



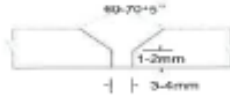
**WELDING PROCEDURE
SPECIFICATION(WPS)
AWS D1.1 & QP-SPEC-ES-S-20**

**WPS No.
AAIS-WPS-SS-5**

Company Name:

CONTRACT No.

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Supporting PQR No(s): PQR- ADY-214	Revision No(s): 0	Welding process(es) : SMAW	Type: MANUAL
JOINTS (QW-402) Joint design: 		BASE MATERIAL (QW-403) Spec. & type: Plate S 355K2G3 GR AWS GR II OR Equivalent to Plate S 355K2G3 GR AWS GR II OR Equivalent P.No. Gr.No. to P.No. Gr.No. PQR Base met. size: 25.4 mm thickness (WITH IMPACT) Thickness Range (mm): Pipe Diameter Range: Groove Joint: Up to 50.8 mm N/A Fillet Joint: All N/A	
Root spacing: 3.0 ± 1.0mm Backing: None Groove: Single V Groove Angle: 60 ± 5° Fillet: N/A Backing material: N/A Metallic: Non metallic Non fusing: Others: Retainers: Not Used Prep. method: Cutting and grinding for bevel preparation		DEPOSITED METAL(QW-404) Groove (MAX): SMAW Max 50.8 mm Fillet (MAX): All Overlay thickness qualified mm (min): N/A	

FILLER METALS (QW-404) Process: SMAW Filler type: FLUX COATED Supplier: ADOR WELDING Size mm Ø: 3.2, 4.0 SFANo.: 5.1 AWS No.: E 7018-1, E 7018-1 F No.: 4 A No.: 7		POSITION (QW-405) Groove position: 4G Weld progress: Up/Hi Fillet position: N/A	
Flux trade name: N/A Supplier: N/A Electrode flux comp.: N/A Supplementary filler: N/A Particle size: N/A Powder filler: N/A Others: Neutral, Active or Alloy flux: N/A		PREHEAT (QW-406) Preheat Temp. °C:(Min) 65°C Ambient Dry Maintenance: N/A Method: N/A Interpass Temp °C:(Max) 160° C *Note: BM Thick(mm) Temperature °C (Min) Temp. Measurement by Digital Thermometer and temp. indicating crayons	

HEAT TREATMENTS (QW-407) Type: N/A Temp. °C: N/A Time (H): N/A H.R. °C/H: N/A C.R. °C/H: N/A Soaking Time: N/A		TECHNIQUE (QW-410) String & weave bead: Stringer & weave Orifice of gas cup size: N/A Initial interpass cleaning: Grinding / Wire brushing Method of backgouging: Grinding Oscillation: N/A Contact tube to work distance: N/A Multipass or Single: Multipass Single or Multiple electrode: Single Electrode spacing: N/A Welding method: N/A Closed to out chamber: N/A Magnetic control device: Not Required Overlap: 1.6 mm Maximum Peening: N/A Others: N/A																	
GAS (QW-408) <table border="1"> <thead> <tr> <th>Shielding:</th> <th>Gas</th> <th>% Composition</th> <th>Flow rate</th> </tr> </thead> <tbody> <tr> <td>N/A</td> <td>N/A</td> <td>N/A</td> <td>N/A</td> </tr> <tr> <td>N/A</td> <td>N/A</td> <td>N/A</td> <td>N/A</td> </tr> <tr> <td>N/A</td> <td>N/A</td> <td>N/A</td> <td>N/A</td> </tr> </tbody> </table>		Shielding:	Gas	% Composition	Flow rate	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	ELECTRICAL CHARACTERISTICS (QW-409) Current: See below table POLARITY: See below table Pulsing: 50-60 Hz Amps range: See below table Volts range: See below table Metal transfer mode for GMAW: N/A Electrode wire speed range cm/min: N/A	
Shielding:	Gas	% Composition	Flow rate																
N/A	N/A	N/A	N/A																
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Weld layers	Process	Filler metal		Current		Travel Speed mm/min	Heat Input KJ/mm (Max.)	Inter pass Temp °C
		AWS Class	Dia. mm	Type & Polarity	Amps Range			
Root	SMAW	E 7018-1	3.2	DCEN	80-85	22-27	3.07	70
Hot	SMAW	E 7018-1	3.2	DCEP	120-140	21-26	2.65	80
Fillet	SMAW	E 7018-1	4.0	DCEP	123-139	23-28	2.02	110
Cap	SMAW	E 7018-1	4.0	DCEP	123-139	23-28	1.17	120

Prepared By.	Reviewed /Witnessed By.	Approved By.
AAIS	DNV	AAIS
Date.		



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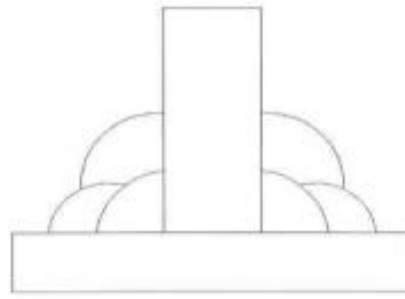
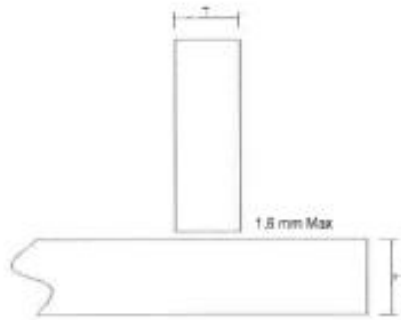
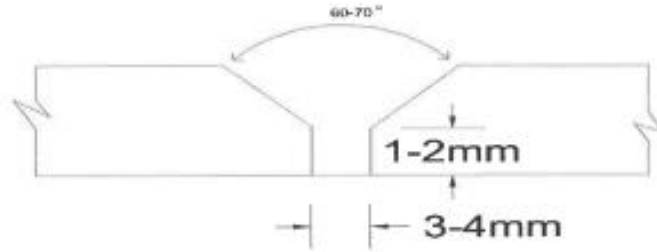
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Supporting PQR No(s):
PQR- ADY-214

Revision No(s):
0

Welding process(es) : SMAW
Type: MANUAL

JOINT DESIGN



T⁺ JOINTS

Prepared By. AAIS	Reviewed /Witnessed By. DNV	Approved By. AAIS
Date.		