Tecnimont S.p.A.	REPSOL POLIMEROS SA	4274_CONST ALBA PROJECT–PP AND PEL PLANTS	

MOD-ITP-XL_220 Rev.1	**RELEASE OF SPOOLS FROM WORKSHOP**	Report n° **IP-WSR-P-310-000448_RFI6152_MOD-ITP-XL_220**	
		RFI Nr.:	Date :
Unit	-		
Plant Area	-		
Isometric Number			
Inspection Package Number	**IP-WSR-P-310-000448_RFI6152 - IP Spool Release From Workshop**		

The Present Inspection Package contains the following Elements:

7112-DMW64001-3-SP09-03098;7112-DMW64001-3-SP08-03097;7112-DMW64001-3-SP07-03096;7112-DMW64001-2-SP06-03101;7112-DMW64001-2-SP05-03100;7112-DMW64001-2-SP04-03099;5111-IA91F69-2-SP06-00922;5111-IA91F69-2-SP05-00921;4222-IA91F51-2-SP01-00792;4111-TEA11013-1-SP02-00911;4111-TEA11013-1-SP01-00910;4111-TEA10007-3-SP05-00909;4111-TEA10007-1-SP01-00905;3221-SWW92005-3-SP06-00689;3221-SWW92005-3-SP05-00688;3221-SWW92005-3-SP04-00687;3221-SWW92005-3-SP03-00686;3221-SWW92001-2-SP04-00671;3221-SWW92001-2-SP03-00670;3211-SWW91H17-2-SP03-01110;3211-SWW91H04-1-SP01-01080;2211-VG62J02-2-SP07-00456;2211-VG62J02-2-SP06-00455;2211-VG62H01-2-SP02-01093;2211-VG62H01-2-SP01-01092;2211-PEP71A05-2-SP03-00434;2211-PEP71A01-1-SP02-00426;2211-PCW70B02-1-SP02-00985;2211-PCW70B02-1-SP01-00984;2211-LA62B03-3-SP01-00978;2211-DMW91Q01-1-SP13-03069;2211-DMW91Q01-1-SP12-03068;2131-LO52C01-1-SP02-00866;2131-LO52C01-1-SP01-00865;2121-LO40B04-2-SP06-01157;2121-LO40B04-2-SP05-01156;2121-LO40B04-2-SP07-01071;2121-LO40B04-2-SP04-01070;2121-IA91F63-6-SP11-00494;2121-IA91F63-6-SP10-00493;2121-IA91F63-6-SP09-00492;2121-IA91F63-5-SP03-00491;2121-IA91F63-5-SP02-00490;2121-IA91F63-5-SP01-00489;2121-IA91F62-9-SP08-00479;2121-IA91F13-1-SP03-01122;2121-IA91F13-1-SP05-00996;2121-IA91F13-1-SP04-00995;2121-IA91F13-1-SP02-00994;2121-IA91F13-1-SP01-00993;1211-VA89003-1-SP02-00976;1211-VA89003-1-SP01-00975;1211-LO89006-1-SP03-00355;1211-LO89006-1-SP02-00354;1211-LO89006-1-SP01-00353;1211-DMW64001-5-SP13-03062;1211-DMW64001-5-SP12-03061;1211-DMW64001-5-SP11-03060;1211-DMW64001-1-SP02-03051;1211-DMW64001-1-SP01-03050;1127-PN52028-1-SP01-00863;1127-PN52025-1-SP02-01048;1127-PN52025-1-SP01-01047;1127-PN52024-2-SP03-00829;1127-PN52024-2-SP02-00828;1127-PN52024-1-SP01-00827;1126-LO36006-1-SP04-01053;1126-LO36006-1-SP05-01052

Spool No.	Ready for destination to: P: Painting (1) W: Wrapping F: Field	NDE Class	Check List					
			Visual Inspect	Traceability OK (2)	Pending NDE / PMI (Yes/No/NA)	PWHT / HARDNESS (Yes/No/NA)	Inside Cleaning (3) (Yes/No/NA)	Spool Identified (Yes/No/NA)

LEGEND OF CHECK RESULT ☒ Checked & NOT Accepted ☑ Checked & Accepted **N.A.** Not Applicable **Y / N** Punch List Produced

	Date [DD-MMM-YYYY]	Name	Signature
SUBCONTRACTOR	04-12-2024	Sergio Morales Collantes	
CONTRACTOR			
COMPANY			
(Free)	04-12-2024	Riccardo Mancino	

grupoamper Network Industrial CIF B - 48977995

On behalf of Tecnimont/R
Piping Supervisor
R. Mancino
04.Dec.24

Tecnimont S.p.A.	REPSOL POLIMEROS SA	4274_CONST ALBA PROJECT–PP AND PEL PLANTS	

MOD-ITP-XL_220 Rev.1	**RELEASE OF SPOOLS FROM WORKSHOP**	Report n° **IP-WSR-P-310-000448_RFI6152_MOD-ITP-XL_220**	
		RFI Nr.:	Date :
Unit	-		
Plant Area	-		
Isometric Number			
Inspection Package Number	**IP-WSR-P-310-000448_RFI6152 - IP Spool Release From Workshop**		

The Present Inspection Package contains the following Elements:

7112-DMW64001-3-SP09-03098;7112-DMW64001-3-SP08-03097;7112-DMW64001-3-SP07-03096;7112-DMW64001-2-SP06-03101;7112-DMW64001-2-SP05-03100;7112-DMW64001-2-SP04-03099;5111-IA91F69-2-SP06-00922;5111-IA91F69-2-SP05-00921;4222-IA91F51-2-SP01-00792;4111-TEA11013-1-SP02-00911;4111-TEA11013-1-SP01-00910;4111-TEA10007-3-SP05-00909;4111-TEA10007-1-SP01-00905;3221-SWW92005-3-SP06-00689;3221-SWW92005-3-SP05-00688;3221-SWW92005-3-SP04-00687;3221-SWW92005-3-SP03-00686;3221-SWW92001-2-SP04-00671;3221-SWW92001-2-SP03-00670;3211-SWW91H17-2-SP03-01110;3211-SWW91H04-1-SP01-01080;2211-VG62J02-2-SP07-00456;2211-VG62J02-2-SP06-00455;2211-VG62H01-2-SP02-01093;2211-VG62H01-2-SP01-01092;2211-PEP71A05-2-SP03-00434;2211-PEP71A01-1-SP02-00426;2211-PCW70B02-1-SP02-00985;2211-PCW70B02-1-SP01-00984;2211-LA62B03-3-SP01-00978;2211-DMW91Q01-1-SP13-03069;2211-DMW91Q01-1-SP12-03068;2131-LO52C01-1-SP02-00866;2131-LO52C01-1-SP01-00865;2121-LO40B04-2-SP06-01157;2121-LO40B04-2-SP05-01156;2121-LO40B04-2-SP07-01071;2121-LO40B04-2-SP04-01070;2121-IA91F63-6-SP11-00494;2121-IA91F63-6-SP10-00493;2121-IA91F63-6-SP09-00492;2121-IA91F63-5-SP03-00491;2121-IA91F63-5-SP02-00490;2121-IA91F63-5-SP01-00489;2121-IA91F62-9-SP08-00479;2121-IA91F13-1-SP03-01122;2121-IA91F13-1-SP05-00996;2121-IA91F13-1-SP04-00995;2121-IA91F13-1-SP02-00994;2121-IA91F13-1-SP01-00993;1211-VA89003-1-SP02-00976;1211-VA89003-1-SP01-00975;1211-LO89006-1-SP03-00355;1211-LO89006-1-SP02-00354;1211-LO89006-1-SP01-00353;1211-DMW64001-5-SP13-03062;1211-DMW64001-5-SP12-03061;1211-DMW64001-5-SP11-03060;1211-DMW64001-1-SP02-03051;1211-DMW64001-1-SP01-03050;1127-PN52028-1-SP01-00863;1127-PN52025-1-SP02-01048;1127-PN52025-1-SP01-01047;1127-PN52024-2-SP03-00829;1127-PN52024-2-SP02-00828;1127-PN52024-1-SP01-00827;1126-LO36006-1-SP04-01053;1126-LO36006-1-SP05-01052

NOTES **(*)** : 4274-XH-PQ-00000001

1) Painting cycle to be indicated.

2) Refer to: **4274-LZ-PC-00000214** (*COMPANY 4001008GEN-PC-214*) "*Management of Site Metallic Welding Activities*" and **4274-LZ-PC-00000215** (*COMPANY 4001008GEN-PC-215*) "*Procedure for Traceability of Piping Material*"

3) Refer to: **4274-XH-SG-00000003** (*COMPANY 45-L-45-000-2-00-80005*) "*Specification for Piping Fabrication & Erection Amendment to EC-L-51.01 and EC-L-51.02*" and **4274-XH-PQ-00000001** (*COMPANY 45-L-45-000-2-00-80081*) "*Inspection and Test Plan for Steel Piping Works*"

LEGEND OF CHECK RESULT ☒ Checked & NOT Accepted ☑ Checked & Accepted **N.A.** Not Applicable **Y / N** Punch List Produced

	Date [DD-MMM-YYYY]	Name	Signature
SUBCONTRACTOR	04-12-2024	Sergio Morales Collantes	
CONTRACTOR			
COMPANY			
(Free)	04-12-2024	Riccardo Mancino	

GRUPOAMPER Servicios Industriales CIF B - 48977995

On behalf of Tecnimont/R
Piping Supervisor
R. Mancino
04.Dec.24

FC-6175

REPSOL

REV	DATE	REVISION DESCRIPTION	DRAWN UP	CHKD UP	APP'D
01	25-01-2024	ISSUED FOR CONSTRUCTION	TG	MW	TM

LINE DATA

FLUID CODE: LO — LINE NO. 3"-LO-40B04-QXB-55 (P)

PIPING MATERIAL CLASS	INSULATION	WELD CLASS	HEAT TREATMENT	PAINTING CODE	P&ID No.
QXB-55	P / 50	M	N	NR	19-A-19-000-1-01-00001 sheet 29B

Tecnimont — PIPING ISOMETRIC

PLANT: SINES INDUSTRIAL COMPLEX — CLIENT REF: REPSOL POLYMEROS

IDENTIFICATION CODE

Job	E C T	Area	N
4274	XHDL	2121	LO40B04

UNIT 19 — SHEET 2 — REV 01

REFERENCES

PIPING ASSEMBLY DRAWING: 19-L-19-000-2-00-86192 sheet 4	PIPING SUPPORT SPECIFICATION: XH-SG-00000002	PIPING STANDARD SUPPORT SUMMARY: XH-LP-00000001
PIPING ISOMETRIC LIST: XH-LD-21210001	PIPING TYPICAL INSTALLATIONS: XH-SL-00000002	WELDING SPECIFICATION: XH-SW-00000001

ALL DIMENSION AND PROPER CONFIGURATION FOR LINES NPS 1.1/2" AND SMALLER SHALL BE CHECKED IN FIELD BEFORE CONSTRUCTION

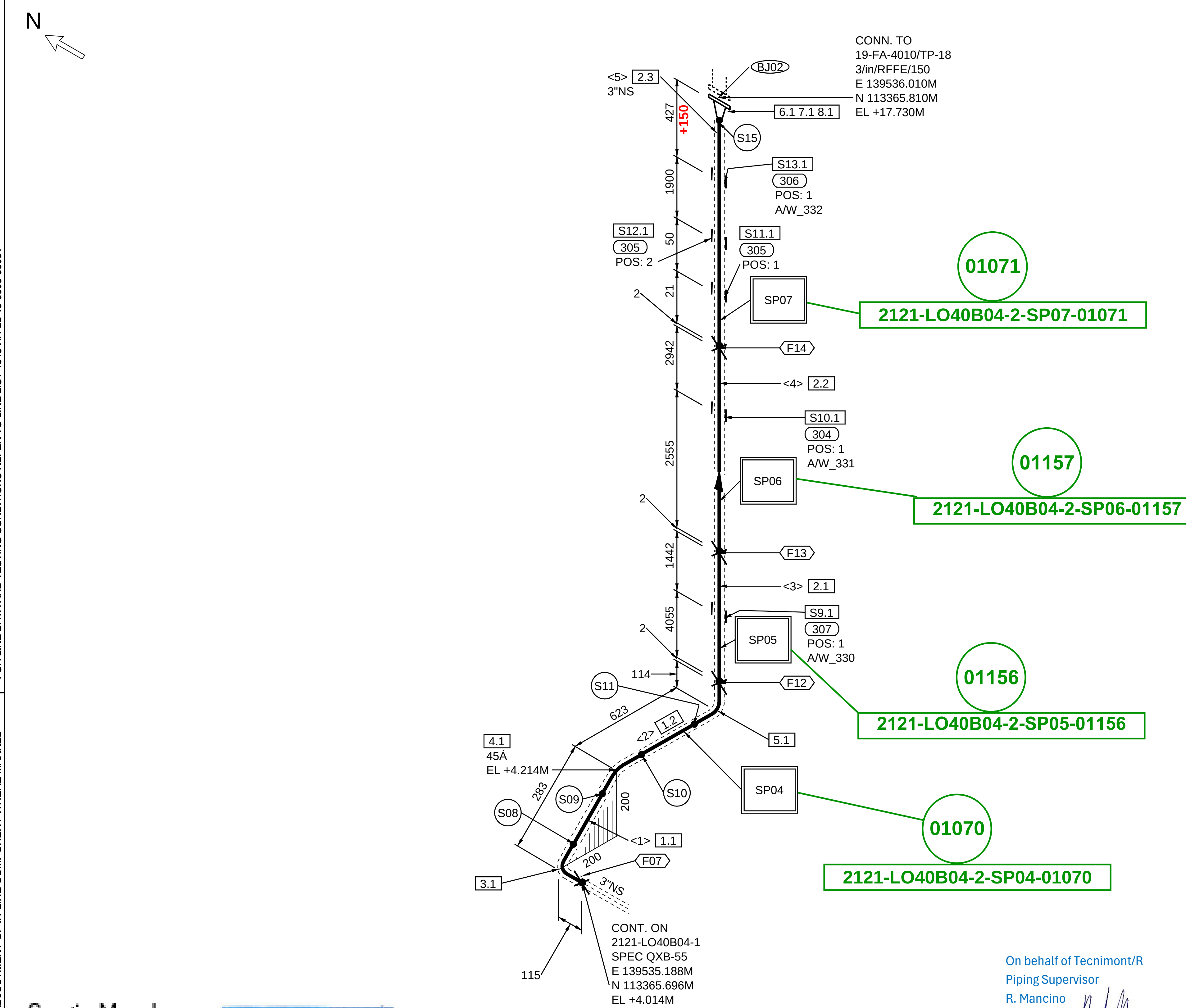
LINES 1.1/2" AND SMALLER SHALL BE SUPPORTED IN FIELD IF NOT OTHERWISE INDICATED

GUSSETING TO BE IMPLEMENTED BY MECHANICAL SUBCONTRACTOR AS PER SPECIFICATION 4048-XH-SG-00000004

FOR THE COMPONENT MARKED AS FIELD WELDED ONE WELDED FOR ADJUSTMENT OF INLINE COMPONENT MUST BE LEFT

FOR LINE DATA AND TESTING CONDITIONS REFER TO LINE LIST 4048-XH-LL-10-0000-00001

✕ FIELD WELD SYMBOL FOR ADJUSTMENT OF IN-LINE COMPONENT WHERE MARKED



Sergio Morales

Date: 07-11-24

On behalf of Tecnimont/R
Piping Supervisor
R. Mancino
29-11-24

RECEIVED
03 / 07 / 2024

MECWIDE ENGINEERING CHALLENGES — TG — IFC — PCL 22635 — 01

AUTHORISED FOR CONSTRUCTION

SIGNED FOR CONSTRUCTION IS SHOWN ON ISO LIST FOR RELEVANT PIPING AREA

LEGENDS

JOINT TYPE	HMEL TYPE OF JOINT	JOINT TYPE	HMEL TYPE OF JOINT	JOINT TYPE	HMEL TYPE OF JOINT	JOINT TYPE	HMEL TYPE OF JOINT
BW	G	SW	S	LET	LET	SOB	B
FW	S	SIB	B	LF	RF	SOF	S
L4	RF	SLW	S	MTW	M	THD	TH

