



Our Facilities



Corporate Office & State-of-the-art Manufacturing Facilities

The Spirit to Walk an Extra Mile...

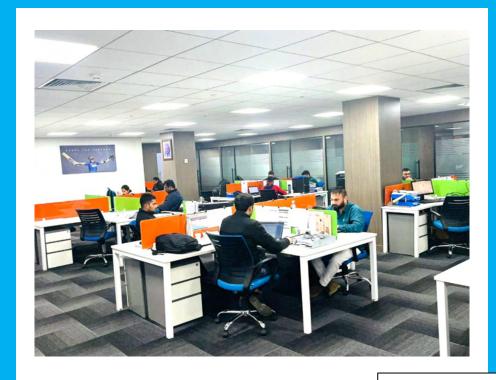
Corporate Office: Manesar, Haryana, India

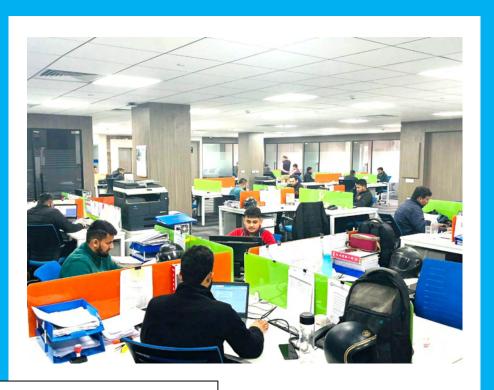




Corporate Office:







Sales & Engineering

Manufacturing (Unit – 1), Bawal, Haryana, India





Extended Manufacturing (Unit – 1), Bawal, Haryana, India







Shop Floor







Shop Floor







Shop Floor - Aluminum Domes & IFR







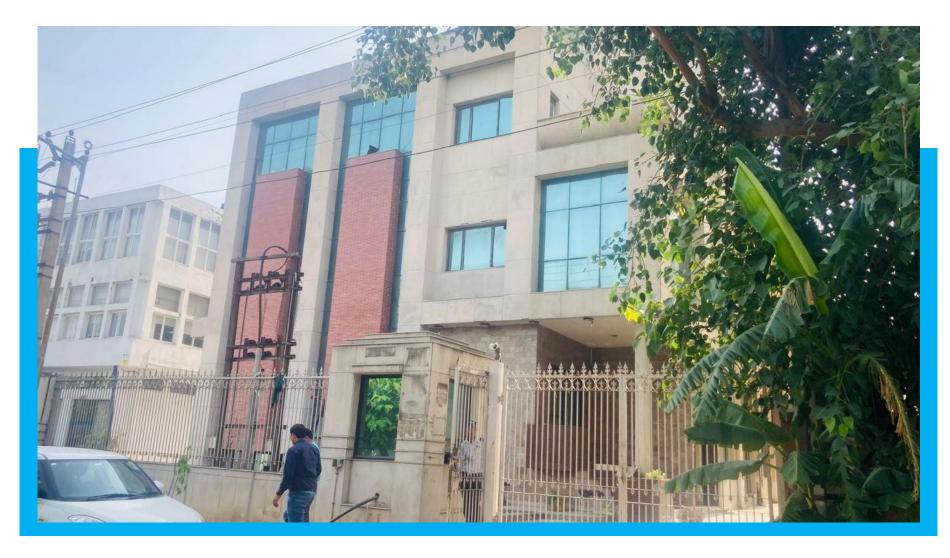
Shop Floor





Extended Corporate Office (Unit-2): Manesar, Haryana, India





Manufacturing (Unit – 2), Dubai, UAE





Factory Tour: Dubai, UAE



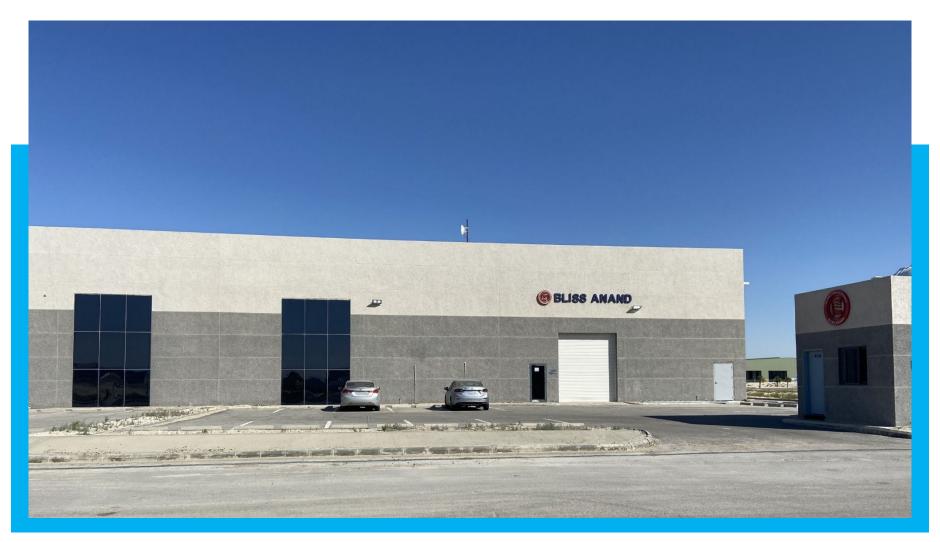
Shop Floor





Manufacturing (Unit – 4), Kingdom of Saudi Arabia

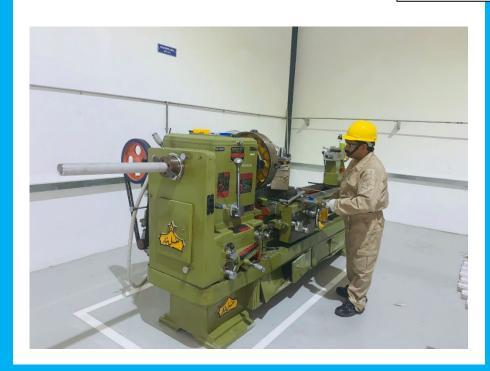




Factory Tour: Kingdom of Saudi Arabia



Shop Floor





Brdr. Christensens, Denmark





Factory Tour: Denmark



Shop Floor





Energy Equipment Division - Products/Systems





2-3 Phase Separator System - Skid



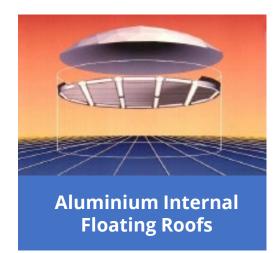
Indirect Water Bath Heater



Gas Conditioning, Regulating & Metering System



Chemical Injection Skid





Heater Treater



Geodesic Dome & IFR for Hydrocarbon Storage Tank



Wellhead Control Panel

2-3 Phase Separator System - Skid



Key Highlight

- Primary equipment for separation of Liquid & Gas (Two Phases) or Oil, Water & Gas (Three Phases) from Oil Well Stream.
- Design & manufacture as per API 12J. Specification for Oil & Gas operation.
- Internal Inlet impingement Baffles, Wave Baffles, Flow Straightening Baffles, Weirs, Mist Eliminators & Vortex Breakers provided for effective separations.
- Designed to allow sufficient retention period.
- Controls & Instrumentation provided to accurately measure the Gas, Oil & Water flow rates, regulate the pressure and monitor the levels of Oil, Water in the Separator.



Indirect Water Bath Heater:



Key Highlight

- ➤ Designed in full compliance with API 12K specifications. Specification for Indirect Type Oil Field Heaters.
- Natural Draft Burners, directly mounted on Fire Tube.
- Precise temperature control.
- Removable Single or Twin Fire Tube Design.
- Removable Heating Coil for ease of maintenance.
- Burners System complete with Pilot, Main Burner, Gas Train, Spark Igniter.
- Flame Arrestors at Burners Air Intake and Stack Top.
- ➤ Heating capacity upto 5 Million K.Cal/Hr.



Gas Conditioning, Regulating & Metering System:



Key Highlight

- > Ensures supply of Dry and Dust Free Gas.
- ➤ 2 × 100 % Filter Separators together with Indirect Water Bath Heater (as per service requirement) complete with Interconnecting Piping, Valves, Instrumentations, Electrical and PLC based Control Panels for unattended & smooth operation.
- Separation and Removal of Liquid from the Gas Stream.
- Compact, well-engineered skid mounted layout to facilitate easy access to all Valves



The Spirit to Walk an Extra Mile...

Chemical Injection Skid:



Key Highlight

- ➤ We specialize in Design and Fabrication of Transportable/Permanent, Skid Mounted Chemical Injection Systems.
- ➤ These systems are built to customer requirement and in accordance with international design codes/standards.
- Pump selection, material of construction is selected for compatibility with the process chemical.
- Use of proven system component, 3D modelling to ensure ease of operation and maintenance etc.
- Single point or multipoint Injection Systems.



Internal Floating Roof:



Key Highlight

- Minimizes Vapour Losses of stored liquids, while saving a lot of money.
- > Extremely light weight compared to conventional CS IFR.
- ➤ No period maintenance required resulting in cost effectiveness.
- No Painting required required resulting in cost effectiveness.
- > Well designed to manage vaccum & pressure flow.
- Reduces pollution while ensuring no harmful vapours are let off to the
- > atmosphere.
- Increases safety while ensuring no explosive vapours are trapped.



Heater Treater:



Key Highlight

- Adequately designed for both vertical and horizontal installation.
- Direct type and Indirect Type First time 'Made In India' with such a huge capacity.
- > Custom built to suit the process requirement and the client need.
- Fully automated with SDV, PRV, CV, Analyzer, Transmitters, PSV, Duobloc Burnerr, PLC control etc..
- > Designed and Manufactured as per international quality norms.
- Lightweight insulation reduces loading weight.
- Resistance to mechanical and thermal shocks.
- Faster start-up and cool down period.



