Mark's Welding & Mechanical Services
PQR No.: Pre-Qualified

WPS No.: MWMS-SMAW-D1.5-G

Date: 10/10/2012

Revision No.: 0

Joint	
Type of Joint: V Grooves (B-U2a)	Single or Double Weld: Single Welded
Backing: With	Backing Material: Same as Base Material
Root Opening: 1/4" - 5/16"	Root Face Dimension: None
Groove Angle: 45 - 55°	Radius (J-U): n/a
Backgouging: n/a	Backgouging Method: n/a
Root Treatment: n/a	

Process
Welding Process(es): SMAW Type: Manual

Heat Input
Minimum: n/a
Maximum: n/a

Base Metals
Material Spec.: A-709 Gr. 36, 50, 50 W to: A-709 Gr. 36, 50, 50 W
Thickness: 1/8"- Unlimited
Other: n/a

Position
Position: 1G, 2G, 3G, 4G
Weld Progression: Uphill Only

Filler Metals
Filler Metal Specification: A 5.1
Filler Metal Classification: E 7018 MR H8
Manufacturer Trade Name: Lincoln Excaliber

Electrical Characteristics
Transfer Mode (GMAW): n/a
Current: DC Polarity: EP
Electrical Stick Out: n/a

Shielding
Flux: n/a Mfg. Trade Name: n/a
Electrode-Flux (Class): n/a
Gas: n/a
Flow: n/a Gas Cup Size: n/a

Technique
Stringer or Weave Bead: Both
Single or Multiple Pass (per side): Both
Single or Multiple Electrode: Single Arc Only
Electrode Spacing: Longitudinal: n/a
Lateral: n/a Angle: n/a
Interpass Cleaning: Wire brush, chipping hammer
Other: Preheat per Table 4.4 as follows: Up to 3/4" Incl. 50°F (10°C), 3/4" to 1 1/2" Incl. 70°F (20°C), 1 1/2" to 2 1/2" Incl. 150°F (65°C), Over 2 1/2" 225°F (110°C).

Preheat
Preheat Temp. (Min.): 50°F (If below 32°F preheat to a min. of 70°F)
Interpass Temp. (Min.): 50°F (Max.): 400°F

Postweld Heat Treatment
Temperature: Without PWHT Hold Time: n/a
Heating / Cooling Rate: n/a

Passes	Diameter	Amps	Volts	Travel Speed	Joint Design
All	3/32"	70 - 100	18 - 22	3 - 6 ipm	
		70 - 100	20 - 24	4 - 7 ipm	
	1/8"	90 - 160	19 - 23	6 - 8 ipm	
5/32"	1/8"	90 - 160	20 - 24	7 - 9 ipm	
		130 - 220	19 - 23	8 - 10 ipm	
	130 - 220	20 - 24	8 - 11 ipm		

This WPS may vary due to fabrication sequence, fit up, pass size, etc., within the limitations of variables given in section 5.
Year of Code: 2010

Company Name: Mark's Welding & Mechanical Services

Authorized By: *Mark S. [Signature]*

Date: *Oct. 10, 2012*



Welding Procedure Specification (WPS)
AWS D1.5
AASHTO / AWS D1.5 Qualification Type Prequal

Company Name: Mark's Welding & Mechanical Services

Date: 10/10/2012

PQR No.: Pre-Qualified

WPS No.: MWMS-SMAW-D1.5-F

Revision No.: 0

Joint	
Type of Joint: Fillet Welds	Single or Double Weld: n/a
Backing: n/a	Backing Material: Same as Base Material
Root Opening: n/a	Root Face Dimension: n/a
Groove Angle: n/a	Radius (J-U): n/a
Backgouging: n/a	Backgouging Method: n/a
Root Treatment: None used	

Process
Welding Process(es): SMAW Type: Manual

Heat Input
Minimum: n/a
Maximum: n/a

Base Metals
Material Spec.: A-709 Gr. 36, 50, 50 W to: A-709 Gr. 36, 50, 50 W
Thickness: 1/8" - Unlimited
Other: n/a

Position
Position: All position Fillets
Weld Progression: Uphill Only (1/2" max. single pass)

Filler Metals
Filler Metal Specification: A 5.1
Filler Metal Classification: E 7018 MR H8
Manufacturer Trade Name: Lincoln Excaliber

Electrical Characteristics
Transfer Mode (GMAW): n/a
Current: DC Polarity: EP
Electrical Stick Out: n/a

Shielding
Flux: n/a Mfg. Trade Name: n/a
Electrode-Flux (Class): n/a
Gas: n/a
Flow: n/a Gas Cup Size: n/a

Technique
Stringer or Weave Bead: Both
Single or Multiple Pass (per side): Both
Single or Multiple Electrode: Single Arc Only
Electrode Spacing: Longitudinal: n/a
Lateral: n/a Angle: n/a
Interpass Cleaning: Wire brush, chipping hammer
Other: Preheat per Table 4.4 as follows: Up to 3/4" Incl. 50°F (10°C), 3/4" to 1 1/2" Incl. 70°F (20°C), 1 1/2" to 2 1/2" Incl. 150°F (65°C), Over 2 1/2" 225°F (110°C).