Notes. 1 DENOTES PARTS LIST NO

PIPE SUPPORT: A = RESTING SUPPORT G = GUIDE F = AXIAL RESTRAINT B = GUIDE + STOP M = SPRING
WHERE A WITHOUT NUMBERING IS INDICATED THIS MEANS THAT THERE IS A REST DIRECTLY ON STEEL STRUCTURE

PROJECT: LOW LINEAL DENSITY POLYETHILENE (PEL) AND POLYPROPYLENE (PP) FOR PROJECT - ALBA PROJECT

BILL OF MATERIALS

FABRICATION MATERIALS

PS NO	DESCRIPTION	NS (MM)	ITEM CODE	QTY.	HOLD
	PIPE				
1	PIPE - A312-TP304/304L DUAL GR BE SMLS T01AL2CV02 S-10S <PIPB04DB2310S> (L-PIP113)	3	I3364303	0.6 M	
2	PIPE - A312-TP304/304L DUAL GR BE SMLS T01AL2CV02 S-10S <PIPB04DB2310S> (L-PIP113).	3	I3364303	13.4 M	
	FITTINGS				
3	90 LR ELBOW ASME B16.9 A403-WP304/304L DG BE SMLS C01DL2FV01 S-10S <90LB23DF3310S> (L-8052).	3	I2259134	1	
4	45 LR ELBOW ASME B16.9 A403-WP304/304L DG BE SMLS C02DL2FV01 S-10S <45LB23DF3310S> (L-45L28)	3	I2259146	1	
5	90 LR ELBOW ASME B16.9 A403-WP304/304L DG BE SMLS C01DL2FV01 S-10S <90LB23DF3310S> (L-8052)	3	I2259134	1	
	FLANGES				
6	WN FLANGE ASME B16.5 150# A182-F304/304L DUAL GR RF BE 125 - 250 AARH F01CDL2ABV05 S-10S <WNFB450R15310S> (L-WNF55).	3	I2260689	1	

ERECTION MATERIALS

PS NO	DESCRIPTION	NS (MM)	ITEM CODE	QTY.	HOLD
	GASKETS				
7	SPIRAL WOUND GASKET ASME B16.20 150# RFTBE 316/GRAP SS 316 SS 316 ASME B16.5 G03GDP1IA10 <N/A> (N/A)	3	I1176462	1	
	BOLTS				
8	STUD BOLTS&NUTS ASME B18.31.2/ B18.2.2 A320-B8 CL2/A194-8 INCH SIZE I01OB0901 <SB2R54G5/831/2> - 2 NUTS PER BOLT - 90 mm Length	5/8	I63615920	4	
	SUPPORTS				
9	U BOLT (FOR GUIDE)-P02D	3	307	1	
10	U BOLT (FOR GUIDE)-P02D	3	304	1	
11	U BOLT (FOR GUIDE)-P02D	3	305	1	
12	WELDED BRACKET TO STRUCT. SB30 L100X100X10	3	305	1	
13	U BOLT (FOR GUIDE)-P02D	3	306	1	

CUT LIST

PIECE NO	LENGTH (MM)	SIZE (IN)
<1>	114	3"
<2>	453	3"
<3>	5497	3"
<4>	5498	3"
<5>	2326	3"

WELD LIST

WELD NO	WELD CAT.	SIZE (IN)	WELD TYPE
F07	F	3"	BW
S08	S	3"	BW
S09	S	3"	BW
S10	S	3"	BW
S11	S	3"	BW
F12	F	3"	BW
F13	F	3"	BW
F14	F	3"	BW
S15	S	3"	BW

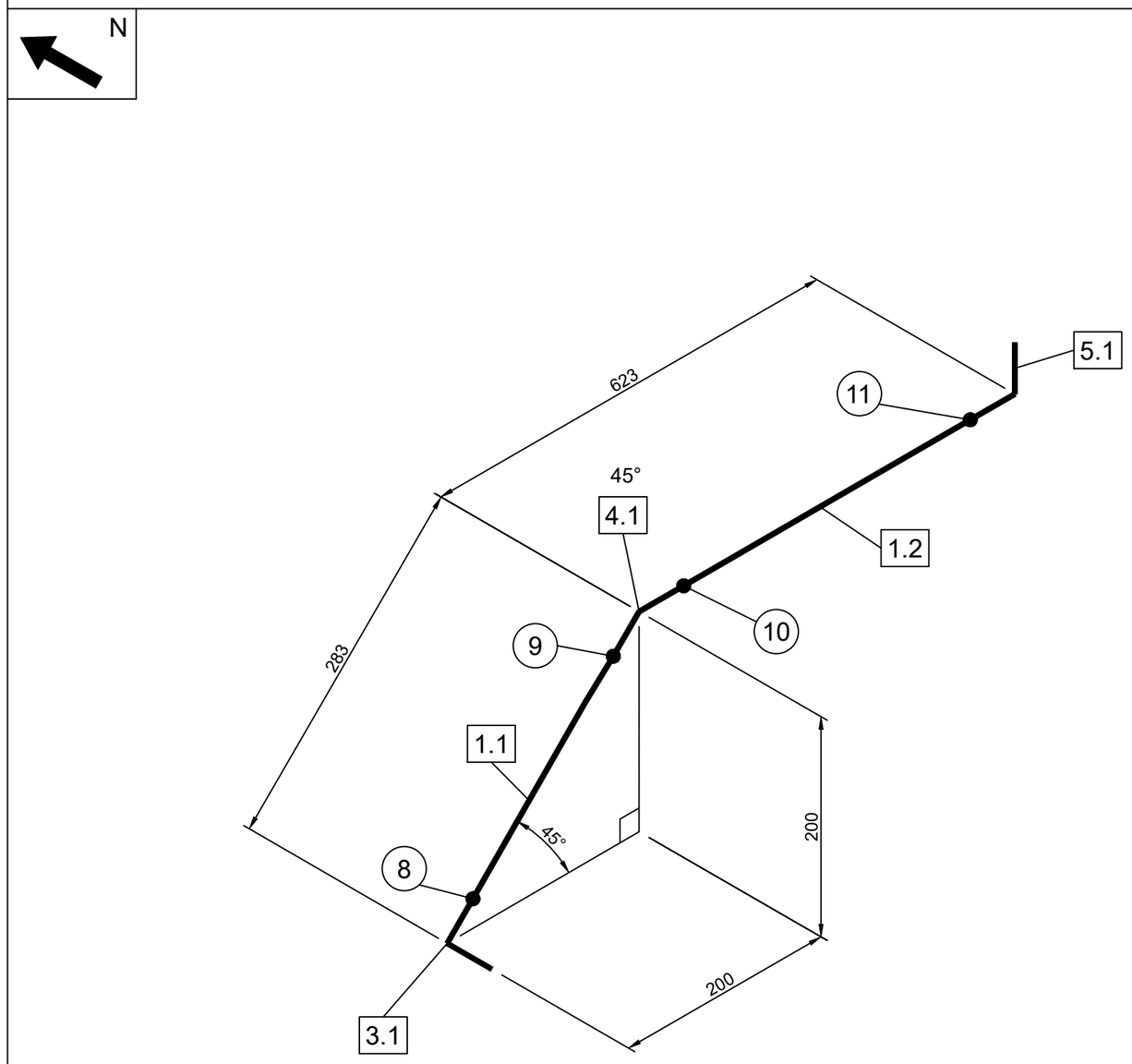
BOLT LIST

BOLT NO	FLANGE SIZE(IN)	SIZE (IN)	LENGTH (MM)
BJ02	3"	5/8"	90

INCH METER

PIPE NS (IN)	CL LENGTH (M)
3	14.5

ISOMETRIC NO. 4274-SP-XH-DL-2121-LO40B04-2-IS00 — SPOOLING REV NO. 01



BILL OF MATERIAL

PIPE

ITEM	LENGTH	DIAMETER	SCH/mm	DESCRIPTION / MATERIAL	ITEM CODE
1.1	0,114	3"	S-10S	PIPE - A312-TP304/304L DUAL GR BE SMLS BExBE	I3364303
1.2	0,454	3"	S-10S	PIPE - A312-TP304/304L DUAL GR BE SMLS BExBE	I3364303

FITTINGS

ITEM	QT	DIAMETER	SCH/mm	DESCRIPTION / MATERIAL	ITEM CODE
3.1	1	3"	S-10S	90 LR ELBOW ASME B16.9 A403-WP304/304L DG BE SMLS	I2259134
4.1	1	3"	S-10S	45 LR ELBOW ASME B16.9 A403-WP304/304L DG BE SMLS	I2259146
5.1	1	3"	S-10S	90 LR ELBOW ASME B16.9 A403-WP304/304L DG BE SMLS	I2259134

On behalf of Tecnimont/R
Piping Supervisor
R. Mancino
29-11-24

Sergio Morales

Date: 07-11-24

Weld Map Sticker

P2308S 01070

2121-LO40B04-2-SP04-01070

boccard
Alliance for success
Boccard Portugal, Lda.

Rev.	Date	DRW	Check 1	Check 2		
					Marking Color:	GREEN
					Weld Class:	QXB-55-M
01	09/07/2024	SFA	AZA		Paint System:	NR

Construction Code:	ASME B31.3	% RT -	YES	% UT -	NO	Hydro:	NO	ID Cleaning:	YES	Piece Mark	Ref. Drawing	Job #	Spool #	Project
Acc Criteria:	ASME B31.3	% PT -	YES	% FE -	NO	PWHT:	NO	OD Cleaning:	YES	2121-LO40B04-2-SP04-01070	2121-LO40B04-2	P2308S	01070	REPSOL PROJETO ALBA NERVION
Metal Tag:	YES	% MT -	NO	% PMI -	YES	BHN% -	NO	Tolerances:	ASME B31.3					

F324-302-0

Spool Material List

Contract : P2308 **Client** NERVION

Job : P2308S **Project** ALBA

Job	Spool	Piece Mark	Drawing	Rev
P2308S	01070	2121-LO40B04-2-SP04-01070	2121-LO40B04-2	01

Item No / Tag No / ID No	Qty	Size1	Sch1	Size2	Sch2	Description	Heat No / MTR No / Folder No	Unit Weight Kgs	Weight Kgs
1.1 40400	,114	3.0000	S10S	0.0000	NA	PIPE, SEAMLESS, A312-TP304L	N01392 0530	6,45	0,74
1.2 40400	,454	3.0000	S10S	0.0000	NA	PIPE, SEAMLESS, A312-TP304L	N01392 0530	6,45	2,93
4.1 42796	1	3.0000	S10S	0.0000	NA	45 ELL, SEAMLESS, A403-WP304L	JSG2310019 0458	0,61	0,61
3.1 42972	1	3.0000	S10S	0.0000	NA	90 LR ELL, SEAMLESS, A403-WP304L	JSG2310019 0464	1,22	1,22
5.1 42972	1	3.0000	S10S	0.0000	NA	90 LR ELL, SEAMLESS, A403-WP304L	JSG2310019 0464	1,22	1,22

On behalf of Tecnimont/R
Piping Supervisor
R. Mancino
29-11-24

Number of Items : **5** Total Weight : **6,71**

	QA	Client
Signature	QA / QC	Sergio Morales Date: 07-11-24
Date	2024-10-23 15:24:39	

CTA Group	Kg 141	Mt 22,13	Pz No.: 4
This document is reproduced by a computerized system and is conform to the original	Heat No.: N01392	Cta's job: OC0000319	Date: 29/02/2024
Customer : TECNIMONT SPA AFC	P.O. No.: PO:		Item: I3364303

13 7500118753 N.PRO: 4274 - PP+PE SINES (PORTUGAL) EPC

REGD. OFFICE :
'Suraj House',
Opp. Usmanpura Garden, Ashram Road,
Ahmedabad - 380 014. Gujarat (INDIA)
Tel. : 0091-79-2754 0720 / 2754 0721
Fax : 0091-79-2754 0722
Email : suraj@surajgroup.com

SURAJ LIMITED

(AN ISO 9001 : 2015 COMPANY)
(AN ISO 14001 : 2015 COMPANY)
(AN ISO 45001 : 2018 COMPANY)
(AN PED 2014/68/EU APPROVED COMPANY)

F / QA / 24 REV. NO. 10

WORKS :
Survey No. 779/A, Thol, Kadi - Sanand Highway,
Tal.-Kadi, Dist. Mehsana, Gujarat (India)
Tel. : (02764) 274216 / 27417 Fax : (02764) 274419
Email : quality@surajgroup.com
Visit us at www.surajgroup.com

INSPECTION CERTIFICATE

In Accordance with EN 10204/3.1

Customer: Commerciale Tubi Acciaio S.P.A. **T.C No** : 252 **Date:** 30.09.2023

Product : Austenitic S.S Seamless Cold Finish,Solution Annealed,Pickled & Passivated Pipes. **P.O.No** : OS-0000037 REV 0 **Date:** 26.09.2023

W.O.No : 2324/OEP400004 **Date:** 17.04.2023

Sr. No.	Specification	Grade	Heat No.	Dimensions		Quantity			Hydro Test Pressure (Psi)
				NPS	SCH	Length Mtr	Pcs	Total Meter	
14	ASTM A-312 Ed.2021 SA-312 of ASME Sec.II Part "A" Ed.2021 ASME B36.19, EN 10216-5 TC1 NACE MR 0175/ISO 15156, NACE MR 0103	TP 304/304L 1.4301/ 1.4307	N01392	3	10S	RL	76	430.300	1100

Chemical Analysis %

Heat No.	Required	C	Mn	P	S	Si	Cr	Ni	Mo	N	Ti
	Min	--	--	--	--	--	18.00	8.00	--	--	--
	Max	0.030	2.00	0.040	0.015	1.00	19.50	10.00	--	0.100	--
N01392	Heat Analysis	0.028	1.05	0.035	0.010	0.45	18.09	8.06	--	0.076	--

Mechanical Test

Heat No.	Required					Gauge Width	Flattening Test	Hardness Test	Impact Test	IGC Test
	Tensile strength Mpa	Yield strength Rp0.2% Mpa	Yield strength Rp 1 % Mpa	Elongation % GL 50 mm	Elongation % GL 5.65√A					
MAX	680	--	--	--	--			Max-90 HRB	100 Joule	ASTM A-262 Practice"E" & ISO 3651-2 Method "A"
MIN	515	205	230	35	40				Min.(AVG)	
N01392	621.53	318.24	334.87	54.96	55.23	25.40	Satisfactory	76-78	N/A	Satisfactory

Heat Treatment : Solution annealing conducted at 1045-1060°C temperature and rapid water quenching after final cold process.

