



**WELDING PROCEDURE SPECIFICATION(WPS)
QW-200.1, SECTION IX, ASME B-31.3 ED 2008**

**WPS No.
AAIS-WPS-PP-3**

Company Name:

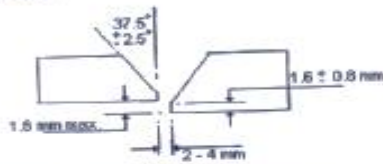
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QP-STD-R-002 REV.1		Supporting PQR : PQR-HOSC-03 Rev 1	
Welding Process (es): GTAW + SMAW Type(s) : Manual			
BASE METALS (QW-403)			
P.No. : 1	Group No. : 1	TO	P.No. :1
Specification Type & Grade : ASTM A106 Gr.B TO ASTM A106 Gr.B			Group No. : 1
Thickness	Groove : 1.5 mm to 11.1 mm		C _{EV} =0.31
Fillet : N/A			

Diameter : NPS 1" to 2"

JOINTS (QW-402)



Backing GTAW : None
Backing SMAW: Weld Metal
Type of Tack: Bridge cleat 3nos@120°

PQR Test Specimen Size : Ø 2" x Sch80

FILLER METALS (QW 404)

Process(es)	GTAW	SMAW
Spec.No.(SFA):	5.18	5.1
AWS No.(Class)	ER 70S-2	E7018
F.No.	6	4
A.No.	1	1
Size of Filler Metal	2.4 mm	2.5/ 3.2 mm
Weld Metal Thickness (Groove)	6 mm max	5.1 mm max
Weld Metal Thickness (Fillet)	All	All
Electrode-Flux Class	N/A	N/A
Supplemental Filler Metal	N/A	N/A
Manufacturer Name	Bohler	D&H
Flux Type	N/A	N/A
Filler Metal product form	SOLID	Covered Electrode
Consumable Insert	NONE	N/A

Prepared By.

Reviewed /Witnessed By.

Approved By.

AAIS

VELOSI

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WPS-HOSC-03		DATE: 05.04.2015		REV: 1.0				
POSITIONS (QW-405)				POSTWELD HEATTREATMENT (QW-407)				
Position (s) of Groove: All				Temperature range: N/A				
Welding Progression : Uphill				Time Range: N/A				
Position (s) of Fillet : All				Heating Rate/Hr : N/A		Cooling Rate/Hr : N/A		
PREHEAT (QW-406)				Gas(QW-408)				
Preheat Temp. (Min): 15 ^o C						Gas(es)	Mixture	Flow Rate
Inter Pass temp(Max): 150 ^o C				Shielding		ARGON	99.99%	10 –20 LPM
Preheat maintenance : N/A				Trailing		NONE	NONE	NONE
Other : N/A				Purging		NONE	NONE	NONE
TECHNIQUE(QW-410)				Oscillation: N/A				
String or weave bead: String and/or weave				Contact tube to work distance: N/A				
Max. weave width: 3 x dia of electrode				Multiple/Single pass (per Side): Multiple				
Orifice/Gas Cup Size: 12 mm				Multiple/Single Electrode: Single				
Initial Cleaning: Brushing/Grinding				Travel Speed (Range): As per Table below				
Inter pass Cleaning: Brushing/Grinding.				Close to out Chamber : N/A				
Method of Back gouging: N/A								
ELECTRICAL CHARACTERISTICS (QW-409)								
Current (AC/DC): DC				Polarity: As per table below				
Amps (Range) : As per Table below				Volts(Range): As per table below				
Tungsten Electrode Size & Type: 2.4 mm & 2% Thoriated (EWTh-2)				Mode Of Metal Transfer for GMAW(FCAW) : N/A				
Weld Passes	Process	Filler Metal		Current		*Volts - Range	Travel Speed (Range) mm/min	Heat Input Max. (KJ/mm)
		Class	Dia. mm	Type/ Polarity	*Amp. range			
Root	GTAW	ER70S-2	2.4	DCEN	70-80	10-11	30	1.57
Hot	GTAW	ER70S-2	2.4	DCEN	80-90	10-11	54.28	0.99
FILL 1-N	SMAW	E7018	2.5/ 3.2	DCEP	60-70	20-25	42.22	2.08
CAP 1-N	SMAW	E7018	2.5/ 3.2	DCEP	60-70	20-25	58.46	1.62
Notes:								
<ul style="list-style-type: none"> * 1) For GTAW welding, high frequency start up unit to be used. 2) Bridge Piece material shall be same as parent material 								

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