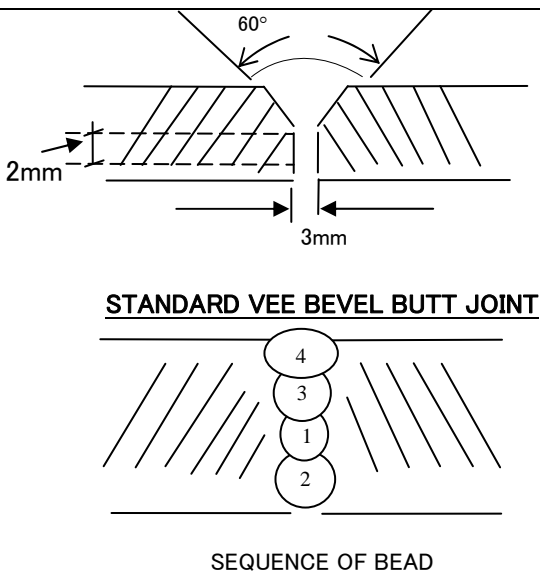


	<b>WELDING PROCEDURE SPECIFICATION(WPS) STRUCTURAL 3G</b>	Doc No. : Revision : Page 1 of 3
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**WELDING PROCESS:** SMAW                      **TYPES:** Manual

<b>WPS No.:</b> <b>Rev No.:</b> <b>Date:</b>	<b>Supporting PQR No: PREQUALIFIED</b>
<b>JOINT(QW-402)</b>  <b>Joint Design:</b> <u>See sketch</u>  <b>Backing:</b> (Yes)_ (No) <u>X</u>  <b>Applicable code/Spec:</b> <u>ASME IX/AWS D1.1.</u>  <b>Backing material (type):</b> <u>N/A.</u>	 <p style="text-align: center;"><b>STANDARD VEE BEVEL BUTT JOINT</b></p> <p style="text-align: center;"><b>SEQUENCE OF BEAD</b></p>

**BASE METALS (QW-403):** P No 1 Group No 1 To P No 1 Group No 1

**Material specification:**    ASTMA36TO A 1011

To Specification Type and Grade:    Same or in Combination

Thickness Range:

Base Metal

Groove 7.5mm to 37.5mm                      Fillet 1/8" to Unlimited

Pipe Dia. 12" ≤ OD ≤ 24"                      Fillet    N/A

**Others:**

FILLER METALS (QW-404)	ROOT	FILL/CAP
Spec No. (SFA)	A5.1	A5.1
AWS- No.	E-7018	E-7018
F- No.	4	4
A- No.	1	1
Size of Filler Metals	3.2mm	3.2 & 4.0mm
Deposited Weld Metal Thickness	9mm MAX	12mm MAX
Welding Progression	Uphill	Uphill

	<b>WELDING PROCEDURE SPECIFICATION(WPS) STRUCTURAL 3G</b>	Doc No. : Revision : Page 2 of 3
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**WELDING PROCESS:** SMAW                      **TYPES:** Manual

Groove Position	3G	3G
Fillet	ALL	ALL
Electrode Flux (class)	N/A	N/A
Flux trade name	Lincoln Electric Jetweld 5P	Lincoln Electric Jetweld 7018
Consumable insert	N/A	N/A
<b>POSITIONS (QW-405)</b> Position of Groove: 3G Positions of Fillet: <u>ALL</u> Welding Progression: UP: <u>X</u> Down: <u>  </u>	<b>POST WELD HEAT TREATMENT</b> Temperature Range: <u>N/A</u> Time Range: <u>N/A</u>	
<b>PREHEAT (QW-406)</b> Preheat temperature Min: AWS TABLE 3.2 Interpass temperature: 250°C MAX Preheat Maintenance: <u>None</u>  (Continuous or special heating where applicable should be recorded)	<b>GAS (QW-408)</b>  Percent composition Gas(es)    Mixture    Flow Rate Shielding    N/A            N/A            N/A Trailing    N/A            N/A            N/A Backing    N/A            N/A            N/A	
<b>ELECTRICAL CHARACTERISTICS (QW-409)</b> Current AC or DC: <u>DC</u> Polarity: <u>Reverse</u> Amps (Range): <u>70-190</u> Volts (Range) <u>24-30</u>	Tungsten Electrode size and type; <u>N/A</u> Electrode Wire feed Speed Range: <u>N/A</u>	
<b>TECHNIQUE (QW-410)</b>		
String or Weave Bead: <u>BOTH</u> Orifice or Gas cup size: <u>N/A</u> Initial & interpass cleaning: ( <u>Grinding &amp; Brushing</u> ) Method of back Gouging: <u>N/A</u>	Removal of line up clamp: <u>After At Least 60% Of Root Pass Has Been Deposited</u> Electrode: (single or multiple) <u>Single</u>	

	<b>WELDING PROCEDURE SPECIFICATION(WPS) STRUCTURAL 3G</b>	<b>Doc No. :</b> <b>Revision :</b> <b>Page 3 of 3</b>
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**WELDING PROCESS:** SMAW                      **TYPES:** Manual

Type of line up clamp: <u>External (where applicable)</u>  Travel Speed Range <u>3- 15 inches per minute</u>	
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Travel speed (see table)

Weld layers	Process	Filler Metal		Current		Volt Range	Travel Speed Range (mm/min)	Others
		Class	Dia (mm)	Type of polarity	Amp. Range			
1	SMAW	E7018	3.2	DCEP	60-130	20-40	66-198	Stringer
2	SMAW	E7018	3.2	DCEP	60-130	20-40	66-198	Weave
3	SMAW	E7018	4.0	DCEP	100-180	20-40	72-192	Weave

Time laps between completion of root pass and commencement of second pass: 5 minutes

Time laps between completion of second pass and commencement of other pass: 5 minutes

Welding to be a continuous operation. Weld to completion (one heat cycle)