Marking on pipes: **SURAJ LTD SPECIFICATION GRADE SIZE**
CFD EN 10216-5 TC1 EN GRADE HEAT NO._____P O NO.____

Remarks:

* 100% Hydro test done at required pressure for 10 second holding time found satisfactory without any leakage.
* 100% Visual, Dimensions(OD/THK/LENGTH) & Product Marking checked-satisfy the requirment of specification.
* 100% Positive Material Identification (PMI) done by SL & conforming to grade as per specification.
* Intergranular Corrosion Test (IGC) Conducted as per ASTM A262 Pr"E" & ISO 3651-2 method-A-No crack observed on bend portion at 20X.
* Pickling and Passivation Conducted as per ASTM A-380.
* **"Approved acc,to AD 2000-MERKBLATT W0 and certified acc.to PED (2014/68/EU) by certification body for pressure equipment of TUV NORD SYSTEMS (NOTIFIED BODY,REG NO,:0045)"**
* Tensile test piece taken from the same lot as certified and tested in longitudinal direction.
* **Melting process:EAF+AOD & Material is free of mercury & radioactive contamination.**

For, Suraj Limited.

Prepared by

C.I.Nayak
Dept,Head Quality

We hereby certify that the material described herein are in accordance with the specification and results comply with the requirements of the purchase order.

APPLUS OBO TCM
28 03 24

COMMERCIALE TUBI ACCIAIO S.p.A.
QUALITY CONTROL DEPARTMENT

MATERIAL TEST CERTIFICATE
EN10204 3.1

MANUFACTURER: Yingkou Guangming Pipeline Industry Co.,Ltd

MATERIAL: ASTM A403 WP304/304L

P.O NO: 1179/2023/OF

DIMENSION: ASME B16.9

WORK NO: GMPFCP2312363

CUSTOMER: Chero Piping S.p.A.

DATE: April.10th,2024

PAGE NO: 17/29

NO.	POS .No.	CHERO CODE	COMMESSA	PRODUCT&SIZE	QUANTITY	MFG NO. (HEAT NO.)	CHEMICAL COMPOSITION%									
								C	Si	Mn	P	S	Ni	Cr	Mo	Cu	Other
							MIN						8.00	18.00	--	--	--
					PCS		MAX	0.030	1.00	2.00	0.045	0.030	12.00	20.00	--	--	--
62	130	C45LRB1XB000I.ZZW	OC/2023/903/1110	SIZE: 2 - SCHED.S-10S 45 LR ELBOW A403-WP304/304L DG BE SMLS ASME B16.9	5	JSG2310018		0.024	0.51	1.24	0.025	0.012	8.17	18.45	--	--	--
63	140	C45LRB1XB000N.ZZW	OC/2023/903/1120	SIZE: 3 - SCHED.S-10S 45 LR ELBOW A403-WP304/304L DG BE SMLS ASME B16.9	5	JSG2310019		0.027	0.54	1.22	0.026	0.015	8.11	18.43	--	--	--
64	150	C45LRB1XB000R.ZZW	OC/2023/903/1140	SIZE: 6 - SCHED.S-10S 45 LR ELBOW A403-WP304/304L DG BE SMLS ASME B16.9	7	JSG2312024		0.027	0.47	1.24	0.028	0.013	8.26	18.41	--	--	--
65	160	C45LRB1XB000W-W.ZZW	OC/2023/903/1420	SIZE: 14 - SCHED.S-10S 45 LR ELBOW A403-WP304/304L-WX DG BE - ASME B16.9	3	JSB2312106		0.025	0.44	1.40	0.023	0.003	8.02	18.40	--	--	--

NO.	POS .No.	CHERO CODE	COMMESSA	PHYSICAL TEST						VISUAL INSPECTION	DIMENSION INSPECTION	PMI TESTING
				CHARGE NO	STANDARD	YIELD STRENGTH	TENSILE STRENGTH	ELONGATION	HARDNESS			
						MPA(N/mm2)	MPA(N/mm2)	%	HB			
					MIN	170	485	28				
					MAX				--			
62	130	C45LRB1XB000I.ZZW	OC/2023/903/1110	JSG2310018		250	660	52	--	GOOD	GOOD	OK
63	140	C45LRB1XB000N.ZZW	OC/2023/903/1120	JSG2310019		256	665	54	--	GOOD	GOOD	OK
64	150	C45LRB1XB000R.ZZW	OC/2023/903/1140	JSG2312024		273	674	62	--	GOOD	GOOD	OK
65	160	C45LRB1XB000W-W.ZZW	OC/2023/903/1420	JSB2312106		279	638	56	--	GOOD	GOOD	OK

NOTE:

1.HEAT TREATMENT: SOLUTION ANNEALED TEMPERATURE 1050℃X0.5HR.COOLING IN WATER.

WE HEREBY CERTIFY THAT THE PRODUCT DESCRIBED HEREIN HAS BEEN MANUFACTURED IN ACCORDANCE WITH THE SPECIFICATIONS CONCERNED AND ALSO WITH THE PURCHASER'S REQUIREMENTS AND THAT THE TEST RESULTS SHOWN HEREIN ARE CORRECT AND WE CONFIRM THAT P.M.I HAS BEEN DONE.

Tuan Quan

Prime 4 OBO TCM

2024.4.17

CHIEF OF INSPECTION DEPARTMENT

MATERIAL TEST CERTIFICATE
EN10204 3.1

MANUFACTURER: Yingkou Guangming Pipeline Industry Co.,Ltd

MATERIAL: ASTM A403 WP304/304L

P.O NO: 1179/2023/OF

DIMENSION: ASME B16.9

WORK NO: GMPFCP2312363

CUSTOMER: Chero Piping S.p.A.

DATE: April.10th,2024

PAGE NO: 20/29

NO.	POS .No.	CHERO CODE	COMMESSA	PRODUCT&SIZE	QUANTITY	MFG NO. (HEAT NO.)	CHEMICAL COMPOSITION%									
								C	Si	Mn	P	S	Ni	Cr	Mo	Cu	Other
							MIN						8.00	18.00	--	--	--
					PCS		MAX	0.030	1.00	2.00	0.045	0.030	12.00	20.00	--	--	--
74	310	C90LRB1XB 000I.ZZW	OC/2023/90 3/1040	SIZE: 2 - SCHED.S-10S 90 LR ELBOW A403-WP304/304L DG BE SMLS ASME B16.9	58	NY230506AT08		0.015	0.39	1.34	0.036	0.009	8.02	18.08	--	--	--
75	320	C90LRB1XB 000N.ZZW	OC/2023/90 3/1060	SIZE: 3 - SCHED.S-10S 90 LR ELBOW A403-WP304/304L DG BE SMLS ASME B16.9	16	JSG2310019		0.027	0.54	1.22	0.026	0.015	8.11	18.43	--	--	--
76	330	C90LRB1XB 000P.ZZW	OC/2023/90 3/1080	SIZE: 4 - SCHED.S-10S 90 LR ELBOW A403-WP304/304L DG BE SMLS ASME B16.9	4	JSG2312020		0.028	0.44	1.23	0.027	0.010	8.28	18.36	--	--	--
77	340	C90LRB1XB 000R.ZZW	OC/2023/90 3/1090	SIZE: 6 - SCHED.S-10S 90 LR ELBOW A403-WP304/304L DG BE SMLS ASME B16.9	2	JSG2312024		0.027	0.47	1.24	0.028	0.013	8.26	18.41	--	--	--

NO.	POS .No.	CHERO CODE	COMMESSA	PHYSICAL TEST						VISUAL INSPECTION	DIMENSION INSPECTION	PMI TESTING
				CHARGE NO	STANDARD	YIELD STRENGTH	TENSILE STRENGTH	ELONGATION	HARDNESS			
						MPA(N/mm2)	MPA(N/mm2)	%	HB			
					MIN	170	485	28				
					MAX				--			
74	310	C90LRB1XB 000I.ZZW	OC/2023/90 3/1040	NY230506AT08		299	611	51	--	GOOD	GOOD	OK
75	320	C90LRB1XB 000N.ZZW	OC/2023/90 3/1060	JSG2310019		256	665	54	--	GOOD	GOOD	OK
76	330	C90LRB1XB 000P.ZZW	OC/2023/90 3/1080	JSG2312020		279	680	66	--	GOOD	GOOD	OK
77	340	C90LRB1XB 000R.ZZW	OC/2023/90 3/1090	JSG2312024		273	674	62	Yuan Quan	GOOD	GOOD	OK

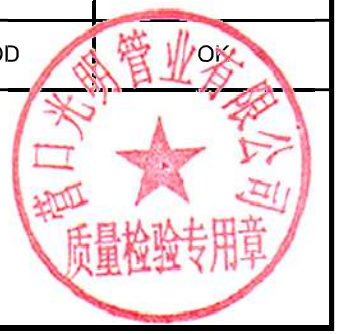
NOTE:

1.HEAT TREATMENT: SOLUTION ANNEALED TEMPERATURE 1050℃X0.5HR.COOLING IN WATER.

Prime 4 OBO TCM
2024.4.17

WE HEREBY CERTIFY THAT THE PRODUCT DESCRIBED HEREIN HAS BEEN MANUFACTURED IN ACCORDANCE WITH THE SPECIFICATIONS CONCERNED AND ALSO WITH THE PURCHASER'S REQUIREMENTS AND THAT THE TEST RESULTS SHOWN HEREIN ARE CORRECT AND WE CONFIRM THAT P.M.I HAS BEEN DONE.

CHIEF OF INSPECTION DEPARTMENT



Welding and QC Report Per Spool

Contract : P2308 | Drawing : 2121-LO40B04-2 | Job : P2308S | Material : Stainless Steel 304, 316, 317

Client : NERVION | Revision : 01 | Spool : 01070 | Spec : QXB-55-M

Project : ALBA | Piece Mark : 2121-LO40B04-2-SP04-01070

Weld data					Welding							Control																							
Weld No.	Type	Dia	Sch /Thk	Weld Proc.	1st Pass	Pass 1	1st MTR	Final Pass	Final Pass	Final MTR	Dim	Date DIM	Visual	Date Visual	PT	Date PT	MT	Date MT	PMI	Date PMI	Ferite	Date Ferrite	PWHT	Date PWHT	BHN	Date BHN	Ultra	Date UT	Xray	Date Xray						
0008	BW	3	S10S	MW.26_BW	BC	14-08-2024	4712055	BC	14-08-2024	4712055			001157	16-10-2024					001208	21-10-2024									000360	16-10-2024					
0009	BW	3	S10S	MW.26_BW	BC	14-08-2024	4712055	BC	14-08-2024	4712055			001157	16-10-2024					001208	21-10-2024															
0010	BW	3	S10S	MW.26_BW	BC	16-08-2024	4712055	BC	16-08-2024	4712055			001157	16-10-2024					001208	21-10-2024															
0011	BW	3	S10S	MW.26_BW	BC	16-08-2024	4712055	BC	16-08-2024	4712055			001157	16-10-2024					001208	21-10-2024															

On behalf of Tecnimont
QC Welding Inspector

29/11/2024

Notes:

	Boccard Portugal QC	Client
Signature	QA / QC	Sergio Morales Date: 07-11-24
Date	23-10-2024 15:24:39	

Shop QC Inspection Report

P2308-001200

Client : NERVION
Job number: P2308S
Contract : P2308 / Project : ALBA
Spool Nº: 01070
Material: Stainless Steel 304, 316, 317
Piece Mark: 2121-LO40B04-2-SP04-01070

Procedure / Instruction reference: 20.2 IT 011 MF 324 - Rev: A
Control Date: 16-10-2024

Remarks: The results refer to the controlled items

Actions / Tasks List	Required		Done/ Identified
	Yes	No	
Welder / weld list labels printed and pasted on the spool sheet	X		X
Spool Barcode label printed	X		X
Spool is identified with the metal tag	X		X
Spool stencil required (hard stamp low stress)		X	
Joint preparation & cleanliness / spool dimensions checked	X		X
Level, plumb, Two holes, flanges and internal alignment, Squareness	X		X
Material checked (type of material, rate, heat numbers, filler material, etc.)	X		X
Welders list match with actual welder stencil / Id. on pipe	X		X
PWHT- Spool identified as per Procedure / Instruction for PWHT		X	
HT (Hardness Test)- Welds identified as per Procedure / Instruction		X	
MT - Welds identified as per Procedure / Instruction		X	
PT - Welds identified as per Procedure / Instruction		X	
PMI - Welds identified as per Procedure / Instruction	X		X
FE (Ferrite test) - Welds identified as per Procedure / Instruction		X	
RT - Welds identified as per Procedure / Instruction	X		X
UT - Welds identified as per Procedure / Instruction		X	
Spool identified (by marker) as per Procedure / Instruction (Job number, sheet number and Paint type if required)	X		X
Hydro - Spool identified as per Procedure / Instruction		X	
Cleanliness - Cleaned inside free of slag, scale, sand, weld spatter, cutting chips, etc. and blow out by compressed air	X		X

Comments:

Performed by: MATOS, MARCO (N2 VT/PT)
Date: 16-10-2024
Signature

QA/QC Inspection: RAIMUNDO, MARIANA
Date: 23-10-2024 15:24:39
Signature

Customer Inspection:
Sergio Morales
Date: 07-11-24

29/11/2024 On behalf of Tecnimont
QC Welding Inspector

Visual Examination Report (Welds)

P2308-001157

Contract : P2308
Client : NERVION
Project : ALBA

Job number: P2308S
Spool Nº: 01070
Piece Mark: 2121-LO40B04-2-SP04-01070

Material: Stainless Steel 304, 316, 317
Procedure & Instructions: 4274-LZ-VD-FW31010370QAC04 - Rev: 1
Testing Date: 16-10-2024