Aluminum Geodesic Dome:



Key Highlight

- Extremely light weight but extremely strong compared to conventional CS dome, hence very low loads on the tank and foundations.
- Non welding type construction.
- Maintains extremely low temperature inside the tank unlike a CS Dome.
- No or very little maintenance required in the dome's lifetime.
- > Strong enough to withstand all environmental factors while ensuring the tank contents remain uncontaminated and odors and vapors are contained.
- No need to dispose of water contaminated due to leaky seals or drains
- No standing water reduces the corrosion & loads of steel parts while also reducing risk of collapse due to accumulation.
- Zero risk of rim fires.



Wellhead Control Panel:



Key Highlight

- Modular Design with SS 316 / 316 L
- Construction or as needed.
- ➤ Adequate Power & head to meet the well requirement.
- Easy Operation, Maintenance & Serviceability
- First Time 'Made In India'
- Future proofing & Expandable design.
- Safe & Enviornment protected design.





Projects Executed

Energy Equipment - Heater Treater:







Energy Equipment - Heater Treater:







Products & Systems:



Heater Treater



Features:

- Adequately designed for both vertical & horizontal installation.
- Direct type & indirect type.
- Custom built to suit the process requirement and the client need.
- Designed & Manufactured as per international quality norms.
- > Light weight insulation reduces loading weight.
- Low installation cost, the heater with all instruments & controls can be skid mounted for simple, economical installation & relocation.

Energy Equipment: HT Fabrication

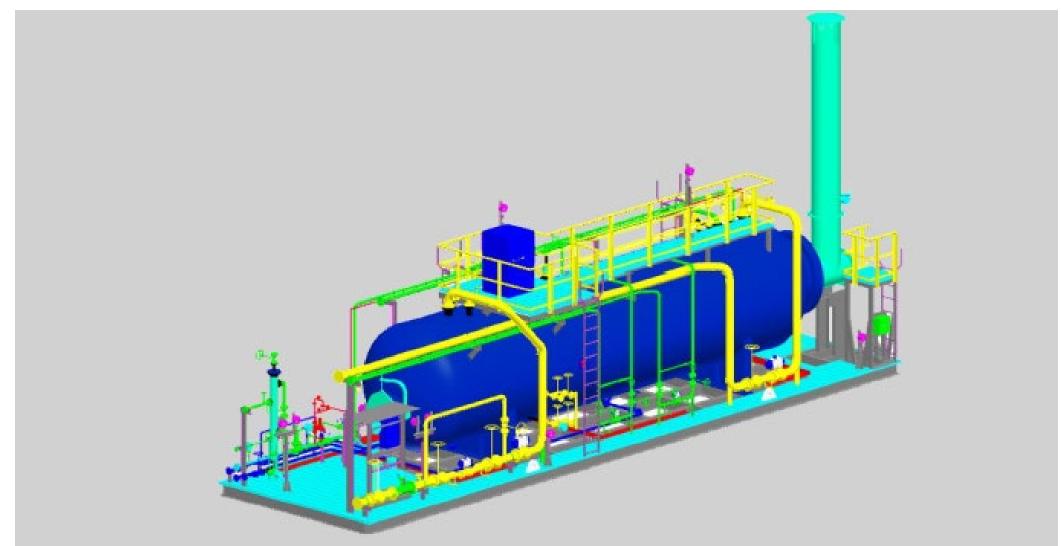






Energy Equipment - Heater Treater:





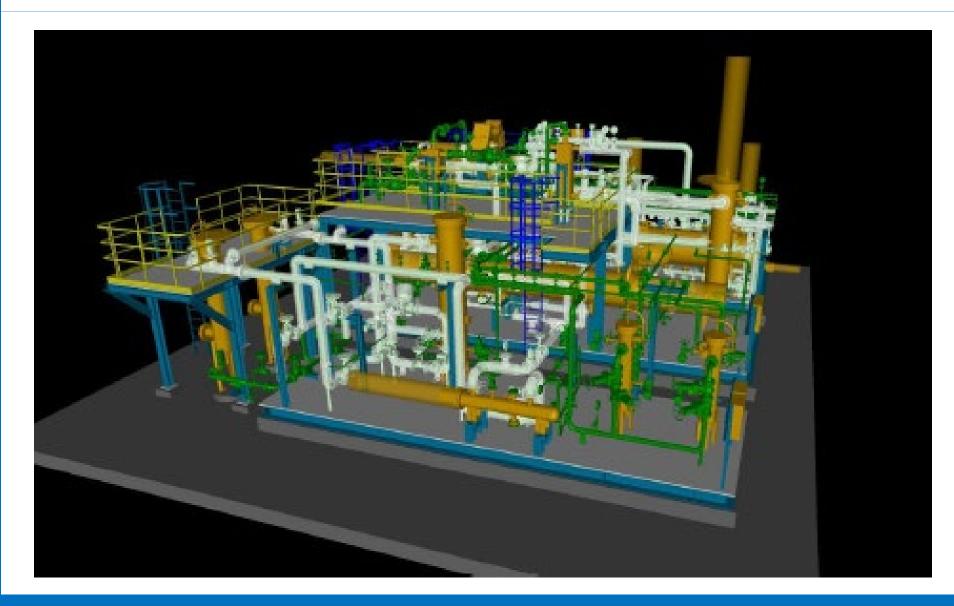
3 D Snapshot Purge Gas Recovery Unit in execution





3 D Snapshot Purge Gas Recovery Unit in execution





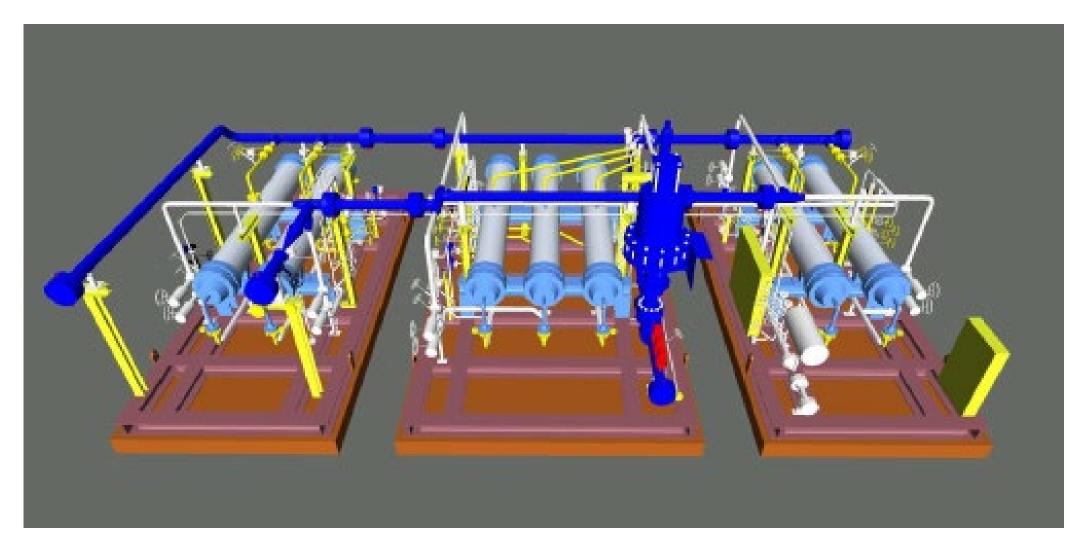
3 D Snapshot HP Hydrogen Recovery Unit in execution





3 D Snapshot HP HRU in execution





Wellhead Control Panel:







Wellhead Control Panel:







Project: Hydrogen Recovery From Syngas For Shell R&D





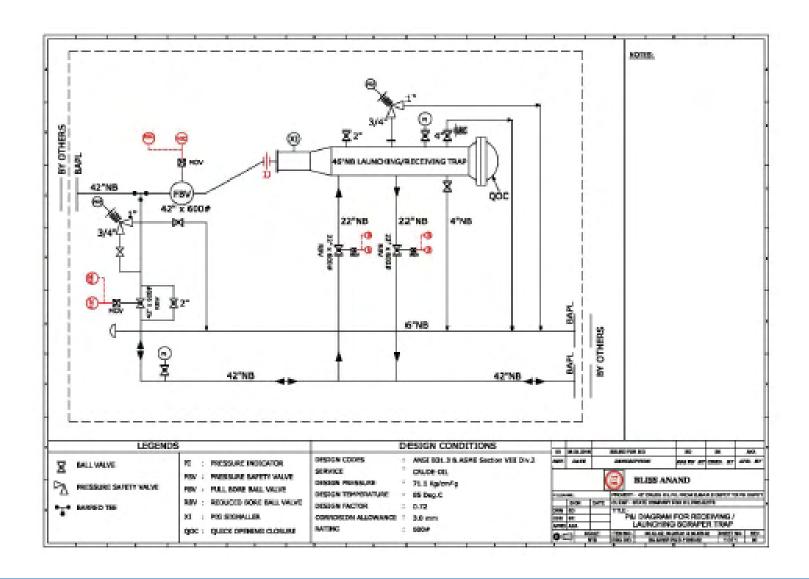
Pig Launching & Receiving Station:





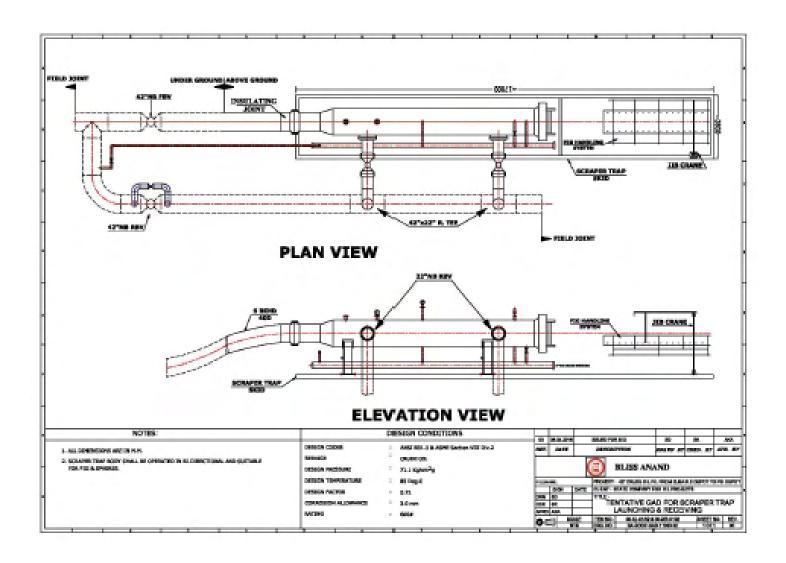
P&I Diagram: Pig Launching & Receiving Station:





