BDDE PROJECT SOLUTION LTD

WELDING PROCEDURE SPECIFICATION (WPS)

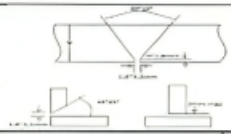
Project Name : Essential Drag Company Ltd. (EDCL) 3rd Plant	**WPS No** : BDDE-WPS-CS-002 Rev. 0
Client : Energypac Power Generation Ltd.	**PQR No** : BDDE-PQR-CS-002 Rev. 0
Contractor : BDDE Project Solution Ltd.	**Date** : 12 February, 2020

Welding Process(es) : GTAW + SMAW **Types** : Manual

Code : ASME Sec IX, Latest Edition

JOINT (QW-402)

Joint Design : Groove and Fillet (As per Drawing)
Backing : With or Without
Backing Material : Weld/Base Metal
Retainer : N/A
Other : N/A



PREHEAT TEMPERATURE (QW-406)

Min. Preheat Temp. (°C) : Ambient
Max. Interpass Temp. (°C) : 250°C
Preheat Maintenance : N/A
Others : N/A

BASE METALS (QW-403)

P. No. 1 Group No. 1 to P. No. 1 Group No. 1
Specification Type and Grade : ASTM A106 GR. B
Base metal Thickness Range : Groove 1.5 mm to 14.22 mm Fillet All
Diameter Range : All Diameter Fillet All
Others : N/A

PWHT (QW-407)

Temp. Range (°C) : N/A
Holding Time (minute) : N/A
Heat Rate : N/A
Cool Rate : N/A
Others : N/A

FILLER METALS(QW-404)

	GTAW	SMAW
SFA No.	5.18	5.1
AWS Classification	ER70S-6	E6013
F- No	6	2
A- No	1	1
Diameter (mm)	All Diameter	All Diameter
Deposited Weld Thick.		
Groove(Max)	6mm	8.22 mm
Fillet(Max)	Unlimited	Unlimited
Filler Metal Product Form	Metal Core / Solid Wire	N/A
Trade Name	N/A	N/A
Manufacturer	N/A	N/A
Electrode-Flux (Class)	N/A	N/A
Flux Trade Name	N/A	N/A
Consumable Insert	N/A	N/A
Others	N/A	N/A

GAS (QW-408)

	Percent Composition		
	(Gases)	(Mixture)	Flow Rate
Shielding	Argon	99.98%	12-20 LPM
Backing	N/A	N/A	N/A
Others	N/A	N/A	N/A

ELECTRICAL CHARACTERSTICS (QW-409)

	GTAW	SMAW
Current	DCEN	AC, DCEP, DCEN
Polarity	Straight	Reverse / Straight
Heat Input	As mentioned below	As mentioned below
Tungsten Size and Type	Ø 2.4 mm, 2% THORIATED	N/A
Other	N/A	N/A

WELDING TECHNIQUE (QW-410)

String/Weave Bed : String and Weave
Method of Cleaning : Chipping, Grinding or Brushing
Orifice or Gas Cup Size : 6~12mm
Single or Multi Pass/Side : Multiple
Single or Multi Electrodes : Single
Method of Back Gouging : N/A
Peening : N/A
Use of Thermal Process : N/A
Others : N/A

POSITIONS (QW-405)

Groove Position : 6G (All Position)
Welding Progression : UP HILL
Fillet Position : All
Other : N/A

Weld Pass / Layer	Pass No.	Welding Process	Filler Metal Class	Filler Metal Dia (mm)	Current Type (Polarity)	Ampere (A) Range	Voltage (V) Range	Travel Speed mm/min	Heat Input (KJ/mm)
Root	1	GTAW	ER70S-6	2.4	DCEN	90-110	11-14	70	0.85-0.62
Hot	2	GTAW	ER70S-6	2.4	DCEN	85-105	11-14	150	1.47-0.93
Fill	3	SMAW	E6013	2.5	DCEP	70-95	20-25	95	1.01-1.50
Cap	4	SMAW	E6013	2.5	DCEP	70-95	20-25	130	0.74-1.10

Contractor	Third Party Inspector	Client
BDDE Project Solution Ltd.	Bureau Veritas (Bangladesh) Private Ltd.	Energypac Power Generation Ltd.
Name: Polak Saha	Name: Mohammed Nasir Uddin	Name:
Sign & Date: 12/02/2020 Polak Saha B.Sc. Engg. (ME) Coordinator (Design & Drafting) Bangladesh Development & Design Engineers	Sign & Date: 12-02-2020 BUREAU VERITAS BANGLADESH PRIVATE LIMITED DHAKA	Sign & Date: BDDE DESIGN & DRAFTING Dhaka-1206