Remarks: The results refer to the controlled items	Unacceptable indications for welding
ACCEPTANCE CRITERIA : ASME B31.3	Weld reinforcement greater than specified in project procedure
The illumination of the surface must be at least 500 lux. However, a value of 1000lux is recommended	Any linear indications greater than specified in project procedure, surface porosity with rounded indications having a dimension greater than specified project procedure
Indications of lack of fusion open to the surface / Cracks located on external surfaces	Surface finish that could interfere with other testing required
Incomplete penetration of welds / Indications of undercut on surfaces which are greater than specified in project procedure	Misalignment greater than specified in applicable code or poor fit up of weld joints

Identification			Temp. (ºF/ºC)	Accepted	Rejected	Defect	Technique Used	Comments
Weld No.	Weld Desc.	Welder						
0008	3.0000 S10S BW-Buttweld Straight (MW.26_BW)	BC	22	X			Direct	
0009	3.0000 S10S BW-Buttweld Straight (MW.26_BW)	BC	22	X			Direct	
0010	3.0000 S10S BW-Buttweld Straight (MW.26_BW)	BC	22	X			Direct	
0011	3.0000 S10S BW-Buttweld Straight (MW.26_BW)	BC	22	X			Direct	

Sketch / Photo:

Defects									
Clustered Porosity	CP	Porosity	P	Cap	C	Lack of Cleanup	LC	Hollow in Cap	W
Unibmly Porosity	UP	Slag	S	Undercut	UC	Crack	CR	Surface	SU

Test Performed by: MATOS, MARCO (N2 VT/PT)
Date: 16-10-2024
Signature

QA/QC Inspection: RAIMUNDO, MARIANA
Date: 23-10-2024 15:24:39
Signature

Customer Inspection:
Sergio Morales
Date: 07-11-24

Positive Material Identification Report (PMI)

P2308-001208

Client : NERVION
Contract : P2308 / Project : ALBA

Remarks: The results refer to the controlled items

Job number: P2308S
Spool Nº: 01070
Piece Mark: 2121-LO40B04-2-SP04-01070
Material: Stainless Steel 304, 316, 317

Procedure / Instruction reference: 4274-LZ-VD-FW31010370QAC11 - Rev: 1
PMI Equipment : Niton XL3t800 Serial Nº 32735 (FP01)
Equipment Deviation : + - 5%
Testing Date: 21-10-2024

Weld / Item No	Description	Reading Longitudinal number	Chemical Elements %Ti	%Mo	%Cu	%Ni	%Fe	%Mn	%Cr	%Nb	%Al	%V	Accepted	Rejected	Comments
0008	3.0000 S10S BW-Buttweld Straight (MW.26_BW)	112	0	0	0	9	69	1	19	0	0	0	X		
0009	3.0000 S10S BW-Buttweld Straight (MW.26_BW)	113	0	0	0	9	69	1	19	0	0	0	X		
0010	3.0000 S10S BW-Buttweld Straight (MW.26_BW)	114	0	0	0	9	69	1	18	0	0	0	X		
0011	3.0000 S10S BW-Buttweld Straight (MW.26_BW)	115	0	0	0	8	69	1	19	0	0	0	X		
1.1	3.0000 S10S PIPE, SEAMLESS, A312-TP304L (N01392)	110	0	0	0	8	71	1	17	0	0	0	X		
1.2	3.0000 S10S PIPE, SEAMLESS, A312-TP304L (N01392)	108	0	0	0	8	71	1	17	0	0	0	X		
3.1	3.0000 S10S 90 LR ELL, SEAMLESS, A403-WP304L (JSG2310019)	111	0	0	0	8	71	1	17	0	0	0	X		
4.1	3.0000 S10S 45 ELL, SEAMLESS, A403-WP304L (JSG2310019)	109	0	0	0	8	71	1	17	0	0	0	X		
5.1	3.0000 S10S 90 LR ELL, SEAMLESS, A403-WP304L (JSG2310019)	107	0	0	0	7	71	1	18	0	0	0	X		

On behalf of Tecnimont
QC Welding Inspector

29/11/2024

Test Performed by: GONCALVES(QA), J. (N2 PT/RT)
Date: 21-10-2024
Signature

QA/QC Inspection: RAIMUNDO, MARIANA
Date: 23-10-2024 15:24:39
Signature

Customer Inspection:
Date: Sergio Morales
Date: 07-11-24
Signature

Boccard Portugal, Lda
Zona Industrial de Montalvo, Lote 3
Constância, Portugal2250-999

Certificate of PMI Reading

XL3t-32735

Reading No	112
Mode	ALLOY
Time	2024-10-21 10:13
Duration	11.57
Sequence	Final
Alloy1	304SS : 0.39
Alloy2	No Match : *2.14
Flags	
SAMPLE	
HEAT	
LOT	
BATCH	
MISC	
NOTE	

	%	±	Error
Sb	< LOD	:	0.039
Sn	< LOD	:	0.051
Pd	< LOD	:	0.038
Ag	< LOD	:	0.196
Al	< LOD	:	80.000
Mo	0.098	±	0.011
Nb	< LOD	:	0.009
Zr	< LOD	:	0.007
Bi	< LOD	:	0.009
Pb	< LOD	:	0.018
Se	< LOD	:	0.011
W	< LOD	:	0.090
Zn	< LOD	:	0.024
Cu	< LOD	:	0.147
Ni	9.060	±	0.295
Co	< LOD	:	0.481
Fe	69.054	±	0.440
Mn	1.897	±	0.203
Cr	19.122	±	0.258
V	< LOD	:	0.129
Ti	< LOD	:	0.148

29/11/2024

Sergio Morales

Date: 07-11-24

On behalf of Tecnimont
QC Welding Inspector

Boccard Portugal, Lda
Zona Industrial de Montalvo, Lote 3
Constância, Portugal2250-999

Certificate of PMI Reading

XL3t-32735

Reading No	113
Mode	ALLOY
Time	2024-10-21 10:13
Duration	11.79
Sequence	Final
Alloy1	304SS : 0.05
Alloy2	No Match : *2.10
Flags	
SAMPLE	
HEAT	
LOT	
BATCH	
MISC	
NOTE	

	%	±	Error
Sb	< LOD	:	0.041
Sn	< LOD	:	0.047
Pd	< LOD	:	0.039
Ag	< LOD	:	0.144
Al	< LOD	:	80.000
Mo	0.083	±	0.010
Nb	< LOD	:	0.007
Zr	< LOD	:	0.003
Bi	< LOD	:	0.013
Pb	< LOD	:	0.015
Se	< LOD	:	0.008
W	< LOD	:	0.107
Zn	< LOD	:	0.035
Cu	< LOD	:	0.147
Ni	9.020	±	0.293
Co	< LOD	:	0.473
Fe	69.562	±	0.439
Mn	1.639	±	0.198
Cr	19.149	±	0.257
V	< LOD	:	0.131
Ti	< LOD	:	0.152

Sergio Morales

Date: 07-11-24

29/11/2024

On behalf of Tecnimont
QC Welding Inspector

Boccard Portugal, Lda
Zona Industrial de Montalvo, Lote 3
Constância, Portugal2250-999

Certificate of PMI Reading

XL3t-32735

Reading No	114
Mode	ALLOY
Time	2024-10-21 10:13
Duration	11.56
Sequence	Final
Alloy1	304SS : 0.30
Alloy2	No Match : *2.10
Flags	
SAMPLE	
HEAT	
LOT	
BATCH	
MISC	
NOTE	

	%	±	Error
Sb	< LOD	:	0.040
Sn	< LOD	:	0.046
Pd	< LOD	:	0.035
Ag	< LOD	:	0.169
Al	< LOD	:	80.000
Mo	0.050	±	0.008
Nb	< LOD	:	0.007
Zr	< LOD	:	0.005
Bi	< LOD	:	0.011
Pb	< LOD	:	0.003
Se	< LOD	:	0.010
W	< LOD	:	0.077
Zn	< LOD	:	0.030
Cu	< LOD	:	0.140
Ni	9.119	±	0.281
Co	< LOD	:	0.455
Fe	69.392	±	0.419
Mn	1.767	±	0.191
Cr	18.967	±	0.245
V	< LOD	:	0.123
Ti	< LOD	:	0.150

Sergio Morales

Date: 07-11-24

29/11/2024

On behalf of Tecnimont
QC Welding Inspector

Boccard Portugal, Lda
Zona Industrial de Montalvo, Lote 3
Constância, Portugal2250-999

Certificate of PMI Reading

XL3t-32735

Reading No	115
Mode	ALLOY
Time	2024-10-21 10:14
Duration	11.63
Sequence	Final
Alloy1	304SS : 1.53
Alloy2	321SS : 2.00
Flags	
SAMPLE	
HEAT	
LOT	
BATCH	
MISC	
NOTE	

	%	±	Error
Sb	< LOD	:	0.037
Sn	< LOD	:	0.047
Pd	< LOD	:	0.037
Ag	< LOD	:	0.174
Al	< LOD	:	80.000
Mo	0.054	±	0.008
Nb	< LOD	:	0.007
Zr	< LOD	:	0.003
Bi	< LOD	:	0.013
Pb	0.026	±	0.012
Se	< LOD	:	0.006
W	< LOD	:	0.090
Zn	< LOD	:	0.027
Cu	< LOD	:	0.153
Ni	8.442	±	0.286
Co	0.547	±	0.241
Fe	69.474	±	0.440
Mn	1.745	±	0.200
Cr	19.225	±	0.258
V	< LOD	:	0.130
Ti	< LOD	:	0.163

Sergio Morales

Date: 07-11-24

Boccard Portugal, Lda
Zona Industrial de Montalvo, Lote 3
Constância, Portugal2250-999

Certificate of PMI Reading

XL3t-32735

Reading No	110
Mode	ALLOY
Time	2024-10-21 10:12
Duration	11.34
Sequence	Final
Alloy1	301SS : *1.92
Alloy2	304SS : *2.15
Flags	
SAMPLE	
HEAT	
LOT	
BATCH	
MISC	
NOTE	

	%	±	Error
Sb	< LOD	:	0.036
Sn	< LOD	:	0.049
Pd	< LOD	:	0.037
Ag	< LOD	:	0.140
Al	< LOD	:	80.000
Mo	0.373	±	0.019
Nb	< LOD	:	0.008
Zr	< LOD	:	0.005
Bi	< LOD	:	0.002
Pb	< LOD	:	0.004
Se	< LOD	:	0.007
W	< LOD	:	0.087
Zn	< LOD	:	0.034
Cu	0.446	±	0.091
Ni	8.276	±	0.284
Co	< LOD	:	0.470
Fe	71.292	±	0.430
Mn	1.451	±	0.193
Cr	17.695	±	0.247
V	0.143	±	0.067
Ti	< LOD	:	0.131

Sergio Morales

Date: 07-11-24

29/11/2024

On behalf of Tecnimont
QC Welding Inspector

Boccard Portugal, Lda
Zona Industrial de Montalvo, Lote 3
Constância, Portugal2250-999

Certificate of PMI Reading

XL3t-32735

Reading No	108
Mode	ALLOY
Time	2024-10-21 10:12
Duration	11.14
Sequence	Final
Alloy1	301SS : *1.93
Alloy2	304SS : *2.03
Flags	
SAMPLE	
HEAT	
LOT	
BATCH	
MISC	
NOTE	

	%	±	Error
Sb	< LOD	:	0.036
Sn	< LOD	:	0.049
Pd	< LOD	:	0.035
Ag	< LOD	:	0.153
Al	< LOD	:	80.000
Mo	0.049	±	0.008
Nb	< LOD	:	0.005
Zr	< LOD	:	0.003
Bi	< LOD	:	0.015
Pb	< LOD	:	0.025
Se	< LOD	:	0.007
W	< LOD	:	0.089
Zn	< LOD	:	0.034
Cu	0.189	±	0.076
Ni	8.203	±	0.275
Co	< LOD	:	0.461
Fe	71.523	±	0.421
Mn	1.555	±	0.188
Cr	17.745	±	0.240
V	0.171	±	0.067
Ti	< LOD	:	0.141

Sergio Morales

Date: 07-11-24

29/11/2024

On behalf of Tecnimont
QC Welding Inspector

Boccard Portugal, Lda
Zona Industrial de Montalvo, Lote 3
Constância, Portugal2250-999

Certificate of PMI Reading

XL3t-32735

Reading No	111
Mode	ALLOY
Time	2024-10-21 10:13
Duration	13.18
Sequence	Final
Alloy1	301SS : *1.94
Alloy2	304SS : *1.97
Flags	
SAMPLE	
HEAT	
LOT	
BATCH	
MISC	
NOTE	

	%	±	Error
Sb	< LOD	:	0.039
Sn	< LOD	:	0.046
Pd	< LOD	:	0.035
Ag	< LOD	:	0.162
Al	< LOD	:	80.000
Mo	0.085	±	0.009
Nb	< LOD	:	0.007
Zr	< LOD	:	0.004
Bi	< LOD	:	0.012
Pb	< LOD	:	0.013
Se	< LOD	:	0.006
W	< LOD	:	0.090
Zn	< LOD	:	0.034
Cu	0.228	±	0.076
Ni	8.104	±	0.266
Co	< LOD	:	0.448
Fe	71.575	±	0.408
Mn	1.600	±	0.183
Cr	17.701	±	0.233
V	0.173	±	0.065
Ti	< LOD	:	0.123

Sergio Morales

Date: 07-11-24

On behalf of Tecnimont
QC Welding Inspector

29/11/2024

Boccard Portugal, Lda
Zona Industrial de Montalvo, Lote 3
Constância, Portugal2250-999

Certificate of PMI Reading

XL3t-32735

Reading No	109
Mode	ALLOY
Time	2024-10-21 10:12
Duration	11.55
Sequence	Final
Alloy1	304SS : 1.77
Alloy2	No Match : *1.93
Flags	
SAMPLE	
HEAT	
LOT	
BATCH	
MISC	
NOTE	

	%	±	Error
Sb	< LOD	:	0.037
Sn	< LOD	:	0.049
Pd	< LOD	:	0.036
Ag	< LOD	:	0.119
Al	< LOD	:	80.000
Mo	0.061	±	0.008
Nb	< LOD	:	0.005
Zr	< LOD	:	0.004
Bi	< LOD	:	0.008
Pb	< LOD	:	0.018
Se	< LOD	:	0.007
W	< LOD	:	0.077
Zn	< LOD	:	0.024
Cu	< LOD	:	0.146
Ni	8.110	±	0.276
Co	< LOD	:	0.460
Fe	71.988	±	0.426
Mn	1.432	±	0.188
Cr	17.776	±	0.242
V	0.138	±	0.065
Ti	< LOD	:	0.149