P&I Diagram: Pig Launching & Receiving Station:





Bliss Anand - Modular Assemblies:



Engineered Modules

Chemical Injection Skid

Custody Transfer & Metering

Transfer Pump

Pig Launchers & Receivers

Process Based Modules

Filter Separation

Indirect Water Bath Heaters

Heater Treater

Surge Relief Systems

De-emulsifiers

Gas Conditioning

Gas Dehydration

Membrane Separation

Turnkey Solutions

Products Loading Terminal

Loading/Unloading Station

Purge Gas Recovery System

Bliss Group - Software:



SOFTWARE
PV Elite
AutoCAD
Solidworks
CFD

IMPLEMENTATION Pressure Vessel & Heat Exchanger Design 2D & 3D Design & Drafting Solid Modeling CAD & CAE Software High end Engineering Software in use

PROVIDERS / LICENSOR
Intergraph CADWorx and Analysis Solutions
Autodesk
Dassault Systemes SolidWorks Corp.
ANSYS



CERTIFICATIONS

Certifications:









The Spirit to Walk an Extra Mile...

ASME Certifications:





ASME U STAMP

Pressure Vessels Fabrication or weld modifications of unfired pressure vessels require the ASME "U" & National Board Stamp.



ASME S STAMP

Power Boilers (over 15 p.s.i steam, 160 p.s.i. water & temperature exceeding 250 F) shall be stamped ASME (S) & National Board (N.B.).



ASME PP STAMP

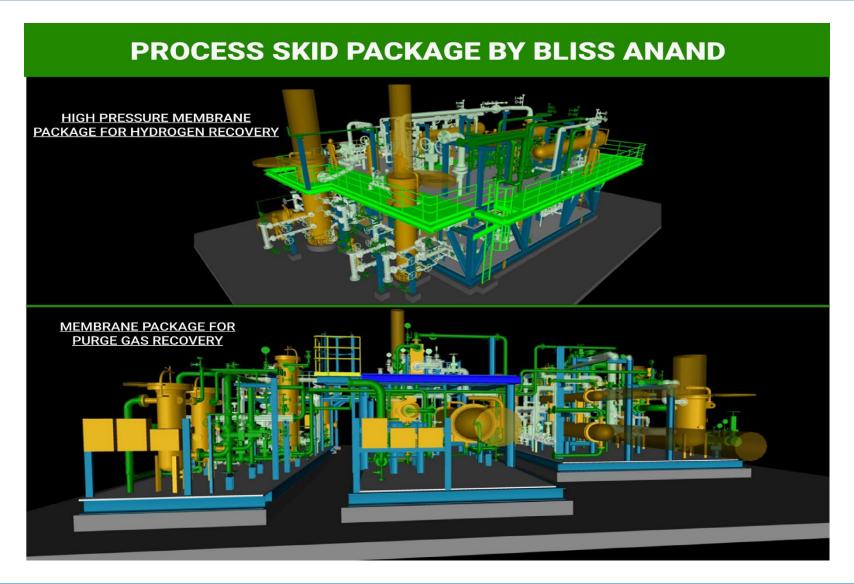
Pressure Piping applies to boilers in which steam or other vapor is generated at pressure exceeding 15 psig, and high temperature water boilers intended for operation at pressure exceeding 160 psig and / or temperature exceeding 250 degree F.





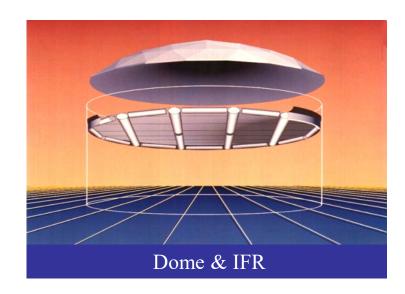
3D MODEL: HYDROGEN RECOVERY UNIT & PURGE GAS RECOVERY

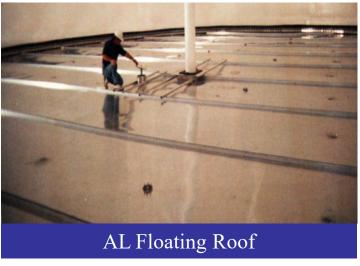




BLISS: Aluminum Floating Roof & Geodesic Dome in Aluminum









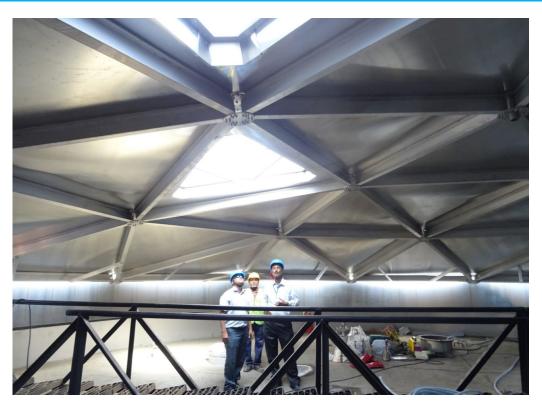
Energy Equipment: Aluminum IFR & Geodesic Dome



AL Floating Roof

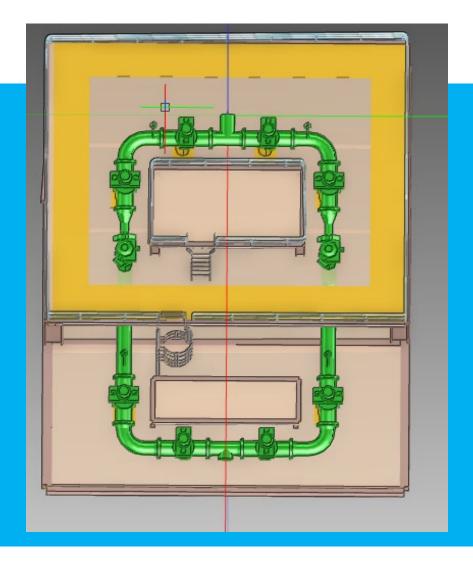


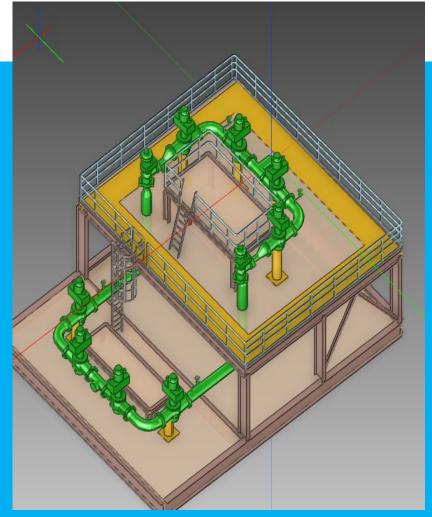
AL DOME



Letdown Skid: With T-Connection & Straight Valve



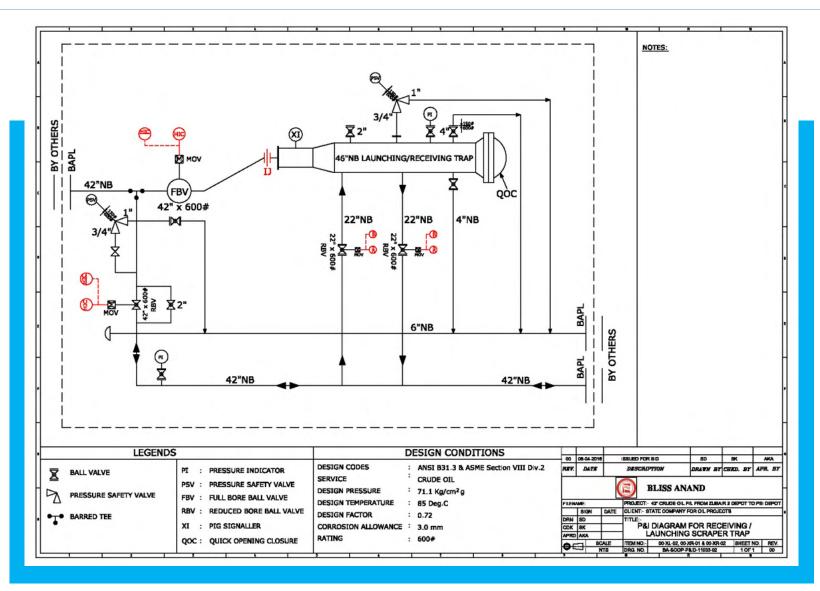




The Spirit to Walk an Extra Mile...