Preheat
Preheat Temp. (Min.): 70°F (If below 32°F preheat to a min. of 70°F)
Interpass Temp. (Min.): 70°F (Max.): 400°F

Postweld Heat Treatment
Temperature: Without PWHT Hold Time: n/a
Heating / Cooling Rate: n/a

Passes	Diameter	Amps	Volts	Travel Speed	Joint Design
1F, 2F, 3F, 4F	3/32"	70 - 100	16 - 24	3 - 6 ipm	
	1/8"	70 - 100	18 - 26	4 - 7 ipm	
90 - 160		17 - 25	6 - 8 ipm		
90 - 160		18 - 26	7 - 9 ipm		
130 - 220		17 - 25	8 - 10 ipm		
5/32"	130 - 220	18 - 26	8 - 11 ipm		

This WPS may vary due to fabrication sequence, fit up, pass size, etc., within the limitations of variables given in section 5.
Year of Code: 2010

Company Name: Mark's Welding & Mechanical Services

Authorized By: Mark S. Goulet

Date: Oct. 10, 2012



Radiographic Inspection Report

Customer: Mark's Welding & Mechanical Services

Date: 10/10/2012

Welder's Name: Mark Ozimek

Procedure No.: RT-1

Material Type: A-709 Gr.36

Material Thickness: 1"

Weld Thickness: 1"

Reinforcement Thickness: 0"

Diameter / Length: n/a

Source to Film Distance: 56"

X-Ray KV: 200

MA: 5

Spot Size: 3.0

Exposure Time: 90 Seconds

Penetrator: Source Side

Size: 1B / .025"

Type: Wire IQI

Shim Material: None used

Shim Thickness: n/a

Screens Front: 0.010"

Back: 0.010"

Geometric Unsharpness (UG) Less Than: .020"

Weld Identification	Accept	Reject	Porosity	Slag	Crack	Inc. Pen	Inc. Fusion	Concavity	Convexity	Undercut	Surface	Tungsten	Oxidation	Burn Through	Artifact	Other	Remarks
201210112	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	3G, SMAW

Comments: n/a

Acceptance Standard: AWS D1.5-2010

Inspector: Leonard J. Macikonycz NDT Level II / WTTI

Authorized By: 

Date: 10/10/2012



WELDER QUALIFICATION TEST RECORD
A.W.S. D1.5

Name: Mark Ozimek

ID No.:

Welding Procedure Specification No.: MWMS-SMAW-D1.5-G

<u>Variable</u>	<u>Actual Variable Used in Qualification</u>
Welding Process / Type:	SMAW / Manual
Position:	3G
Weld Progression:	Uphill
Backing (Yes or No):	With
Material / Spec.:	ASTM-A709 Gr. 36
Thickness range this qualifies:	1/8" - Unlimited
Filler Metal Spec. No.	A5.1
Class:	E 7018
F-No.:	4
Filler Wire Diam. & Trade Name:	1/8" Lincoln
Submerged Arc Flux & Gas	n/a
Shielding for (GMAW, FCAW):	

Visual Inspection

Appearance: Acceptable

Undercut: n/a

Piping Porosity: n/a

Guided Bend Test Results

#1: n/a

#3: n/a

#2: n/a

#4: n/a

Fillet Weld Test Results

Appearance: n/a

Size: n/a

Penetration: n/a

Macroetch: n/a

Test Conducted By: Leonard J. Macikonycz CWI / WTTI

Lab Numbers: 201210112

Organization: Welder Training & Testing Institute

Date: 10/10/2012

Radiographic Test Results

#1: Radiograph - PASSED

#2: n/a

We, the undersigned, certify that the statements in this record are correct and that the test welds were prepared and tested in accordance with the requirements of ANSI/AASHTO/AWS D1.5, (2010) Bridge Welding Code.

Contractor: Mark's Welding & Mechanical Services

Authorized by: Mark S. Ozimek

Date: Oct. 10, 2012