Sergio Morales

Date: 07-11-24

29/11/2024

On behalf of Tecnimont
QC Welding Inspector

Boccard Portugal, Lda
Zona Industrial de Montalvo, Lote 3
Constância, Portugal2250-999

Certificate of PMI Reading

XL3t-32735

Reading No	107
Mode	ALLOY
Time	2024-10-21 10:12
Duration	12.64
Sequence	Final
Alloy1	304SS : 1.19
Alloy2	No Match : 2.03
Flags	
SAMPLE	
HEAT	
LOT	
BATCH	
MISC	
NOTE	

	%	±	Error
Sb	< LOD	:	0.037
Sn	< LOD	:	0.047
Pd	< LOD	:	0.034
Ag	< LOD	:	0.160
Al	< LOD	:	80.000
Mo	0.077	±	0.009
Nb	< LOD	:	0.007
Zr	< LOD	:	0.003
Bi	< LOD	:	0.013
Pb	< LOD	:	0.018
Se	< LOD	:	0.008
W	< LOD	:	0.099
Zn	< LOD	:	0.027
Cu	< LOD	:	0.146
Ni	7.951	±	0.272
Co	< LOD	:	0.460
Fe	71.668	±	0.421
Mn	1.346	±	0.185
Cr	18.057	±	0.242
V	0.165	±	0.067
Ti	< LOD	:	0.149

29/11/2024

Type text here

Sergio Morales

Date: 07-11-24

On behalf of Tecnimont
QC Welding Inspector

Radiographic Examination Report

P2308-000360

Contract : P2308
Client : NERVION
Project : ALBA

Spool Nº: P2308S-01070
Isometric Nº: 2121-LO40B04-2
Piece Mark: 2121-LO40B04-2-SP04-01070

Procedure/ Instruction:	Acceptance Criteria:	Testing Date:	Material:
4274-LZ-VD-FW31010370QAC02 - Rev.1	ASME B.31.3 – Table 341.3.2	16-10-2024	Stainless Steel 304, 316, 317

Equipment

Type: G-RAY
Source Equip: Ir192
Source Dim: 2x1.4
Activity (Ci): 19.9

Film

Normal Fluid
Brand: FUJI
Type: IX50
Class: C3
Lead Sheets: 0,5
Films/Casette: Single

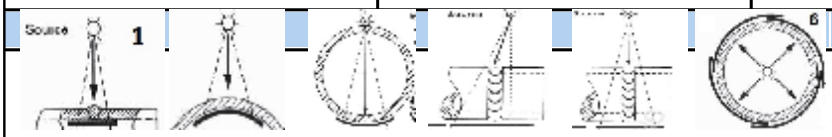
IQI

Type: ASTM-1A
Position: Film Side
Sensitivity: 4
Ø of visible wire/hole: 0,0063(0,16)

Development

Equipment: GE M ECO
Type: Auto
Temperature: 29
Developer: G135
Fixer: G335

Testing Technique



1 2 3 4 5 6

Indication Codes (ISO 6520)

--	EP-Excess Penetration (504)	SB-Suck Back
BB-Back Bevel	FA-Film Artifact	ST-Sugared Tack
BW-Back Weld	GR-Grind Repair	SU-Surface
BT-Burn Through (510)	HL-Hi-LO	T-Tungsten
C-Cap	LC-Lack of Cleanup	UC-Undercut (5011)
CP-Clusterd Porosity (2012)	LF-Lack of Fusion (401)	UP-Unformity Porosity (2013)
CL-Cold Lap	LP-Lack of Penetration (402)	V-Valley in Cap
CR-Crack	P-Porosity (2011)	W-Wire
CC-Crater Crack (104)	R-Root	WH-Worm Hole (2016)
DI-Dimensional	S-Slag (301)	XN-Xray Film Non-Conform

General Remarks

The results refer to the controlled items - Good / Acceptable + Repair = Good after Repair

Notations / Symbology

x Acceptable after Repair SFD = Source Film Distance SOD = Source Object Distance

Weld No.	Weld Desc. (WPS)	Welder	Position	SFD	SOD	Weld Reinf	Testing Technique	Exposure Time	Density	IQI	Indication Code	Decision	Remarks
0008	3.0000 S10S BW (MW.26_BW)	BC	0-10	88,9	0	NA	3	18	2.5	4		-	RX471
0008	3.0000 S10S BW (MW.26_BW)	BC	10-20	88,9	0	NA	3	18	2.6	4		-	RX471
0008	3.0000 S10S BW (MW.26_BW)	BC	20-0	88,9	0	NA	3	18	2.4	4		-	RX471

films review

On behalf of Tecnimont
QC Welding Inspector

02/12/2024

Radiographic Examination Report

P2308-000360

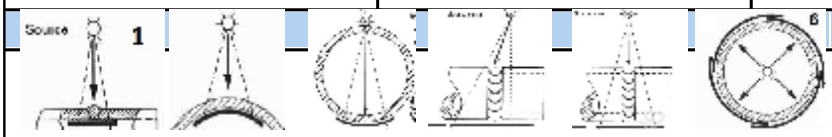
Contract : P2308
Client : NERVION
Project : ALBA

Spool Nº: P2308S-01070
Isometric Nº: 2121-LO40B04-2
Piece Mark: 2121-LO40B04-2-SP04-01070

Procedure/ Instruction:	Acceptance Criteria:	Testing Date:	Material:
4274-LZ-VD-FW31010370QAC02 - Rev.1	ASME B.31.3 – Table 341.3.2 Normal Fluid	16-10-2024	Stainless Steel 304, 316, 317

Equipment		Film		IQI		Development	
Type:	G-RAY	Brand:	FUJI	Type:	ASTM-1A	Equipment:	GE M ECO
Source Equip:	Ir192	Type:	IX50	Position:	Film Side	Type:	Auto
Source Dim:	2x1.4	Class:	C3	Sensitivity:	4	Temperature:	29
Activity (Ci):	19.9	Lead Sheets:	0,5	Ø of visible wire/hole	0,0063(0,16)	Developer:	G135
		Films/Casette:	Single			Fixer:	G335

Testing Technique



1 2 3 4 5 6

Indication Codes (ISO 6520)

--	EP-Excess Penetration (504)	SB-Suck Back
BB-Back Bevel	FA-Film Artifact	ST-Sugared Tack
BW-Back Weld	GR-Grind Repair	SU-Surface
BT-Burn Through (510)	HL-Hi-LO	T-Tungsten
C-Cap	LC-Lack of Cleanup	UC-Undercut (5011)
CP-Clusterd Porosity (2012)	LF-Lack of Fusion (401)	UP-Unformity Porosity (2013)
CL-Cold Lap	LP-Lack of Penetration (402)	V-Valley in Cap
CR-Crack	P-Porosity (2011)	W-Wire
CC-Crater Crack (104)	R-Root	WH-Worm Hole (2016)
DI-Dimensional	S-Slag (301)	XN-Xray Film Non-Conform

General Remarks

The results refer to the controlled items

Notations / Symbology

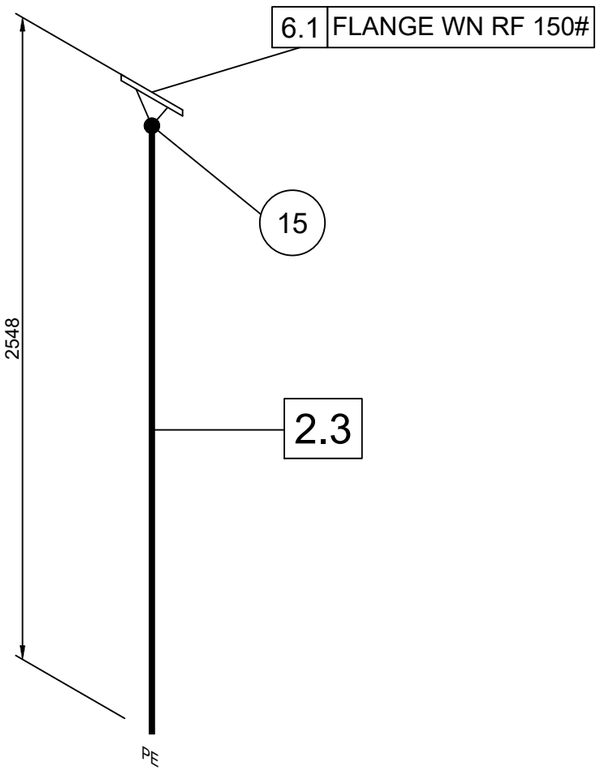
- Good / Acceptable + Repair = Good after Repair x Acceptable after Repair SFD = Source Film Distance SOD = Source Object Distance

Weld No.	Weld Desc. (WPS)	Welder	Position	SFD	SOD	Weld Reinf	Testing Technique	Exposure Time	Density	IQI	Indication Code	Decision	Remarks

	Performed by:	Examined by:	QA/QC Inspection:	Customer Inspection:
Name:	GONCALVES(QA), J. (N2 PT/RT)	FERREIRA(QA), V. (N3 PT/RT)	RAIMUNDO, MARIANA	
Date:	16-10-2024	16-10-2024	23-10-2024 15:24:39	
Signature:			QA / QC	Sergio Morales Date: 07-11-24

films review
On behalf of Tecnimont
QC Welding Inspector
02/12/2024

N



BILL OF MATERIAL

PIPE

ITEM	LENGTH	DIAMETER	SCH/mm	DESCRIPTION / MATERIAL	ITEM CODE
2.3	2,478	3"	S-10S	PIPE - A312-TP304/304L DUAL GR BE SMLS BExPE	I3364303

FLANGES

ITEM	QT	DIAMÉTRE	PRESSION	SCH/mm	DESCRIPTION / MATÉRIEL	ITEM CODE
6.1	1	3"	150#	S-10S	FLANGE WN ASME B16.5 A182-F304/304L DUAL GR RF 125-250 AARH	I2260689

Rev.	Date	DRW	Check 1	Check 2		
					Marking Color:	GREEN
					Weld Class:	QXB-55-M
01	09/07/2024	SFA	AZA		Paint System:	NR

On behalf of Tecnimont/R
Piping Supervisor
R. Mancino
29-11-24

Sergio Morales

Date: 07-11-24

Weld Map Sticker

P2308S 01071

2121-LO40B04-2-SP07-01071

boccard
Alliance for success
Boccard Portugal, Lda.

Construction Code:	ASME B31.3	**% RT -**	YES	**% UT -**	NO	**Hydro:**	NO	**ID Cleaning:**	YES	**Piece Mark**	**Ref. Drawing**	**Job #**	**Spool #**	**Project**
Acc Criteria:	ASME B31.3	**% PT -**	YES	**% FE -**	NO	**PWHT:**	NO	**OD Cleaning:**	YES	2121-LO40B04-2-SP07-01071	2121-LO40B04-2	P2308S	01071	REPSOL PROJETO ALBA NERVION
Metal Tag:	YES	**% MT -**	NO	**% PMI -**	YES	**BHN% -**	NO	**Tolerances:**	ASME B31.3					

F324-302-0

Spool Material List

Contract : P2308 Client NERVION

Job : P2308S Project ALBA

Job	Spool	Piece Mark	Drawing	Rev
P2308S	01071	2121-LO40B04-2-SP07-01071	2121-LO40B04-2	01

Item No / Tag No / ID No	Qty	Size1	Sch1	Size2	Sch2	Description	Heat No / MTR No / Folder No	Unit Weight Kgs	Weight Kgs
2.3 40400	2,478	3.0000	S10S	0.0000	NA	PIPE, SEAMLESS, A312-TP304L	N01392 0530	6,45	15,98
6.1 37874	1	3.0000	S10S	0.0000	NA	WN FLG, RAISED FACE, 150#, A182-F304L	DJ771 0395	4,54	4,54

On behalf of Tecnimont/R
Piping Supervisor
R. Mancino
29-11-24

Number of Items : 2 Total Weight : 20,52

	QA	Client
Signature	QA / QC	Sergio Morales Date: 07-11-24
Date	2024-10-08 16:02:18	

CTA Group	Kg 141	Mt 22,13	Pz No.: 4
This document is reproduced by a computerized system and is conform to the original	Heat No.: N01392	Cta's job: OC0000319	Date: 29/02/2024
Customer : TECNIMONT SPA AFC	P.O. No.: PO:		Item: I3364303

13 7500118753 N.PRO: 4274 - PP+PE SINES (PORTUGAL) EPC

REGD. OFFICE :
'Suraj House',
Opp. Usmanpura Garden, Ashram Road,
Ahmedabad - 380 014. Gujarat (INDIA)
Tel. : 0091-79-2754 0720 / 2754 0721
Fax : 0091-79-2754 0722
Email : suraj@surajgroup.com

SURAJ LIMITED

(AN ISO 9001 : 2015 COMPANY)
(AN ISO 14001 : 2015 COMPANY)
(AN ISO 45001 : 2018 COMPANY)
(AN PED 2014/68/EU APPROVED COMPANY)

F / QA / 24 REV. NO. 10

WORKS :
Survey No. 779/A, Thol, Kadi - Sanand Highway,
Tal.-Kadi, Dist. Mehsana, Gujarat (India)
Tel. : (02764) 274216 / 27417 Fax : (02764) 274419
Email : quality@surajgroup.com
Visit us at www.surajgroup.com

INSPECTION CERTIFICATE

In Accordance with EN 10204/3.1

Customer: Commerciale Tubi Acciaio S.P.A. **T.C No** : 252 **Date:** 30.09.2023

Product : Austenitic S.S Seamless Cold Finish,Solution Annealed,Pickled & Passivated Pipes. **P.O.No** : OS-0000037 REV 0 **Date:** 26.09.2023

W.O.No : 2324/OEP400004 **Date:** 17.04.2023

Sr. No.	Specification	Grade	Heat No.	Dimensions		Quantity			Hydro Test Pressure (Psi)
				NPS	SCH	Length Mtr	Pcs	Total Meter	
14	ASTM A-312 Ed.2021 SA-312 of ASME Sec.II Part "A" Ed.2021 ASME B36.19, EN 10216-5 TC1 NACE MR 0175/ISO 15156, NACE MR 0103	TP 304/304L 1.4301/ 1.4307	N01392	3	10S	RL	76	430.300	1100

Chemical Analysis %

Heat No.	Required	C	Mn	P	S	Si	Cr	Ni	Mo	N	Ti
	Min	--	--	--	--	--	18.00	8.00	--	--	--
	Max	0.030	2.00	0.040	0.015	1.00	19.50	10.00	--	0.100	--
N01392	Heat Analysis	0.028	1.05	0.035	0.010	0.45	18.09	8.06	--	0.076	--

Mechanical Test

Heat No.	Required					Gauge Width	Flattening Test	Hardness Test	Impact Test	IGC Test
	Tensile strength Mpa	Yield strength Rp0.2% Mpa	Yield strength Rp 1 % Mpa	Elongation % GL 50 mm	Elongation % GL 5.65√A					
MAX	680	--	--	--	--			Max-90 HRB	100 Joule	ASTM A-262 Practice"E" & ISO 3651-2 Method "A"
MIN	515	205	230	35	40				Min.(AVG)	
N01392	621.53	318.24	334.87	54.96	55.23	25.40	Satisfactory	76-78	N/A	Satisfactory

Heat Treatment : Solution annealing conducted at 1045-1060°C temperature and rapid water quenching after final cold process.