Exhibits P&I DIAGRAM: PIG LAUNCHING & RECEIVING STATION





Exhibits QUALIFIED WELDERS:



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٧,	Do gove Person The U.S.	ON PARTIES					LIST	OF QUA	ALIFIED	WELDERS	•		Date	22/06/20	015	
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šl. No.	WELDER NAME	CLOCK NO.	STAMP NO.	WPS #	PQR#	Welding Process	Process Type	Weld Type	Qualified P. No.	Grade	Qualified F No.	Filler / Electrode	Position Qualified Plate	Weld Deposit	Max. Base Metal Thk. Qualified	CERTIFIYING AGENCY
1	Jacob Joseph	11	W-III	WPS-BA-003	PQR-BA-003	GTAW+ SMAW	Manual	Groove	1 to 1	SA 106 Gr.8	6,4	ER 70 SG, E7018	Flat	1.5 to 9.0 mm	1.5 to 9.0 mm	ABS INDUSTRIAL VERIFICATION
2	Ali Akhtar	12	W-AA	WP5-BA-007	PQR-BA-007	GTAW+	Manual	Groove	1 to 8	SA 312TP316LTO SA106 GrB	6,5	ER 309L, E309L	Flat	1.5 to 9.0 mm	1.5 to 9.0 mm	DET NORSKE VERITAS / BAPL
3	Ali Akhtar	12	W-AA	WPS-BA-009	PQR-8A-009	GTAW + SMAW	Manual	Groove	1 to 1	SA333 Gr6 TO SA333 Gr6	5, 4	ER 70 SG, E2018-G	Flat	1.5 to 9.0 mm.	1.5 to 9.0 mm	ABS INDUSTRIAL VERIFICATION
4	All Akhtar	12	W-AA	WPS-BA-202	PQR-BA-302	GTAW	Manual	Groove	45 to 45	58423 TO 58423 (UNSNO8825)	43	ER NICrMo-3	Flat	9.0 mm	1.5 to 9.0.mm	TUV INDUSTRIAL INSPECTION SERVICES (INDIA)/ BAPL
5	Shiv Ratan	13	W-SR	WPS-BA-003	PQR-BA-003	GTAW + SMAW	Manual	Groove	1 to 1	SA 106 Gr.B	5,4	ER 70 SG, E7018	Flat	9,0 mm	1.5 tn 9.0 mm	TUV INDUSTRIAL INSPECTION SERVICES (INDIAL) BAPL
6	Shiv Ratan	13	W-SR	WPS-BA-007	PQR-8A-007	GTAW+ SMAW	Manual	Groove	1 to 8	SA 312TP316LTO SA106 GrB	5,5	ER 309L, E309L 16	Flat	9.0 mm	1.5 to 9.0 mm	DET NORSKE VERITAS / BAPL
7	Shiv Ratan	13	W-SR	WPS-BA-101	PQR-8A-101	GTAW+ SMAW	Manual	Groove	8 to 8	SA 312TP316L TO SA 312TP316L/ SA182F316L	5, 5	ER 3161, E3161 16	Flat	9.0 mm	1.5 to 9.0 mm	TUV INDUSTRIAL INSPECTION SERVICES (INDIA)/ BAPL
8	Shiv Ratan	13	W-SR	WPS-BA-102	PQR-BA-102	GTAW	Manual	Groove	45 to 45	58423 TO 58423 (UNSNO8825)	43	ER NICYMo-3	Flat	9.0 mm	1.5 to 9.0 mm	TUV INDUSTRIAL INSPECTION SERVICES (INDIAL) BAPL
9	Shiv Ratan	13	W-SR	WP5-BA-105	PQR-BA-105	GTAW	Manual	Groove	43 to 43	SB444 (UNS N06625) TO SB 444	43	ER NiCrMo-3	Flat	9.0 mm	1.5 to 9.0 mm	TUV INDUSTRIAL INSPECTION SERVICES (INDIA)/ BAPL
10	Shiv Ratan	13	W-SR	WP5-BA-106	PQR-8A-106	GTAW	Manual	Groove	10H to 10H	SA790 TO SA790 (UNS S32750)	6	ER 2594	Flat	9.0 mm	1.5 to 9.0 mm	TUV INDUSTRIAL INSPECTION SERVICES (INDIAL/ RAP).
11	Shiv Ratan	13	W-SR	WPS-BA-111	PQR-BA-111	GTAW	Manual	Groove	8 to 8	SA 312TP UNS 581254	43	ER NICrMo-3	Flat	9.0 mm	1.5 to 9.0 mm	INDIAN REGISTER OF SHIPPIN BAPL
12	Shiv Ratan	13	W-SR	WPS-BA-103	PQR-8A-103	GTAW	Manual	Groove	8 to 8	SA 312TP UNS S31254	43	ER NICrMo-3	Flat	9.0 mm	9.0 mm	TUV INDUSTRIAL INSPECTION SERVICES (INDIA)/ BAPL
13	Mahfuz Alam	14	W-MA	WPS-BA-102	PQR-8A-102	GTAW	Manual	Groove	45 to 45	SB423 TO SB423 (UNSN08825)	43	ER NICrMo-3	Flat	9.0 mm	9.0 mm	TUV INDUSTRIAL INSPECTION SERVICES (INDIAL/ BAPL
14	Mahfuz Alam	14	W-MA	WP5-8A-103	PQR-8A-103	GTAW	Manual	Groove	8 to 8	SA 312TP UNS 531254	43	ER NiOrMo-3	Flat	9.0 mm	9.0 mm	SERVICES (INDIAL/ BAPL TUV INDUSTRIAL INSPECTION
15	Mahfuz Alam	14	W-MA	WPS-8A-107	PQR-BA-107	GTAW	Manual	Groove	42 to 42	(LINSNO4400)	42	ER NiCu-7	Flat	9.0 mm	9.0 mm	SERVICES INDIAL/ BAPL TUV INDUSTRIAL INSPECTION
16	Mumtaz Alam	15	W-MU	BAPL/WPS-001	BAPL/PQR-001	GTAW	Manual	Hard Facing Overlay	8	CFBM	72	ERCoCr-A	Flat	No Umit	No Limit	SERVICES INDIA// BAPL TUV INDUSTRIAL INSPECTION
17	Mumtaz Alam	15	W-MU	BAPL/WPS-002	BAPL/PQR-002	GTAW	Manual	Groove	1 to 1	WCB	4	E 7018	Flat	24 mm	24 mm	SERVICES (INDIA)/ BAPL TUV INDUSTRIAL INSPECTION
_								Fillet	1 to 1	WCB	4	E 7018	Flat	No Limit	No Limit	SERVICES (INDIA) / BAPL TUV INDUSTRIAL INSPECTION
18	Mumtaz Alam	15	W-MU	BAPL/WPS-003	BAPL/PQR-003	GTAW	Manual	Groove	1 to 1	WCB WCB	6	ER 705-2 ER 705-2	Flat	24 mm No Umit	24 mm No Limit	SERVICES (INDIA) / BAPL TUV INDUSTRIAL INSPECTION SERVICES (INDIA) / BAPL
19	Mumtaz Alam	15	W-MU	BAPL/WPS-004	BAPL/POR-004	GTAW	Manual	Groove	4 to 4	WC6	4	E 8018 B2	Flat	24 mm	24 mm	TUV INDUSTRIAL INSPECTION SERVICES JINDIAY BAPL
								Fillet	4 to 4	WC6	4	E 8018 B2	Flat	No Umit	No Limit	TUV INDUSTRIAL INSPECTION SERVICES (INDIA)/ BAPL
20	Mumtaz Alam	15	W-MU	BAPL/WPS-005	BAPL/PQR-005	GTAW	Manual	Groove	4 to 4	WC6	6	ER805-B2	Flat	24 mm	24 mm	TUV INDUSTRIAL INSPECTION SERVICES (INDIA)/ BAPL
								Fillet	4 10 4	WC6	6	ER805-82	Flat	No Limit	No Limit	TUV INDUSTRIAL INSPECTION SERVICES (INDIAL) BAPIL

(Hone

Exhibits Welding Process:



	£1555555555	IE Section IX)		
Company Name	BLISS ANAND	By:		CUMAR KATARIA
Welding Procedure Sp		Revision No.		Date 01/06/2015
	PQR-BA-101	Revision No.	00	Date 09/08/2016
Welding Process(es)				
Type(s)	MANUAL			
JOINTS(QW-402)			DET	TAILS
Joint Design	SINGLE 'V'		75**	5.
Backing(Yes)		1	·	> 1
Backing Material(Type	NOT APPLICABLE	5///		XIIIIX
Martal .	Nonfusion Metal	PILL	1110	3 3
"Metal	Nonfusing Metal		_	IZ-OMM P
*Nonmetallic	*Other			2
NOTE: For dia ≤ 50m	m and thk ≤ 5mm, joint sh	all be welded wit	h GTAW	
BASE METAL(QW-4)	03)			
	Group No. 1	to P.No. 8	Group	No 1
OR				
Specification type and	grade ASTM A - 312	TP - 316L		
to specification type a	nd grade ASTM A - 312	TP - 316L / AST	M A 182 F	316L
OR				
Chem.Analysis and M	ech.Prop.			
to Chem.Analysis and	Mech.Prop			
Thickness Range :				
	Groove 1.5 - 9 mm	Fillet	ALL SIZE	ES
Thickness Range : Base Metal : Other	Groove <u>1.5 - 9 mm</u>	Fillet	ALL SIZE	S
Base Metal :	Groove <u>1.5 - 9 mm</u>	Fillet	ALL SIZE	ES
Base Metal : Other		Fillet		
Base Metal : Other FILLER METAL (QW-		GTAV		SMAW
Base Metal : Other FILLER METAL (OW- Specification No.		GTAV	· i.9	SMAW SFA 5.4
Base Metal : Other FILLER METAL (QW- Specification No. AWS No.		GTAV	6.9	SMAW SFA 5.4 E-316L-1
Base Metal : Other FILLER METAL (QW- Speoification No. AWS No. F-No		GTAV	5.9 6 L	SMAW SFA 5.4 E-316L-1 5
Base Metal : Other FILLER METAL (OW- Specification No. AWS No. F-No. A-No.		SFA SER 31	6.9 6 L	SFA 5.4 E-316L-1 5
Base Metal : Other FILLER METAL (OW- Speofication No. AWS No. F-No A-No. Size of Filler Metals		SFA SER 31	5.9 6 L	SFA 5.4 E-316L-1 5
Base Metal : Other FILLER METAL (CW- Specification No. AWS No. F-No A-No. Size of Filler Metals Weld Metal	404)	SFA SER 31	6.9 6 L	SFA 5.4 E-316L-1 5
Base Metal : Other FILLER METAL (QW- Speoification No. AWS No. F-No A-No. Size of Filler Metals Weld Metal Thickness Rang	404)	SFA 5 ER 31	6 L 6 L 6 & 2.0 mm	SMAW SFA 5.4 E-316L-1 5 8 Ø 25 & 3.15
Base Metal : Other FILLER METAL (OW- Specification No. AWS No. F-No A-No. Size of Filler Metals Weld Metal Thickness Rang Groove	404)	GTAV SFA 5 ER 31	6 L 6 L 6 3 8 2.0 mm	SFA 5.4 E-316L-1 5 8 Ø 25 8 3.15
Base Metal : Other FILLER METAL (QW- Specification No. AWS No. F-No A-No. Size of Filler Metals Weld Metal Thickness Rang Groove Fillet	404)	SFA 5 ER 31	6 L 6 L 6 3 8 2.0 mm	SFA 5.4 E-316L-1 5 8 Ø 25 8 3.15
Base Metal : Other FILLER METAL (QW- Speodination No. AWS No. F-No A-No. Size of Filler Metals Weld Metal Thickness Rang Groove Fillet	404)	GTAV SFA 5 ER 31	6 L 6 L 6 3 8 2.0 mm	SFA 5.4 E-316L-1 5 8 Ø 25 8 3.15
Base Metal : Other FILLER METAL (QW- Speodication No. AWS No. F-No A-No. Size of Filter Metals Weld Metal Thickness Rang Groove Filtet Flux(Class)	404)	SFA 5 ER 31 Ø 1.5 to ALL 5	6 L 6 B 8 & 2.0 mm	SMAW SFA 5.4 E-316L-1 5 8 Ø 25 & 3.15 1.5 to 5mm ALL SIZE
Base Metal : Other FILLER METAL (QW- Speodination No. AWS No. F-No A-No. Size of Filler Metals Weld Metal Thickness Rang Groove Fillet Electrode Flux(Class) Flux Trade Name	404)	GTAV SFA 5 ER 31	6 L 6 B 8 & 2.0 mm	SMAW SFA 5.4 E-316L-1 5 8 9 25 & 3.15 1.5 to 5mm ALL SIZE:
Base Metal : Other FILLER METAL (QW-Specification No. AWS No. F-No A-No. Size of Filler Metals Weld Metal Thickness Rang Groove Fillet Electrode-Flux(Class) Flux Trade Name Filler with Specification of the Specific Product Form Filler Specific Pr	404)	SFA 5 ER 31	6 L 6 L 3 & 2.0 mm 4mm IZES	SMAW SFA 5.4 E-3161-1 5 8 0 25 8 3.15 1.5 to 5mm ALL SIZE:
Base Metal : Other FILLER METAL (QW- Specification No. AWS No. F-No A No. Size of Filler Metals Weld Metal Thickness Rang Groove Fillet Electrode Flux(Class) Flux Trade Name Florsumable Insert	404)	SFA 5 ER 31	6.9 6 L 5 8 & 2.0 mm SIZES	SMAW SFA 5.4 E-316L-1: 5 8 Ø 25 & 3.15 1.5 to 5mm ALL SIZE:
Base Metal : Other FILLER METAL (OW- Specification No. AWS No. F-No A-No. Size of Filler Metals Weld Metal Thickness Rang Groove	404)	SFA 5 ER 31	6.9 6 L 5 8 & 2.0 mm SZES (Bare)	SMAW SFA 5.4 E-316L-1 5 8 Ø 25 & 3.1! 1.5 to 5mm ALL SIZE
Base Metal : Other FILLER METAL (QW- Specification No. AWS No. F-No A No. Size of Filler Metals Weld Metal Thickness Rang Groove Fillet Electrode Flux(Class) Flux Trade Name Florsumable Insert	404)	SFA 5 ER 31	6.9 6 L 5 8 & 2.0 mm SZES (Bare)	SMAW SFA 5.4 E-316L-1 5 8 Ø 25 & 3.1! 1.5 to 5mm ALL SIZE
Base Metal : Other FILLER METAL (QW-Specification No. AWS No. F-No A-No. Size of Filler Metals Weld Metal Thickness Rang Groove Fillet Electrode-Flux(Class) Flux Trade Name Filler with Specification of the Specific Product Form Filler Specific Pr	404)	SFA 5 ER 31	6.9 6 L 5 8 & 2.0 mm SZES (Bare)	SMAW SFA 5.4 E-316L-1 5 8 Ø 25 & 3.15 1.5 to 5mm ALL SIZE:
Base Metal : Dither FILLER METAL (QW-Specification No. AWS No No A-No. Size of Filler Metals Weld Metal Thickness Rang Groove Fillet Filler Metals Filler Metals Filler Metals Filler Metals Thickness Rang Groove Filler Trade Name Filler Metals Name Filler Metals Name Filler Nam	404)	SFA 5 ER 31	6.9 6 L 5 8 & 2.0 mm SZES (Bare)	SMAW SFA 5.4 E-316L-1 5 8 Ø 25 8 3.1! 1.5 to 5mm ALL SIZE