Marking on pipes: **SURAJ LTD SPECIFICATION GRADE SIZE**
CFD EN 10216-5 TC1 EN GRADE HEAT NO._____P O NO.____

Remarks:

* 100% Hydro test done at required pressure for 10 second holding time found satisfactory without any leakage.
* 100% Visual, Dimensions(OD/THK/LENGTH) & Product Marking checked-satisfy the requirment of specification.
* 100% Positive Material Identification (PMI) done by SL & conforming to grade as per specification.
* Intergranular Corrosion Test (IGC) Conducted as per ASTM A262 Pr"E" & ISO 3651-2 method-A-No crack observed on bend portion at 20X.
* Pickling and Passivation Conducted as per ASTM A-380.
* **"Approved acc,to AD 2000-MERKBLATT W0 and certified acc.to PED (2014/68/EU) by certification body for pressure equipment of TUV NORD SYSTEMS (NOTIFIED BODY,REG NO,:0045)"**
* Tensile test piece taken from the same lot as certified and tested in longitudinal direction.
* **Melting process:EAF+AOD & Material is free of mercury & radioactive contamination.**

For, Suraj Limited.

Prepared by

C.I.Nayak
Dept,Head Quality

We hereby certify that the material described herein are in accordance with the specification and results comply with the requirements of the purchase order.

APPLUS OBO TCM
28 03 24

COMMERCIALE TUBI ACCIAIO S.p.A.
QUALITY CONTROL DEPARTMENT

VIRAJ PROFILES PRIVATE LIMITED (formerly, Viraj Profiles Limited)(Forgings Div)
Survey No-140/1 & G-75 MIDC, Tarapur Ind.Area, Boisar, Dist.Palghar,Maharashtra-401506,INDIA
Email-vflqc@viraj.com,web www.viraj com(A01)

(A02) INSPECTION CERTIFICATE & MILL TEST REPORT - EN 10204 3.1

(A06)CUSTOMER : M/S. RACCORTUBI SPA VIALE DE GASPERI 194 I-20010 MARCALLO CON CASONE MI Italy	Manufacturer's Symbol (A04)	(A03)MTR NO.	100028548 / 14 REV.1
		INVOICE NUMBER	
		(Z02) DATE	23.12.2023
		MATERIAL SPEC	ASTM A182/A182M- 23 / ASME SA182/SA182M-23
		(B02) GRADE	F304/304L
		DIMENSIONAL SPEC	ASME B16.5-2020

(B01) STAINLESS STEEL FORGED FLANGES | (B04) DELIVERY CONDITION : HOT FORGED & FULLY MACHINED

ISO 9001:2015-TUV NORD REG No-0410093210.05 EXPIRY DATE: 22.07.2024 & APPROVED ACCORDING TO AD 2000 MERKBLATT W0 & CERTIFIED ACCORDING TO PRESSURE EQUIPMENT DIRECTIVE(PED) 2014/68/EU,CERTIFING BODY-TUV NORD SYSTEMS (NOTIFIED BODY REGISTRATION No. 0045)

(A07)ORDER NO. 245	(A08) Sales Order No. 100028548 / 140	(A09)Article No: 14

(B09-B11)ITEM DESCRIPTION	(B08)QUANTITY(PCS)	(B07)HEAT NUMBER
3" WNRF S10S 150#	150	DJ771

(C71-C92) CHEMICAL ANALYSIS

ELEMENT	%C	%Mn	%Si	%S	%P	%Cr	%Ni	%Mo	%N								
MIN						18.00	8.00	-									
MAX	0.030	2.00	1.00	0.030	0.045	20.00	11.00	-	0.1000								
HEAT	0.018	1.65	0.22	0.024	0.036	18.40	8.09	-	0.0850								
PROD	0.017	1.65	0.23	0.013	0.036	18.41	8.07	-	0.0870								

MECHANICAL PROPERTIES

Test Specification ASTM - A370

(C01) Sample location : Mid thickness-forging	(C03) Test Temp : RT	(C02) Test Direction : Tr	(C10) Specimen Shape - Round		ASTM E10	

Test Values	(C12) Tensile Strength	(C11) Yield Strength		(C13) Elongation%	Reduction of Area	(C32) Hardness			(C40) Charpy V-Notch 10x10x55mm (Values in Joules)			
		Rp=0.2%	Rp = 1%						(C42) Single values			(C43)
	N/mm2	N/mm2	N/mm2	Lo=4D	%	BHN-1	BHN-2	AVG	1	2	3	AVG
Req	515 MIN	205 MIN		30 MIN	50 MIN							
T	576.33	294.46	336.03	62.00	67.21	156	158	157	174	168	196	179

Other applicable Specifications :: NACE MR 0175 / ISO 15156-2015 & NACE MR 0103-2015 & MATERIAL CONFORMS TO W2/W9/W10

Melting Process : Induction furnace/Aragon Oxygen Decarburisation (AOD-IRS), Concast

Heat Treatment	: Solution Annealed at 1080°C and water Quenched
Dimension	: Conform with the specification (100% inspected)
Surface quality	: Satisfactory Roughness Value - RA 3.2 TO 6.3 µm / 125 TO 250 AARH
PMI Test	: No objection (100% tested with mobile spectro)
Inter Granular Corrosion Test	: Passed IGC test in accordance with ASTM A262 practice E
Radioactivity Test	: All the above material is tested for Radioactivity and found with in the limit of background radiation.
Liquid penetrant test	: No objection(test method-ASTM E 165 & accepted as per ASME Sec VIII division 1-appendix 8)

HS Code: 73072100 The material is manufactured /melted in Viraj Profiles Private Limited Steel Mill and is of Indian Origin. Material does not contain steel products originating in Russia mentioned The Russia (Sanctions (EU Exit) (Amendment) Regulations 2023 Regulation 46IA and 46IB and Annex XVII to the (EU) Regulation No 833/ 2014 and further amendment.

VIJAY KUMAR PILLAI (PRESIDENT)

Welding and QC Report Per Spool

Contract : P2308 | Drawing : 2121-LO40B04-2 | Job : P2308S | Material : Stainless Steel 304, 316, 317

Client : NERVION | Revision : 01 | Spool : 01071 | Spec : QXB-55-M

Project : ALBA | Piece Mark : 2121-LO40B04-2-SP07-01071

Weld data					Welding							Control																							
Weld No.	Type	Dia	Sch /Thk	Weld Proc.	1st Pass	Pass 1	1st MTR	Final Pass	Final Pass	Final MTR	Dim	Date DIM	Visual	Date Visual	PT	Date PT	MT	Date MT	PMI	Date PMI	Ferite	Date Ferrite	PWHT	Date PWHT	BHN	Date BHN	Ultra	Date UT	Xray	Date Xray
0015	BW	3	S10S	MW.26_BW	CO	01-10-2024	4712055	CO	01-10-2024	4712055			001069	04-10-2024					001077	07-10-2024										

On behalf of Tecnimont
QC Welding Inspector

29/11/2024

Notes:

	Boccard Portugal QC	Client
Signature	QA / QC	Sergio Morales Date: 07-11-24
Date	08-10-2024 16:02:18	

Shop QC Inspection Report

P2308-001107

Client : NERVION
Job number: P2308S
Contract : P2308 / Project : ALBA
Spool Nº: 01071
Material: Stainless Steel 304, 316, 317
Piece Mark: 2121-LO40B04-2-SP07-01071

Procedure / Instruction reference: 20.2 IT 011 MF 324 - Rev: A
Control Date: 04-10-2024

Remarks: The results refer to the controlled items

Actions / Tasks List	Required Yes	Required No	Done/ Identified
Welder / weld list labels printed and pasted on the spool sheet	X		X
Spool Barcode label printed	X		X
Spool is identified with the metal tag	X		X
Spool stencil required (hard stamp low stress)		X	
Joint preparation & cleanliness / spool dimensions checked	X		X
Level, plumb, Two holes, flanges and internal alignment, Squareness	X		X
Material checked (type of material, rate, heat numbers, filler material, etc.)	X		X
Welders list match with actual welder stencil / Id. on pipe	X		X
PWHT- Spool identified as per Procedure / Instruction for PWHT		X	
HT (Hardness Test)- Welds identified as per Procedure / Instruction		X	
MT - Welds identified as per Procedure / Instruction		X	
PT - Welds identified as per Procedure / Instruction		X	
PMI - Welds identified as per Procedure / Instruction	X		X
FE (Ferrite test) - Welds identified as per Procedure / Instruction		X	
RT - Welds identified as per Procedure / Instruction		X	
UT - Welds identified as per Procedure / Instruction		X	
Spool identified (by marker) as per Procedure / Instruction (Job number, sheet number and Paint type if required)	X		X
Hydro - Spool identified as per Procedure / Instruction		X	
Cleanliness - Cleaned inside free of slag, scale, sand, weld spatter, cutting chips, etc. and blow out by compressed air	X		X

Comments:

Performed by: MATOS, MARCO (N2 VT/PT)
Date: 04-10-2024
Signature

QA/QC Inspection: RAIMUNDO, MARIANA
Date: 08-10-2024 16:02:18
Signature

Customer Inspection:
Sergio Morales
Date: 07-11-24

On behalf of Tecnimont
QC Welding Inspector
29/11/2024

Visual Examination Report (Welds)

P2308-001069

Contract : P2308
Client : NERVION
Project : ALBA

Job number: P2308S
Spool Nº: 01071
Piece Mark: 2121-LO40B04-2-SP07-01071

Material: Stainless Steel 304, 316, 317
Procedure & Instructions: 4274-LZ-VD-FW31010370QAC04 - Rev: 1
Testing Date: 04-10-2024

Remarks: The results refer to the controlled items	Unacceptable indications for welding
ACCEPTANCE CRITERIA : ASME B31.3	Weld reinforcement greater than specified in project procedure
The illumination of the surface must be at least 500 lux. However, a value of 1000lux is recommended	Any linear indications greater than specified in project procedure, surface porosity with rounded indications having a dimension greater than specified project procedure
Indications of lack of fusion open to the surface / Cracks located on external surfaces	Surface finish that could interfere with other testing required
Incomplete penetration of welds / Indications of undercut on surfaces which are greater than specified in project procedure	Misalignment greater than specified in applicable code or poor fit up of weld joints

Identification			Temp. (ºF/ºC)	Accepted	Rejected	Defect	Technique Used	Comments
Weld No.	Weld Desc.	Welder						
0015	3.0000 S10S BW-Buttweld Straight (MW.26_BW)	CO	20	X			Direct	

Sketch / Photo:

Defects									
Clustered Porosity	CP	Porosity	P	Cap	C	Lack of Cleanup	LC	Hollow in Cap	W
Unibmly Porosity	UP	Slag	S	Undercut	UC	Crack	CR	Surface	SU

Test Performed by: MATOS, MARCO (N2 VT/PT)
Date: 04-10-2024
Signature

QA/QC Inspection: RAIMUNDO, MARIANA
Date: 08-10-2024 16:02:18
Signature

Customer Inspection:
Sergio Morales
Date: 07-11-24

Positive Material Identification Report (PMI)

P2308-001077

Client : NERVION
Contract : P2308 / Project : ALBA

Remarks: The results refer to the controlled items

Job number: P2308S
Spool Nº: 01071
Piece Mark: 2121-LO40B04-2-SP07-01071
Material: Stainless Steel 304, 316, 317

Procedure / Instruction reference: 4274-LZ-VD-FW31010370QAC11 - Rev: 1
PMI Equipment : Niton XL3t800 Serial Nº 32735 (FP01)
Equipment Deviation : + - 5%
Testing Date: 07-10-2024

Weld / Item No	Description	Reading number	Longitudinal	Chemical Elements %Ti	%Mo	%Cu	%Ni	%Fe	%Mn	%Cr	%Nb	%Al	%V	Accepted	Rejected	Comments
0015	3.0000 S10S BW-Buttweld Straight (MW.26_BW)	386		0	0	0	9	69	1	18	0	0	0	X		
2.3	3.0000 S10S PIPE, SEAMLESS, A312-TP304L (N01392)	385		0	0	0	8	70	1	17	0	0	0	X		
6.1	3.0000 S10S WN FLG, RAISED FACE, 150#, A182-F304L (DJ771)	384		0	0	0	8	70	1	17	0	0	0	X		

On behalf of Tecnimont
QC Welding Inspector

29/11/2024

Test Performed by: GONCALVES(QA), J. (N2 PT/RT)
Date: 07-10-2024
Signature

QA/QC Inspection: RAIMUNDO, MARIANA
Date: 08-10-2024 16:02:18
Signature

Customer Inspection:
Date: Sergio Morales
Signature Date: 07-11-24

Boccard Portugal, Lda
Zona Industrial de Montalvo, Lote 3
Constância, Portugal2250-999

Certificate of PMI Reading

XL3t-32735

Reading No	386
Mode	ALLOY
Time	2024-10-07 12:37
Duration	11.04
Sequence	Final
Alloy1	304SS : 1.08
Alloy2	321SS : 1.55
Flags	
SAMPLE	
HEAT	
LOT	
BATCH	
MISC	
NOTE	

	%	±	Error
Sb	< LOD	:	0.036
Sn	< LOD	:	0.045
Pd	< LOD	:	0.036
Ag	< LOD	:	0.162
Al	< LOD	:	80.000
Mo	0.120	±	0.011
Nb	< LOD	:	0.008
Zr	< LOD	:	0.003
Bi	< LOD	:	0.013
Pb	< LOD	:	0.016
Se	< LOD	:	0.006
W	< LOD	:	0.087
Zn	< LOD	:	0.033
Cu	< LOD	:	0.148
Ni	9.075	±	0.287
Co	< LOD	:	0.460
Fe	69.483	±	0.427
Mn	1.810	±	0.196
Cr	18.964	±	0.250
V	< LOD	:	0.126
Ti	< LOD	:	0.160

Sergio Morales

Date: 07-11-24

29/11/2024

On behalf of Tecnimont
QC Welding Inspector

Boccard Portugal, Lda
Zona Industrial de Montalvo, Lote 3
Constância, Portugal2250-999

Certificate of PMI Reading

XL3t-32735

Reading No	385
Mode	ALLOY
Time	2024-10-07 12:37
Duration	11.38
Sequence	Final
Alloy1	304SS : 1.67
Alloy2	321SS : 1.71
Flags	
SAMPLE	
HEAT	
LOT	
BATCH	
MISC	
NOTE	

	%	±	Error
Sb	< LOD	:	0.037
Sn	< LOD	:	0.048
Pd	< LOD	:	0.035
Ag	< LOD	:	0.179
Al	< LOD	:	80.000
Mo	0.255	±	0.016
Nb	0.009	±	0.004
Zr	< LOD	:	0.005
Bi	< LOD	:	0.012
Pb	< LOD	:	0.015
Se	< LOD	:	0.007
W	< LOD	:	0.098
Zn	< LOD	:	0.039
Cu	0.371	±	0.084
Ni	8.093	±	0.273
Co	< LOD	:	0.460
Fe	70.786	±	0.421
Mn	1.754	±	0.191
Cr	17.898	±	0.241
V	< LOD	:	0.129
Ti	< LOD	:	0.156

Sergio Morales

Date: 07-11-24

29/11/2024

On behalf of Tecnimont
QC Welding Inspector

Boccard Portugal, Lda
Zona Industrial de Montalvo, Lote 3
Constância, Portugal2250-999

Certificate of PMI Reading

XL3t-32735

Reading No	384
Mode	ALLOY
Time	2024-10-07 12:37
Duration	9.49
Sequence	Final
Alloy1	321SS : 0.24
Alloy2	No Match : 2.29
Flags	
SAMPLE	
HEAT	
LOT	
BATCH	
MISC	
NOTE	

	%	±	Error
Sb	< LOD	:	0.044
Sn	< LOD	:	0.058
Pd	< LOD	:	0.043
Ag	< LOD	:	0.128
Al	< LOD	:	80.000
Mo	0.322	±	0.020
Nb	< LOD	:	0.009
Zr	< LOD	:	0.007
Bi	< LOD	:	0.002
Pb	< LOD	:	0.017
Se	< LOD	:	0.011
W	< LOD	:	0.108
Zn	< LOD	:	0.045
Cu	0.472	±	0.102
Ni	8.162	±	0.314
Co	< LOD	:	0.524
Fe	70.768	±	0.482
Mn	1.694	±	0.218
Cr	17.862	±	0.276
V	< LOD	:	0.144
Ti	< LOD	:	0.194

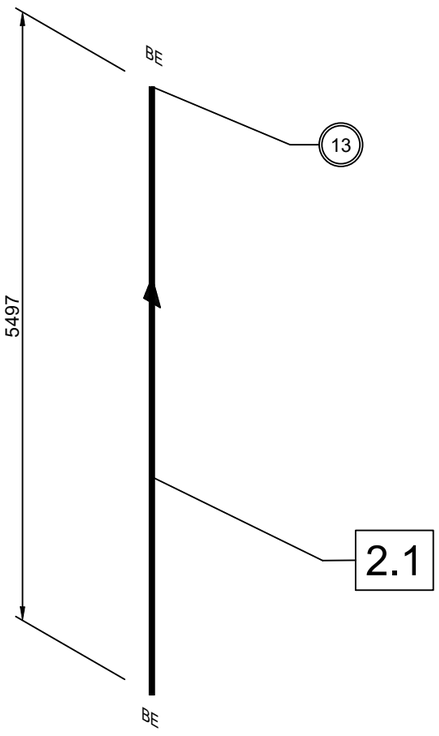
Sergio Morales

Date: 07-11-24

29/11/2024

On behalf of Tecnimont
QC Welding Inspector

N



BILL OF MATERIAL

PIPE

ITEM	LENGTH	DIAMETER	SCH/mm	DESCRIPTION / MATERIAL	ITEM CODE
2.1	5,497	3"	S-10S	PIPE - A312-TP304/304L DUAL GR BE SMLS BExBE	I3364303

On behalf of Tecnimont/R
Piping Supervisor
R. Mancino
29-11-24

Sergio Morales

Date: 07-11-24

Weld Map Sticker

P2308S 01156

2121-LO40B04-2-SP05-01156

boccard
Alliance for success
Boccard Portugal, Lda.

Rev.	Date	DRW	Check 1	Check 2		
					Marking Color:	GREEN
					Weld Class:	QXB-55-M
01	01/10/2024	RHA	AZA		Paint System:	NR

Construction Code:	ASME B31.3	% RT -	YES	% UT -	NO	Hydro:	NO	ID Cleaning:	YES	Piece Mark	Ref. Drawing	Job #	Spool #	Project
Acc Criteria:	ASME B31.3	% PT -	YES	% FE -	NO	PWHT:	NO	OD Cleaning:	YES	2121-LO40B04-2-SP05-01156	2121-LO40B04-2	P2308S	01156	REPSOL PROJETO ALBA NERVION
Metal Tag:	YES	% MT -	NO	% PMI -	YES	BHN% -	NO	Tolerances:	ASME B31.3					

F324-302-0

Spool Material List

Contract : P2308 Client NERVION

Job : P2308S Project ALBA

Job	Spool	Piece Mark	Drawing	Rev
P2308S	01156	2121-LO40B04-2-SP05-01156	2121-LO40B04-2	01

Item No / Tag No / ID No	Qty	Size1	Sch1	Size2	Sch2	Description	Heat No / MTR No / Folder No	Unit Weight Kgs	Weight Kgs
2.1 40400	5,497	3.0000	S10S	0.0000	NA	PIPE, SEAMLESS, A312-TP304L	S-20134 0090	6,45	35,46

On behalf of Tecnimont/R
Piping Supervisor
R. Mancino
29-11-24

Number of Items : 1 Total Weight : 35,46

	QA	Client
Signature	QA / QC	Sergio Morales Date: 07-11-24
Date	2024-10-16 16:24:41	

REGD. OFFICE :
'Suraj House',
Opp. Usmanpura Garden, Ashram Road,
Ahmedabad - 380 014. Gujarat (INDIA)
Tel. : 0091-79-2754 0720 / 2754 0721
Fax : 0091-79-2754 0722
Email : suraj@surajgroup.com

SURAJ LIMITED

(AN ISO 9001 : 2015 COMPANY)
(AN ISO 14001 : 2015 COMPANY)
(AN ISO 45001 : 2018 COMPANY)
(AN PED 2014/68/EU APPROVED COMPANY)

WORKS :
Survey No. 779/A, Thol, Kadi - Sanand Highway,
Tal.-Kadi, Dist. Mehsana, Gujarat (India)
Tel. : (02764) 274216 / 27417 Fax : (02764) 274419
Email : quality@surajgroup.com
Visit us at www.surajgroup.com

F / QA / 24 REV. NO. 10

INSPECTION CERTIFICATE

In Accordance with EN 10204/3.1

Customer: Commerciale Tubi Acciaio S.P.A. **T.C No** : 356 **Date:** 07.01.2023

Product : Austenitic S.S Seamless Cold Finish,Solution Annealed,Pickled & Passivated Pipes. **P.O.No** : OS-0000123 Rev. 0 **Date:** 26.09.2022

W.O.No : 2223/OEP400034 **Date:** 26.09.2022

Sr. No	Specification	Grade	Heat No.	Dimensions		Quantity			Hydro Test Pressure (Psi)
				NPS	SCH	Length Mtr	Pcs	Total Meter	
37	ASTM A-312 Ed.2019 SA-312 of ASME Sec.II Part "A" Ed.2019 ASME B36.19, EN 10216-5 TC1 NACE MR 0175/ISO 15156, NACE MR 0103	TP 304/304L 1.4301/ 1.4307	S-20134	3	10S	RL	85	528.250	1100

Chemical Analysis %

Heat No.	Required	C	Mn	P	S	Si	Cr	Ni	Mo	N	Ti
	Min	--	--	--	--	--	18.00	8.00	--	--	--
	Max	0.030	2.00	0.040	0.015	1.00	19.50	10.00	--	0.100	--
S-20134	Heat Analysis	0.024	1.70	0.040	0.009	0.38	18.22	8.18	--	0.087	--

Mechanical Test

Heat No.	Required					Gauge Width	Flattening Test	Hardness Test	Impact Test	IGC Test
	Tensile strength Mpa	Yield strength Rp0.2% Mpa	Yield strength Rp 1 % Mpa	Elongation % GL 50 mm	Elongation % GL 5.65√A					
MAX	680	--	--	--	--			Max-90 HRB	100 Joule Min.(AVG)	ASTM A-262 Practice"E" & ISO 3651-2 Method "A"
MIN	515	205	230	35	40					
S-20134	619.57	316.46	333.21	54.86	55.39	25.40	Satisfactory	75-78	N/A	Satisfactory

Heat Treatment : Solution annealing conducted at 1045-1060°C temperature and rapid water quenching after final cold process.

Marking on pipes: **SURAJ LTD SPECIFICATION GRADE SIZE**
CFD EN 10216-5 TC1 EN GRADE SL NO.____HEAT NO_____P O NO.____

Remarks:

* 100% Hydro test done at required pressure for 10 second holding time found satisfactory without any leakage.
* 100% Visual, Dimensions(OD/THK/LENGTH) & Product Marking checked-satisfy the requirment of specification.
* 100% Positive Material Identification (PMI) done by SL & conforming to grade as per specification.
* Intergranular Corrosion Test (IGC) Conducted as per ASTM A262 Pr"E" & ISO 3651-2 method-A-No crack observed on bend portion at 20X.
* Pickling and Passivation Conducted as per ASTM A-380.
* **"Approved acc.to AD 2000-MERKBLATT W0 and certified acc.to PED (2014/68/EU) by certification body for pressure equipment of TUV NORD SYSTEMS (NOTIFIED BODY,REG NO,:0045)"**
* Tensile test piece taken from the same lot as certified and tested in longitudinal direction.
* **Melting process:EAF+AOD & Material is free of mercury & radioactive contamination.**

For, Suraj Limited.

Prepared by

C.I.Nayak
Dept,Head Quality

We hereby certify that the material described herein are in accordance with the specification and results comply with the requirements of the purchase order.

APPLUS CBC TCM
11 09 23

COMMERCIALE TUBI ACCIAIO S.p.A.
QUALITY CONTROL DEPARTMENT

Welding and QC Report Per Spool

Contract : P2308 | Drawing : 2121-LO40B04-2 | Job : P2308S | Material : Stainless Steel 304, 316, 317

Client : NERVION | Revision : 01 | Spool : 01156 | Spec : QXB-55-M

Project : ALBA | Piece Mark : 2121-LO40B04-2-SP05-01156

Weld data					Welding							Control																					
Weld No.	Type	Dia	Sch /Thk	Weld Proc.	1st Pass	Pass 1	1st MTR	Final Pass	Final Pass	Final MTR	Dim	Date DIM	Visual	Date Visual	PT	Date PT	MT	Date MT	PMI	Date PMI	Ferite	Date Ferite	PWHT	Date PWHT	BHN	Date BHN	Ultra	Date UT	Xray	Date Xray
0013	SP	3	S10S										001112	11-10-2024																

0001180

On behalf of Tecnimont
QC Welding Inspector

29/11/2024

Notes:

	Boccard Portugal QC	Client
Signature	QA / QC	Sergio Morales Date: 07-11-24
Date	16-10-2024 16:24:41	

Shop QC Inspection Report

P2308-001162

Client : NERVION
Contract : P2308 / Project : ALBA
Material: Stainless Steel 304, 316, 317

Job number: P2308S
Spool Nº: 01156
Piece Mark: 2121-LO40B04-2-SP05-01156

Procedure / Instruction reference: 20.2 IT 011 MF 324 - Rev: A

Control Date: 11-10-2024

Remarks: The results refer to the controlled items

Actions / Tasks List	Required Yes	Required No	Done/ Identified
Welder / weld list labels printed and pasted on the spool sheet	X		X
Spool Barcode label printed	X		X
Spool is identified with the metal tag	X		X
Spool stencil required (hard stamp low stress)		X	
Joint preparation & cleanliness / spool dimensions checked	X		X
Level, plumb, Two holes, flanges and internal alignment, Squareness	X		X
Material checked (type of material, rate, heat numbers, filler material, etc.)	X		X
Welders list match with actual welder stencil / Id. on pipe	X		X
PWHT- Spool identified as per Procedure / Instruction for PWHT		X	
HT (Hardness Test)- Welds identified as per Procedure / Instruction		X	
MT - Welds identified as per Procedure / Instruction		X	
PT - Welds identified as per Procedure / Instruction		X	
PMI - Welds identified as per Procedure / Instruction	X		X
FE (Ferrite test) - Welds identified as per Procedure / Instruction		X	
RT - Welds identified as per Procedure / Instruction		X	
UT - Welds identified as per Procedure / Instruction		X	
Spool identified (by marker) as per Procedure / Instruction (Job number, sheet number and Paint type if required)	X		X
Hydro - Spool identified as per Procedure / Instruction		X	
Cleanliness - Cleaned inside free of slag, scale, sand, weld spatter, cutting chips, etc. and blow out by compressed air	X		X

Comments:

Performed by: MATOS, MARCO (N2 VT/PT)
Date: 11-10-2024
Signature

QA/QC Inspection: RAIMUNDO, MARIANA
Date: 16-10-2024 16:24:41
Signature

Customer Inspection:
Sergio Morales
Date: 07-11-24

On behalf of Tecnimont
QC Welding Inspector
29/11/2024

Visual Examination Report (Welds)

P2308-001112

Contract : P2308
Client : NERVION
Project : ALBA

Job number: P2308S
Spool Nº: 01156
Piece Mark: 2121-LO40B04-2-SP05-01156

Material: Stainless Steel 304, 316, 317
Procedure & Instructions: 4274-LZ-VD-FW31010370QAC04 - Rev: 1
Testing Date: 11-10-2024

Remarks: The results refer to the controlled items	Unacceptable indications for welding
ACCEPTANCE CRITERIA : ASME B31.3	Weld reinforcement greater than specified in project procedure
The illumination of the surface must be at least 500 lux. However, a value of 1000lux is recommended	Any linear indications greater than specified in project procedure, surface porosity with rounded indications having a dimension greater than specified project procedure
Indications of lack of fusion open to the surface / Cracks located on external surfaces	Surface finish that could interfere with other testing required
Incomplete penetration of welds / Indications of undercut on surfaces which are greater than specified in project procedure	Misalignment greater than specified in applicable code or poor fit up of weld joints

Identification			Temp. (ºF/ºC)	Accepted	Rejected	Defect	Technique Used	Comments
Weld No.	Weld Desc.	Welder						
0013	3.0000 S10S SP-Pipe/Fitting Without Weld ()		17	X			Direct	

Sketch / Photo:

Defects									
Clustered Porosity	CP	Porosity	P	Cap	C	Lack of Cleanup	LC	Hollow in Cap	W
Unibmly Porosity	UP	Slag	S	Undercut	UC	Crack	CR	Surface	SU