POSITION position(s) of					POST WE	LD HEAT	Rev.	707W-407
	of groove		F, H & V		Temperat	ure Range	NOT APPLI	CABLE
Welding Pro	gression:	Up	ALL POSITIO	Down	NA Time Ran	ge	NOT APPLI	CABLE
Position(s) of	Fillet		ALL POSITIO	INS	Other		NOT APPLI	CABLE
PREHE	AT (QW - 4	406)			GAS (QV	(-408)	For GTAW	
			ge Compositio	n		Percentage	Compositio	n
Preheat Tem	p.Min.		20° C MIN			Gas (es)	(Mixture) F	low
Proheat Ma	np.Max		150°C MAX		Shielding Trailing	Argon	99.995%	10 - 15 LPI
r Turnsat mea	monanco		rec.			Argon	99.995%	10 - 15 LPI
						Till Compl	etion of Wel	d
ELECTRICAL Current AC o		TERISTIC		Polarity	Refer Ta	ble Below		
Amps (Range	4)	Refer Tal	ble Below	Volts (Range) Refer Tab	le Below		
Tungsten Ele	ctrode Size	and type			2 mm Dia	2% Th	oriated	
Mode of Meta	d Transfer f	or GMAW			NOT APP	LICABLE		
Electrode Wie	re feed spec	ed range			NOT APP	LICABLE		
TECHNIQUE	(QW-410)							
String or West Orifice or Gas	ive Bead				STRING 6 mm Dia			
Orifice or Gar Initial and Into		nina			5 mm Dia	RRUSHIN	a GRINDII	60
	(Brushing,	Grinding 6	rtc)				ummebil	-
Method of Ba	ck Gouging	1			NOT APP	LICABLE		
Oscillation	to made the				NIL.	O MEDIUM	ARC	
Contact Tube Multiple or Si					MULTIPL		AHU	
Multiple or Si	ngle electro	de			SINGLE			
Travel Speed	(Range)				REFER T	ABLE BEL	OW	
Peening					NO			
Others					NIL			
Weld	Process	Fil	er Metal	C	amont	Volt	Travel	Heat Inpo
Layer(s)	PTOCESS	Class	Dia	Type polar.	Amps Range	Range	MMMN	KJMM
ROOT RUN	GTAW	ER-316L	1.6 / 2.0mm	STRAIGHT (DCEN)	70 - 90	9 TO 11	40 TO 50	0.95 - 1.1
FILLING	SMAW	E-316L-16	2.5 / 3.15mm	REVERSE (DCEP)	60 - 80	8 TO 10	80 TO 100	0.36 - 0.4
(70)	(3)					(Fee)VI	NOD KR. K	ATARIA
** Stations	· carre							
Inspection A	uthority			Dated :09/0	8/2010	G	M-OPERATI	
Inspection A	athority			Dated :09/0	B/2010	G	SHEET: 2/2	
POSITION: position(s) o Welding Pro	(QW-405) of groove ogression :	Up	F, H & V For Vertical ALL POSITIO	WPS No	WPS-BA-101	LD HEAT		1 (QW-407) CABLE CABLE
POSITION position(s) of Welding Pro	(CW-405) of groove gression : Fillet	_	F, H & V For Vertical ALL POSITIO	WPS No	WPS-BA-101 POST WE Temperat NA Time Ran Other	LD HEAT ure Range ge	Rev. ReATMENT NOT APPLI NOT APPLI	1 (QW-407) CABLE CABLE
POSITION: position(s) o Welding Pro Position(s) of PREHE	(QW-405) of groove gression : Fillet EAT (QW - 4	(08)	ALL POSITIO ge Compositio	WPS No Down NS	WPS-BA-101 POST WE Tempera	LD HEAT ure Range ge / - 408)	Rev. REATMENT NOT APPLI NOT APPLI For GTAW Composision	1 (CW-407) CABLE CABLE CABLE
POSITION: position(s) of Welding Pro Position(s) of PREHE Preheat Tem	(QW-405) of groove ogression : Fillet EAT (QW - 4	(08)	For Vertical ALL POSITIO ge Compositio 20° C MIN	WPS No Down NS	WPS-BA-101 POST WE Temperal NA Time Ran Other GAS (QV	LD HEAT ure Range ge (-408) Percentage Gas (en)	Rev. REATMENT APPLINOT APPLIN	1 (CW-407) CABLE CABLE CABLE
POSITION: position(s) of Welding Pro Position(s) of PREHE Preheat Tem Immpass Ter	(CW-405) of groove gression: Fillet EAT (CW-4	(08)	For Vertical ALL POSITIO ge Compositio 20° C MIN 150°C MAX	WPS No Down NS	WPS-BA-101 POST WE Temperate NA Time Ren Other GAS (QV	LD HEAT ure Range ge (-408) Percentage Gas (en)	Rev. REATMENT APPLINOT APPLIN	1 (CW-407) CABLE CABLE CABLE
POSITION: position(s) of Welding Pro Position(s) of PREHE Preheat Tem	(CW-405) of groove gression: Fillet EAT (CW-4	(08)	For Vertical ALL POSITIO ge Compositio 20° C MIN	WPS No Down NS	WPS-BA-101 POST WE Temperate Temperate Coher GAS (CV Shielding Trailing Trailing Trailing Coherman Co	LD HEAT ure Range ge (-408) Percentage Gas (es) Argon	Rev. REATMENT NOT APPLI NO	1 (CW-407) CABLE CABLE CABLE
POSITION: position(s) of Welding Pro Position(s) of PREHE Preheat Tem Interpass Ter Preheat Ma	(GW-405) of groove grossion : Fillet EAT (GW - 4 p. Min. np Max intenance	(06) Percenta	For Vertical ALL POSITIO ge Compositio 20° C MIN 150°C MAX NA	WPS No Down NS	WPS-BA-101 POST WE Temperate Temperate Coher GAS (CV Shielding Trailing Trailing Trailing Coherman Co	LD HEAT ure Range ge (-408) Percentage Gas (es) Argon	Rev. ReATMENT NOT APPLI NOT APPLI NOT APPLI POR GTAW Composisio (Mixture) F 99.995%	1 (CW-407) CABLE CABLE CABLE
POSITION: position(s) of Welding Pro Position(s) of PREHE Preheat Tem Immpass Ter	(CW-405) of groove grossion: Fillet EAT (CW-4 p. Min. p. Min. imenance	Percenta	For Vertical ALL POSITIO ge Compositio 20° C MIN 150°C MAX NA	WPS No Down NS n	WPS-BA-101 POST WIT Temperat NA Time Ran Coher GAS (CV Shielding Trailing Backing	LD HEAT ure Range ge (-408) Percentage Gas (es) Argon	Rev. REATMENT NOT APPLI NO	1 (CW-407) CABLE CABLE CABLE
POSITION position(s) of Welding Pro Position(s) of Welding Pro Position(s) of Prohest Temperature Prohest Ma	(CW-405) of groove gression : Fillet EAT (CW-4 p Min. np Max intenance L GHARAC of DG a)	Percenta TERISTIC	Ge Composition 20° C MIN 150°C MAX NA S (CW-409)	WPS No Down NS	WPS-BA-101 POST WITTOMPERST NAT Temperson Other GAS (OV Shielding Backing Backing Refer Tal) Refer Tal	LD HEAT ure Range ge I - 408 } Percontage Gas (est) Argon Till Complete ble Below	Rev. REATMENT APPLINOT APPLIN	1 (CW-407) CABLE CABLE CABLE
POSITION : position(s) of Welding Pro Position(s) of PREHE Preheat Tem Imarpass Ter Preheat Ma	(CW-405) of groove gression: Fillet EAT (GW-4 p. Min. mp. Miss. intenance L. GHARAC of DG a)	Percenta TERISTIC: DC Refer Tal and type	Ge Composition 20° C MIN 150°C MAX NA S (CW-409)	WPS No Down NS n	WPS-BA-101 POST WIT Temperat NA Time Ran Coher GAS (CV Shielding Trailing Backing	LD HEAT ure Range ge (-408) Percentage Argon Argon Till Compl ble Below 2% Th	Rev. REATMENT NOT APPLI NO	1 (C/W-407) CABLE CABLE CABLE Idow 100 - 15 LPI
POSITION: position(s) of Welding Pro- Position(s) of PREHE Preheat Tem Interpass Ter Preheat Ma ELECTRICAL Current AG of Amps (Range Tungston Ele	(CW-405) of groove orgension: Fallet EAT (GW-4 p. Min. mp. Mix. intenance L. CHARAC or DC o) otrode Size at Transfer!	Percenta TERISTIC: DC Refer Tal and type	For Vertical ALL POSITIO ge Compositio 20° C MIN 150°C MAX NA S (CW-409)	WPS No Down NS n	WPS-BA-101 POST WI POST WI NA Time Ran Other GAS (GV Shielding Trailing Backing Refer Ta) Refer Ta 2 mm Dia	LD HEAT Lure Range ge 7 - 408 } Percentage Gas (se) (Angon - Angon Tiel Compile Below 2% Th LICABLE	Rev. REATMENT APPLINOT APPLIN	1 (C/W-407) CABLE CABLE CABLE Idow 100 - 15 LPI
POSITION position(s) of Welding Pro Position(s) of Welding Pro Position(s) of Protest Tem Impress Ter Prohest Male LECTRICAL Current AC of Amps (Range Tungston Electrode Welding Welding Tungston Electrode Welding Proposi	(CW-405) of groove of groo	Percenta TERISTIC: DC Refer Tal and type	For Vertical ALL POSITIO ge Compositio 20° C MIN 150°C MAX NA S (CW-409)	WPS No Down NS n	WPS-BA-101 POST WI POST WI NA Time Ran Other GAS (GV Shielding Trailing Backing Refer Ta 2 mm Dia NOT APP	LD HEAT Lure Range ge 7 - 408 } Percentage Gas (se) (Angon - Angon Tiel Compile Below 2% Th LICABLE	Rev. REATMENT APPLINOT APPLIN	1 (C/W-407) CABLE CABLE CABLE Idow 100 - 15 LPI
POSITION position(s) of Welding Pre- Prefet Preheat Tem Interpret	(CW-405) of groove grows of groove grows on a Fillet EAT (CW-4 p. Min. mp. Miss. intenance L. GHARAC' r DC et Transfer II re feed spec-	Percenta TERISTIC: DC Refer Tal and type	For Vertical ALL POSITIO ge Compositio 20° C MIN 150°C MAX NA S (CW-409)	WPS No Down NS n	WPS-BA-101 POST WI POST WI NA Time Ran Other GAS (GV Shielding Trailing Backing Refer Ta 2 mm Dia NOT APP	LD HEAT Lure Range ge 7 - 408 } Percentage Gas (se) (Angon - Angon Tiel Compile Below 2% Th LICABLE	Rev. REATMENT APPLINOT APPLIN	1 (CW-407) CABLE CABLE CABLE
POSITION. posision(s) o Welding Pro Poelion(s) o PREHE Preheat Tem Innerpass Ter Preheat Ma ELECTRICAL Current AG o Armps (Range Tungston Ele Mode of Mois Electrode We TEGHNIQUE Sviring or Wes Orifice or Gas	(CW-405) of groove of groo	Percenta TERISTIC: DC Refer Tal and type for GMAW and range	For Vertical ALL POSITIO ge Compositio 20° C MIN 150°C MAX NA S (CW-409)	WPS No Down NS n	WPS-BA-101 POST WI Tempers NA Time Ran Other GAS (QV Shielding Trailing Backing Backing Refer Tal NOT APP NOT APP	LD HEAT ure Range ge 1 - 408) Percontage ges (es) (ass	Rev. FREATMENT APPLINOT APPLIN	1 (GW-407) CABLE CABLE CABLE On Now 10 - 15 LPI
POSITION: posision(s) of Welding Pro Position(s) of PREHE Preheat Tem Imagass Ter Preheat Ma ELECTRICAL Current AG of Amps (Range) Tungston Ele Mode of Mets Electrode We TEG-HANGUE Syring or Well Initial and ille Initial and il	(CW-405) of groove grossion: Fillet EAT (GW p Min. mp Min. mp Min. intenance L. CHARAC; or DG o) ctrode Size al Transfer! or feed sper (GW-410) we Bead s Cup Size nepass Clear	TERISTICE DO Refer Tal and type lor GMAW and range	For Vertical ALL POSITIC ge Compositio 20° C MIN 150°C MAX NA S (CW-409)	WPS No Down NS n	WPS-BA-101 POST WI Tempers NA Time Ran Other GAS (QV Shielding Trailing Backing Backing Refer Tal NOT APP NOT APP	LD HEAT ure Range ge 1 - 408) Percontage ges (es) (ass	Rev. REATMENT APPLINOT APPLIN	1 (GW-407) CABLE CABLE CABLE On Now 10 - 15 LPI
POSITION position(s) of Welding Pre- Position(s) of Welding Pre- Position(s) of Pre- Pre- Pre- Pre- Pre- Pre- Pre- Pre-	(CW-405) of groove of groo	TERISTICE DO Refer Tal and type lor GMAW and range	For Vertical ALL POSITIC ge Compositio 20° C MIN 150°C MAX NA S (CW-409) Color Before	WPS No Down NS n	WPS-BA-101 POST WI Tempers NA Time Ran Other GAS (QV Shielding Trailing Backing Backing Refer Tal NOT APP NOT APP	LID HEAT LIFE Range go (1-408) Percentage (see) Argon Tie Compile Below 2% Th	Rev. FREATMENT APPLINOT APPLIN	1 (CW-407) CABLE CABLE CABLE CABLE 000 100 - 15 LPI d

Exhibits Welding Process:



												Doc No.	BAPL/ML/WPS
	BLISS ANANI	D PVT LTD						-+ OF MIDE & DOD				Rev. No.	С
9	(Pastroments & Values 928938 Sector-8, MT Man Gungaen, Haryana, India-12 wated Mifr. of Faceis Pressure	22 050				IVI	aster Li	ist Of WPS & PQR			,	Date	22/04/2016
1	sect Mys. of Farris Pressure	Britis Values										Page	Page 1 of 1
SRV												гаде	rage I of I
RV											Position	Max. Weld	
SI. No.	. WPS#	PQR#	Qualification Date	Welding Process	Process Type	Weld Type	Qualified P. No.	Grade	Qualified F No.	Filler / Electrode	Position Qualified Plate	Deposit Qualified	Max. Base Metal Th Qualified
1	BAPL/WPS-001	BAPL/PQR-001	29-Nov-12	GTAW	Manual	Hard Facing Overlay	8	CF8M	72	ERCoCr-A	Flat	No Limit	No Limit
2	BAPL/WPS-002	BAPL/PQR-002	29-Nov-12	SMAW	Manual	Groove	1 to 1	WCB	4	E 7018	Flat	24 mm	24 mm
2	BAFLYWITS-COL	BAFLITON	25-1101-12	SIVIMY	Widiraci	Fillet	1 to 1	WCB	4	E 7018	Flat	No Limit	No Limit
3	BAPL/WPS-003	BAPL/PQR-003	29-Nov-12	GTAW	Manual	Groove	1 to 1	WCB	6	ER 70S-2	Flat	24 mm	24 mm
3	DAT CONTO	BAT LIT CIT COS	25 1101 12	Ciran	IV.O. IOC.	Fillet	1 to 1	WCB	6	ER 70S-2	Flat	No Limit	No Limit
4	BAPL/WPS-004	BAPL/POR-004	29-Nov-12	GTAW	Manual	Groove	4 to 4	WC6	4	E 8018 B2	Flat	24 mm	24 mm
	Drift of This Co.	Dr. 4. 4.	22	-		Fillet	4 to 4	WC6	4	E 8018 B2	Flat	No Limit	No Limit
5	BAPL/WPS-005	BAPL/PQR-005	29-Nov-12	GTAW	Manual	Groove	4 to 4	WC6	6	ER80S-B2	Flat	24 mm	24 mm
_				-	-	Fillet	4 to 4	WC6	6	ER80S-B2	Flat Flat	No Limit 24 mm	No Limit 24 mm
6	BAPL/WPS-006	BAPL/PQR-006	29-Nov-12	GTAW	Manual	Groove	8 to 8	CF8M CF8M	5	E 316	Flat	No Limit	No Limit
				-	-	Fillet	8 to 8	CF8M CF8M	5	ER-316	Flat	24 mm	24 mm
7	BAPL/WPS-007	BAPL/PQR-007	29-Nov-12	GTAW	Manual	Groove	8 to 8	CF8M CF8M	5	ER-316	Flat	No Limit	No Limit
_	5 1 PL ALIPS 000	2 t DI /DOD 000	20 Dec 2014	GTAW	Manual	Fillet	45 to 45	Alloy 20	6	ER320LR	Flat	24 mm	24 mm
LG/N		BAPL/PQR-008	20-Dec-2014	GIAW	Marius	GIOOVE	45 10 45	Alloy Eo		LIBEURI			
.G/ I	/ILG			CTANAL						ER 70 SG,			
9	WPS-BA-003	PQR-BA-003	22.03.2004	GTAW + SMAW	Manual	Groove	1 to 1	SA 106 Gr.B	6, 4	E7018	Flat	9.1 mm	9.1 mm
10	WPS-BA-007	PQR-BA-007	15.05.2007	GTAW + SMAW	Manual	Groove	1 to 8	SA 312TP316L TO SA106 GrB	6, 5	ER 309L, E309L- 16	Flat	9.0 mm	9.0 mm
11	WPS-BA-009	PQR-BA-009	05.08.2008	GTAW + SMAW	Manual	Groove	1 to 1	SA333 Gr6 TO SA333 Gr6	6, 4	ER 70 SG, E7018-G	Flat	9.0 mm	9.0 mm
12	WPS-BA-101	PQR-BA-101	09.08.2010	GTAW + SMAW	Manual	Groove	8 to 8	SA 312TP316L TO SA 312TP316L/ SA182F316L	6, 5	ER 316L, E316L	Flat	9.0 mm	9.0 mm
13	WPS-BA-102	PQR-BA-102	25.09.2010	GTAW	Manual	Groove	45 to 45	SB423 TO SB423 (UNSN08825)	45	ER NiCrMo-3	Flat	9.0 mm	9.0 mm
14	WPS-BA-103						-	· · · · · · · · · · · · · · · · · · ·	- 12	70.110.11.2	Flore	11.0	11.0
15 16	WPS-BA-105 WPS-BA-106	PQR-BA-105	06.06.2010	GTAW	Manual	Groove	43 to 43 10H to 10H	SB444 (UNS N06625) TO SB 444 SA790 TO SA790 (UNS S32750)	6	ER NiCrMo-3 ER 2594	Flat Flat	11.0 mm 1.5 mm to 9.0	9.0 mm
				CTANA	Manual	Groove	42 to 42	SB456 TO SB456 (UNSN04400)	42	ER NiCu-7	Flat	9.0 mm	9.0 mm
17	WPS-BA-107	PQR-BA-107	22.11.2011	GTAW	Manual			,			Flat	1.5 mm to 9.0	
18	WPS-BA-111	PQR-BA-111	09.08.2010	GTAW	Manual	Groove	8 to 8	SA 312TP UNS S31254	43	ER NiCrMo-3	Fiat	mm	9.0 11111
	Queing A	*								The			

Exhibits QUALIFIED WELDERS:



	Antonio State	and the second s						$C = C \cap C \cap C$	71 IEIED	WEIDERS			Rev. No.	A				
				,		LIST OF QUALIFIED WELDERS									22/06/2015 Page 1 of 2			
9. No. WELD	LDER NAME	CLOCK NO.	STAMP NO.	WPS #	PQR#	Welding Process	Process Type	Weld Type	Qualified P. No.	Grade	Qualified F No.	Filler / Electrode	Page Position Qualified Plate	Max. Weld Deposit Outlified	Max. Base Metal Thk. Qualified	CERTIFIYING AGENCY		
21 Mumt	mtaz Alam	15	W-MU	BAPL/WP5-006	BAPL/PQR-006	GTAW	Manual	Groove	8 to 8	CFBM	5	E 316	Flat	24 mm	24 mm	TUV INDUSTRIAL INSPECTION SERVICES JIMDIA)/ BAPI.		
								Filet	8 to 8	CF8M	5	E316	Flat	No Limit	No Limit	TUV INDUSTRIAL INSPECTION SERVICES (INDIA)/ BAPL		
22 Mumt	mtaz Alam	15	W-MU	BAPL/WPS-007	BAPL/POR-007	GTAW	Manual	Groove	8 to 8	CF8M	5	ER-316	Flat	24 mm	24 mm	TLIV INDUSTRIAL INSPECTION SERVICES (INDIA)/ (IAPL		
								Fillet	8 to 8	CF8M	5	DR-316	Flat	No Limit	No Limit	TUV INDUSTRIAL INSPECTION SERVICES (INDIAL) RAPL		
23 Mumt	mtaz Alam	15	W-MU	BAPL/WPS-008	BAPL/PQR-COB	GTAW	Manual	Groove	45 to 45	Alloy 20	6	ER32OLR	Flat	24 mm	24 mm	ABS INDUSTRIAL VERIFICATION JINDIAL/ BAPL		
24 Satish Meen	sh Chand	16	W-SM	WP5-BA-101	PQR-8A-101	GTAW + SMAW	Manual	Groove	8 to 8	SA 312TP316L TO SA 312TP316L/ SA 382F316/	5,5	ER 316L, E316L	Flat	1.5 to 9.0 mm	1.5 to 9.0 mm	TUV INDUSTRIAL INSPECTION SERVICES (INDIA)/ BAPL		
25 Satish Meers	sh Chand	16	W-SM	WPS-8A-111	PQR-8A-111	GTAW	Manual	Groove	8 to 8	SA 312TP UN5 531254	43	ER NICrMo-3	Flat	1.5 to 9.0 mm	1.5 to 9.0 mm	TUV INDUSTRIAL INSPECTION SERVICES (INDIAL) BAPIL		
	sh Chand	16	W-SM	WPS-BA-105	PQR-8A-105	GTAW	Manual	Groove	43 to 43	SB 444 TO SB 444 (LINS NO5625)	43	ER NiCrMo-3	Flat	11.0 mm	1.5 to 11.0 mm	TUV INDUSTRIAL INSPECTION SERVICES (INDIA)/ BAPL		
	na Ram	18	W-JR	WPS-8A-101	PQR-8A-101	GTAW+ SMAW	Manual	Groove	8 to 8	SA 312TP316L TO SA 312TP316L/ SA182E316L	6, 5	ER 316L, E316L	Flat	1.5 to 9.0 mm	1.5 to 9.0 mm	ABS INDUSTRIAL VERIFICATION [INDIA]/ BAPL		
28 Jethal	na Ram	19	AD dB	WPS-8A-111	PQR-BA-111	GTAW	Manual	Groove	8 to 8	SA 312TP UNS 5312S4	43	ER NICrMo-3	Flat	1.5 to 9.0 mm	1.5 to 9.0 mm	TUV INDUSTRIAL INSPECTION SERVICES (INDIAL/ RAPL		

Exhibits MASTER LIST OF WPS & PQR:



Date 22/06/201 Page 1 of 1 Page 1	O											Doc No.	BAPL/ML/WPS
No. WPS # PQR # Qualification Date Process Type Page P						D.A	actor Li	CH OF WIDE & DOD				Rev. No.	C
No. WPS # PQR # Qualification Welding Process Type Weld Type Power Process Type Ty	Golgen, Haryana, India N	RI MAD				IVI	aster L	St OI WP3 & PUR				Date	22/06/2015
No. WPS # PQR # Qualification Date Process Type Weld Type Qualified P. No. Grade Qualified Filter / Electrock Qualified Deposit Date Process Type Process Type Weld Type Qualified P. No. Grade Qualified Position Qualified Deposit Qualified Deposit Qualified Deposit Qualified P. No. Qualified P. No. Process Position Qualified Deposit Qualified Deposit Qualified Deposit Qualified P. No. Qualified P. No. Process Qualified P. No. Qua	A second to the second	- Comp. 1000										Page	Page 1 of 1
No. WPS # PQR # Dalfincation Welding Process Type	RV												
1. No. WP5 # PQR # Date Process Type Weld Type P. No. Grade No. Filler / Electrode Qualified Cualified				115-1-0			0155-1		O. official C		Pasition	Max. Weld	May Dage Metal Tol
BAPL/MPS-001 BAPL/PQR-002 29-Nov-12 GTAW Manual Groove 1 to 1 WCB 4 E 7018 Flat 24 mm	. No. WPS#	PQR#	-,			Weld Type	46	Grade		Filler / Electrode			Qualified
2 BAPL/PQR-002 29-Nov-12 GTAW Manual Fillet 1to1 WCB 4 F.7018 Flat No Limit No Li Groove 1to1 WCB 6 ER 705-2 Flat Ad mm 24 m	1 BAPL/WPS-001	BAPL/PQR-001	29-Nov-12	GTAW	Manual		8	CFBM					No Limit
Fillet 1101 W/B 4 E/018 Flat Mollimit No. Limit	2 BAPL/WPS-002	BAPL/POR-002	29-Nov-12	GTAW	Manual								24 mm
BAPL/NPS-003 BAPL/PQR-004 29-Nov-12 GTAW Manual Fillet 1 to 1 WCB 6 ER 705-2 Flat No Limit No LI	2 000 0 111 0 000	B-1 B 1 G 1 C 2	25 1101 22	211111	1110-10-0								No Limit
## BAPL/NPS-004 BAPL/PQR-004 29-Nov-12 GTAW Manual Fillet 4 to 4 WC6 4 E8018 82 Flat 24 mm	3 BAPL/WPS-003	BAPL/POR-003	29-Nov-12	GTAW	Manual								24 mm
## BAPL/WPS-004 BAPL/PQR-005 29-Nov-12 GTAW Manual Fillet 4 to 4 WC6 4 E 8018 B2 Flat No Limit No LI SA 106 Gr.B Flat No Limit	5 04												No Limit
Fillet	4 BAPL/WPS-004	BAPL/POR-004	29-Nov-12	GTAW	Manual							-	
5 BAPL/WPS-005 BAPL/PQR-005 29-Nov-12 GTAW Manual Fillot 4 to 4 WC6 B FR80S-82 Flat No Limit									+				
6 BAPL/WPS-006 BAPL/PQR-006 29-Nov-12 GTAW Manual Groove 8 to 8 CFBM 5 E316 Flat 24 mm 24 m 24 m 24 m 24 m 24 m 24 m 24	5 BAPL/WPS-005	BAPL/PQR-005	29-Nov-12	GTAW	Manual								
6 BAPL/NPS-006 BAPL/PQR-006 29-Nov-12 GTAW Manual Fillet 8 to 8 CFBM 5 E316 Flat No Limit No													24 mm
7 BAPL/WPS-007 BAPL/PQR-007 29-Nov-12 GTAW Manual Groove 8 to 8 CFRM 5 ER-316 Flat 24 mm 24 m 24 m 24 m 24 m 24 m 24 m 24	6 BAPL/WPS-006	BAPL/PQR-006	29-Nov-12	GTAW	Manual		The second second			200000		1	No Limit
7 BAPL/WPS-007 BAPL/PQR-007 29-Nov-12 GTAW Manual Fillet 8 to 8 CFBM 5 ER-316 Flat No Umit No LI 8 BAPL/WPS-008 BAPL/PQR-008 20-Dec-2014 GTAW Manual Groove 45 to 45 Alloy 20 6 ER320LR Flat 24 mm 24			-						-				24 mm
8 BAPL/WPS-008 BAPL/PQR-008 20-Dec-2014 GTAW Manual Groove 45 to 45 Alley 20 6 ER320LR Flat 24 mm 24 n G/MLG 9 WPS-BA-003 PQR-BA-003 22.03.2004 GTAW Manual Groove 1 to 1 SA 106 Gr.B 6, 4 ER 70 SG, Flat 9.1 mm 9.1 n	7 BAPL/WPS-007	BAPL/PQR-007	29-Nov-12	GTAW	Manual				+				No Limit
SACTORNO PQR-BA-003 22.03.2004 STAW Manual Groove 1 to 1 SA 106 Gr.B 6, 4 ER 70.5G, Flat 9.1 mm		0401 (000 000	20.0 2014	CTAIN	Manual								24 mm
9 WPS-BA-003 PQR-BA-003 22.03.2004 GTAW + SMAW GTAW + SMAW GTAW + SMAW GTAW + Manual Groove 1 to 1 SA 106 Gr.B 6, 4 ER 70 SG, Flat 9.1 mm 9.1		BAPL/PUR-008	20-080-2014	GIAW	Manual	Groove	45 (0.45	Alloy 20		Ensese :			
9 WPS-BA-003 PQR-BA-003 22.03.2004 SMAW Manual Groove 1 to 1 SA 106 Gr.B 6, 4 E2018 Flat 9.1 mm 9.1 m 10 WPS-BA-007 PQR-BA-007 15.05.2007 GTAW Manual Groove 1 to 8 SA 312TP316LTO SA106 GrB 6, 5 ER 309L, E309L, E	G/ MLG											1	
10 WPS-BA-007 PQR-BA-007 15.05.2007 SMAW Manual Groove 1 to 8 SA 312TP316L TO SA106 GrB 6, 5 16 Fist 9.0 mm	9 WPS-BA-003	PQR-BA-003	22.03.2004		Manual	Groove	1 to 1	SA 105 Gr.B	6, 4	E7038	Flat	9.1 mm	9.1 mm
11 WPS-BA-009 PQR-BA-009 05.08.2008 SAMAW Manual Groove 1 to 1 SA333 Gr6 TO SA333 Gr6 6, 4 E7018-6 Flat 9.0 mm 9.0 r 12 WPS-BA-101 PQR-BA-101 09.08.2010 GTAW Manual Groove 8 to 8 SA 312TP316L TO SA 312TP316L 6, 5 ER 316L, E316L Flat 9.0 mm 9.0 r 13 WPS-BA-102 PQR-BA-102 25.09.2010 GTAW Manual Groove 45 to 45 SB423 TO SB423 (UNS N08825) 45 ER NICrMo-3 Flat 9.0 mm 9.0 r 14 WPS-BA-103 PQR-BA-105 06.06.2010 GTAW Manual Groove 43 to 43 SB444 (UNS N08625) TO SB 444 43 ER NICrMo-3 Flat 11.0 mm 11.0	10 WPS-BA-007	PQR-BA-007	15.05.2007		Manual	Groove	1 to 8	SA 312TP316LTO SA106 GrB	6, 5	16	Flat	9.0 mm	9.0 mm
12 WPS-BA-101 PQR-BA-101 09.08.2010 SMAW Manual Groove 8 to 8 SA182F3161 6, 5 ER SIG, E316, E316, Falt 9.0 mm 9.0 r 13 WPS-BA-102 PQR-BA-102 25.09.2010 GTAW Manual Groove 45 to 45 SB423 TO SB423 (UNSN08825) 45 ER NICrMo-3 Flat 9.0 mm 9.0 r 14 WPS-BA-103 PQR-BA-105 06.05.2010 GTAW Manual Groove 43 to 43 SB444 (UNS N08625) TO SB 444 43 ER NICrMo-3 Flat 11.0 mm 11.0	11 WPS-BA-009	PQR-BA-009	05.08.2008		Manual	Groove	1 to 1	SA333 Gr6 TO SA333 Gr6	6, 4		Flat	9.0 mm	9.0 mm
13 WPS-BA-102 PQR-BA-102 25.05.2010 GTAW Manual Groove 43 to 43 SB444 (UNS NOS625) TO SB 444 43 ER NIC/Mo-3 Flat 11.0 m/m 11.0 WPS-BA-105 PQR-BA-105 06.05.2010 GTAW Manual Groove 43 to 43 SB444 (UNS NOS625) TO SB 444 43 ER NIC/Mo-3 Flat 11.0 m/m	12 WPS-BA-101	PQR-BA-101	09.08.2010		Manual	Groove	8 to 8		6, 5	ER 316L, E316L	Flat		9.0 mm
14 WPS-BA-103 15 WPS-BA-105 05.05.2010 GTAW Manual Groove 43 to 43 SB444 (UNS N06625) TO SB 444 43 ER NICrMo-3 Flat 11.0 mm 11.0 mm	13 WPS-BA-102	POR-BA-102	25.09.2010	GTAW	Manual	Groove	45 to 45	5B423 TO SB423 (UN5N08825)	45	ER NiCrMo-3	Flat	9.0 mm	9.0 mm
15 WPS-BA-105 PQR-BA-105 05.05.2010 GTAW Manual Groove 43 to 43 SB444 (UNS N08625) TO SB 444 43 ER NIC/Mo-3 Flat 11.0 m/m 11.0	777												11/4
VIII 6 FR 2594 Flat		PQR-BA-105	05.05.2010	GTAW	Manual	Groove	43 to 43	SB444 (UNS N0G625) TO SB 444	43	ER NiCrMo-3	Flat		11.0 mm
10 AL-20-100 LOVO-100 CONTROL	16 WPS-BA-106	PQR-8A-106	09.08.2010	GTAW	Manual	Groove	10H to 10H	SA790 TO SA790 (UNS \$32750)				mm	9.0 mm
17 WPS-BA-107 POR-BA-107 ZZ.11.Z011 GTAW INSHIBIT GTOUGH 421042 SEASO TO SE	17 WPS-BA-107	PQR-BA-107	22.11.2011	GTAW	Manual	Grapve	42 to 42	SB456 TO SB456 (UNSN04400)	42	ER NiCu-7	Flat		9.0 mm
18 WPS-BA-111 PQR-BA-111 09.08-2010 GTAW Manual Groove 8 to 8 SA 312TP UNS \$31254 43 ER NICTMo-3 Flat 1.5 mm to 9.0 mm 9.0 mm	18 WPS-8A-111	PQR-BA-111	09.08.2010	GTAW	Manual	Groove	8 to 8	SA 312TP UNS S31254	43	ER NICrMo-3	Flat		9.0 mm

Global References & Approvals:

















































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Thank You!

Any Questions?

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