Test Performed by: MATOS, MARCO (N2 VT/PT)
Date: 11-10-2024
Signature

QA/QC Inspection: RAIMUNDO, MARIANA
Date: 16-10-2024 16:24:41
Signature

Customer Inspection:
Sergio Morales
Date: 07-11-24

29/11/2024

On behalf of Tecnimont
QC Welding Inspector

Positive Material Identification Report (PMI)

P2308-001180

Client : NERVION
Contract : P2308 / Project : ALBA

Remarks: The results refer to the controlled items

Job number: P2308S
Spool Nº: 01156
Piece Mark: 2121-LO40B04-2-SP05-01156
Material:

Procedure / Instruction reference: 4274-LZ-VD-FW31010370QAC11 - Rev: 1
PMI Equipment : Niton XL3t800 Serial Nº 32735 (FP01)
Equipment Deviation : + - 5%
Testing Date: 14-10-2024

Weld / Item No	Description	Reading Longitudinal number	Chemical Elements %Ti	%Mo	%Cu	%Ni	%Fe	%Mn	%Cr	%Nb	%Al	%V	Accepted	Rejected	Comments
2.1	3.0000 S10S PIPE, SEAMLESS, A312-TP304L (S-20134)	206	0	0	0	7	71	1	17	0	0	0	X		

On behalf of Tecnimont
QC Welding Inspector
GABRIEL BOZEIATU
IWT&IWI-S RS
ISO EN 9712 certification Level 2
VT/PT/MT/RT/UT-TOFD - PA
29/11/2024

Test Performed by: GONCALVES(QA), J. (N2 PT/RT)
Date: 14-10-2024
Signature

QA/QC Inspection: RAIMUNDO, MARIANA
Date: 16-10-2024 16:24:41
Signature QA / QC

Customer Inspection:
Date: Sergio Morales
Signature Date: 07-11-24

Boccard Portugal, Lda
Zona Industrial de Montalvo, Lote 3
Constância, Portugal2250-999

Certificate of PMI Reading

XL3t-32735

Reading No	206
Mode	ALLOY
Time	2024-10-14 10:53
Duration	9.46
Sequence	Final
Alloy1	301SS : 1.42
Alloy2	No Match : 2.34
Flags	
SAMPLE	
HEAT	
LOT	
BATCH	
MISC	
NOTE	

	%	±	Error
Sb	< LOD	:	0.047
Sn	< LOD	:	0.050
Pd	< LOD	:	0.042
Ag	< LOD	:	0.200
Al	< LOD	:	80.000
Mo	0.156	±	0.014
Nb	< LOD	:	0.009
Zr	< LOD	:	0.006
Bi	< LOD	:	0.019
Pb	< LOD	:	0.013
Se	< LOD	:	0.009
W	< LOD	:	0.096
Zn	< LOD	:	0.043
Cu	0.199	±	0.087
Ni	7.763	±	0.310
Co	< LOD	:	0.536
Fe	71.406	±	0.486
Mn	1.555	±	0.217
Cr	17.953	±	0.279
V	0.182	±	0.079
Ti	< LOD	:	0.169

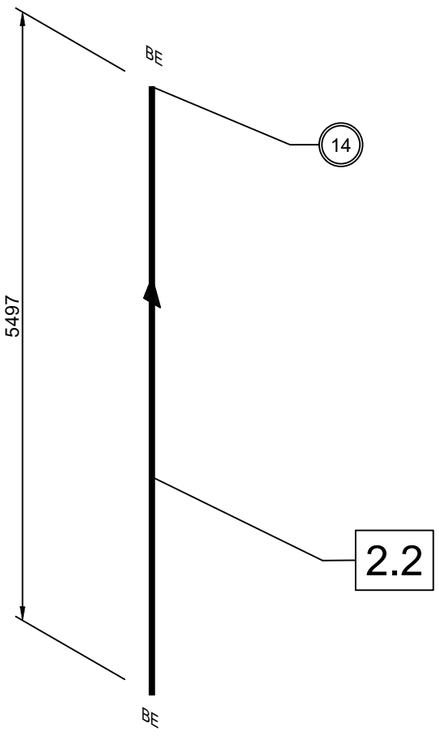
On behalf of Tecnimont
QC Welding Inspector

Sergio Morales

Date: 07-11-24

29/11/2024

N



BILL OF MATERIAL

PIPE

ITEM	LENGTH	DIAMETER	SCH/mm	DESCRIPTION / MATERIAL	ITEM CODE
2.2	5,497	3"	S-10S	PIPE - A312-TP304/304L DUAL GR BE SMLS BExBE	I3364303

On behalf of Tecnimont/R
Piping Supervisor
R. Mancino
29-11-24

Sergio Morales

Date: 07-11-24

Weld Map Sticker

P2308S 01157

2121-LO40B04-2-SP06-01157

Boccard Alliance for success
Boccard Portugal, Lda.

Rev.	Date	DRW	Check 1	Check 2
01	01/10/2024	RHA	AZA	

Marking Color:	GREEN
Weld Class:	QXB-55-M
Paint System:	NR

Construction Code:	ASME B31.3	**% RT -**	YES	**% UT -**	NO	**Hydro:**	NO	**ID Cleaning:**	YES	2121-LO40B04-2-SP06-01157	2121-LO40B04-2	P2308S	01157	REPSOL PROJETO ALBA NERVION
Acc Criteria:	ASME B31.3	**% PT -**	YES	**% FE -**	NO	**PWHT:**	NO	**OD Cleaning:**	YES					
Metal Tag:	YES	**% MT -**	NO	**% PMI -**	YES	**BHN% -**	NO	**Tolerances:**	ASME B31.3					

Piece Mark	Ref. Drawing	Job #	Spool #	Project

F324-302-0

Spool Material List

Contract : P2308 Client NERVION

Job : P2308S Project ALBA

Job	Spool	Piece Mark	Drawing	Rev
P2308S	01157	2121-LO40B04-2-SP06-01157	2121-LO40B04-2	01

Item No / Tag No / ID No	Qty	Size1	Sch1	Size2	Sch2	Description	Heat No / MTR No / Folder No	Unit Weight Kgs	Weight Kgs
2.2	5,497	3.0000	S10S	0.0000	NA	PIPE, SEAMLESS, A312-TP304L	S-20134 0090	6,45	35,46
40400									

On behalf of Tecnimont/R
Piping Supervisor
R. Mancino
29-11-24

Number of Items : 1 Total Weight : 35,46

	QA	Client
Signature	QA / QC	Sergio Morales Date: 07-11-24
Date	2024-10-16 16:25:39	

REGD. OFFICE :
'Suraj House',
Opp. Usmanpura Garden, Ashram Road,
Ahmedabad - 380 014. Gujarat (INDIA)
Tel. : 0091-79-2754 0720 / 2754 0721
Fax : 0091-79-2754 0722
Email : suraj@surajgroup.com

SURAJ LIMITED

(AN ISO 9001 : 2015 COMPANY)
(AN ISO 14001 : 2015 COMPANY)
(AN ISO 45001 : 2018 COMPANY)
(AN PED 2014/68/EU APPROVED COMPANY)

WORKS :
Survey No. 779/A, Thol, Kadi - Sanand Highway,
Tal.-Kadi, Dist. Mehsana, Gujarat (India)
Tel. : (02764) 274216 / 27417 Fax : (02764) 274419
Email : quality@surajgroup.com
Visit us at www.surajgroup.com

F / QA / 24 REV. NO. 10

INSPECTION CERTIFICATE

In Accordance with EN 10204/3.1

Customer: Commerciale Tubi Acciaio S.P.A. **T.C No** : 356 **Date:** 07.01.2023

Product : Austenitic S.S Seamless Cold Finish,Solution Annealed,Pickled & Passivated Pipes. **P.O.No** : OS-0000123 Rev. 0 **Date:** 26.09.2022

W.O.No : 2223/OEP400034 **Date:** 26.09.2022

Sr. No	Specification	Grade	Heat No.	Dimensions		Quantity			Hydro Test Pressure (Psi)
				NPS	SCH	Length Mtr	Pcs	Total Meter	
37	ASTM A-312 Ed.2019 SA-312 of ASME Sec.II Part "A" Ed.2019 ASME B36.19, EN 10216-5 TC1 NACE MR 0175/ISO 15156, NACE MR 0103	TP 304/304L 1.4301/ 1.4307	S-20134	3	10S	RL	85	528.250	1100

Chemical Analysis %

Heat No.	Required	C	Mn	P	S	Si	Cr	Ni	Mo	N	Ti
	Min	--	--	--	--	--	18.00	8.00	--	--	--
	Max	0.030	2.00	0.040	0.015	1.00	19.50	10.00	--	0.100	--
S-20134	Heat Analysis	0.024	1.70	0.040	0.009	0.38	18.22	8.18	--	0.087	--

Mechanical Test

Heat No.	Required					Gauge Width	Flattening Test	Hardness Test	Impact Test	IGC Test
	Tensile strength Mpa	Yield strength Rp0.2% Mpa	Yield strength Rp 1 % Mpa	Elongation % GL 50 mm	Elongation % GL 5.65√A					
MAX	680	--	--	--	--			Max-90 HRB	100 Joule Min.(AVG)	ASTM A-262 Practice"E" & ISO 3651-2 Method "A"
MIN	515	205	230	35	40					
S-20134	619.57	316.46	333.21	54.86	55.39	25.40	Satisfactory	75-78	N/A	Satisfactory

Heat Treatment : Solution annealing conducted at 1045-1060°C temperature and rapid water quenching after final cold process.

Marking on pipes: **SURAJ LTD SPECIFICATION GRADE SIZE**
CFD EN 10216-5 TC1 EN GRADE SL NO.____HEAT NO_____P O NO.____

Remarks:

* 100% Hydro test done at required pressure for 10 second holding time found satisfactory without any leakage.
* 100% Visual, Dimensions(OD/THK/LENGTH) & Product Marking checked-satisfy the requirment of specification.
* 100% Positive Material Identification (PMI) done by SL & conforming to grade as per specification.
* Intergranular Corrosion Test (IGC) Conducted as per ASTM A262 Pr"E" & ISO 3651-2 method-A-No crack observed on bend portion at 20X.
* Pickling and Passivation Conducted as per ASTM A-380.
* **"Approved acc.to AD 2000-MERKBLATT W0 and certified acc.to PED (2014/68/EU) by certification body for pressure equipment of TUV NORD SYSTEMS (NOTIFIED BODY,REG NO,:0045)"**
* Tensile test piece taken from the same lot as certified and tested in longitudinal direction.
* **Melting process:EAF+AOD & Material is free of mercury & radioactive contamination.**

For, Suraj Limited.

Prepared by

C.I.Nayak
Dept,Head Quality

We hereby certify that the material described herein are in accordance with the specification and results comply with the requirements of the purchase order.

APPLUS CBC TCM
11 09 23

COMMERCIALE TUBI ACCIAIO S.p.A.
QUALITY CONTROL DEPARTMENT

Welding and QC Report Per Spool

Contract : P2308 | Drawing : 2121-LO40B04-2 | Job : P2308S | Material : Stainless Steel 304, 316, 317

Client : NERVION | Revision : 01 | Spool : 01157 | Spec : QXB-55-M

Project : ALBA | Piece Mark : 2121-LO40B04-2-SP06-01157

Weld data					Welding								Control																					
Weld No.	Type	Dia	Sch /Thk	Weld Proc.	1st Pass	Pass 1	1st MTR	Final Pass	Final Pass	Final MTR	Dim	Date DIM	Visual	Date Visual	PT	Date PT	MT	Date MT	PMI	Date PMI	Ferite	Date Ferrite	PWHT	Date PWHT	BHN	Date BHN	Ultra	Date UT	Xray	Date Xray				
0014	SP	3	S10S										001111	11-10-2024																				

Notes:

	Boccard Portugal QC	Client
Signature	QA / QC	Sergio Morales Date: 07-11-24
Date	16-10-2024 16:25:39	

Shop QC Inspection Report

P2308-001163

Client : NERVION
Contract : P2308 / Project : ALBA
Material: Stainless Steel 304, 316, 317

Job number: P2308S
Spool Nº: 01157
Piece Mark: 2121-LO40B04-2-SP06-01157

Procedure / Instruction reference: 20.2 IT 011 MF 324 - Rev: A

Control Date: 11-10-2024

Remarks: The results refer to the controlled items

Actions / Tasks List	Required Yes	Required No	Done/ Identified
Welder / weld list labels printed and pasted on the spool sheet	X		X
Spool Barcode label printed	X		X
Spool is identified with the metal tag	X		X
Spool stencil required (hard stamp low stress)		X	
Joint preparation & cleanliness / spool dimensions checked	X		X
Level, plumb, Two holes, flanges and internal alignment, Squareness	X		X
Material checked (type of material, rate, heat numbers, filler material, etc.)	X		X
Welders list match with actual welder stencil / Id. on pipe	X		X
PWHT- Spool identified as per Procedure / Instruction for PWHT		X	
HT (Hardness Test)- Welds identified as per Procedure / Instruction		X	
MT - Welds identified as per Procedure / Instruction		X	
PT - Welds identified as per Procedure / Instruction		X	
PMI - Welds identified as per Procedure / Instruction	X		X
FE (Ferrite test) - Welds identified as per Procedure / Instruction		X	
RT - Welds identified as per Procedure / Instruction		X	
UT - Welds identified as per Procedure / Instruction		X	
Spool identified (by marker) as per Procedure / Instruction (Job number, sheet number and Paint type if required)	X		X
Hydro - Spool identified as per Procedure / Instruction		X	
Cleanliness - Cleaned inside free of slag, scale, sand, weld spatter, cutting chips, etc. and blow out by compressed air	X		X

Comments:

Performed by: MATOS, MARCO (N2 VT/PT)
Date: 11-10-2024
Signature

QA/QC Inspection: RAIMUNDO, MARIANA
Date: 16-10-2024 16:25:39
Signature

Customer Inspection:
Sergio Morales
Date: 07-11-24

On behalf of Technimont
QC Welding Inspector

29/11/2024

GABRIEL BOLETAU
IWI-S EWI-S Responsible
ISO EN 9712 certified Level 2
VT/PT/MT/RT/UT-TOFD - PA

Visual Examination Report (Welds)

P2308-001111

Contract : P2308
Client : NERVION
Project : ALBA

Job number: P2308S
Spool Nº: 01157
Piece Mark: 2121-LO40B04-2-SP06-01157

Material: Stainless Steel 304, 316, 317
Procedure & Instructions: 4274-LZ-VD-FW31010370QAC04 - Rev: 1
Testing Date: 11-10-2024

Remarks: The results refer to the controlled items	Unacceptable indications for welding
ACCEPTANCE CRITERIA : ASME B31.3	Weld reinforcement greater than specified in project procedure
The illumination of the surface must be at least 500 lux. However, a value of 1000lux is recommended	Any linear indications greater than specified in project procedure, surface porosity with rounded indications having a dimension greater than specified project procedure
Indications of lack of fusion open to the surface / Cracks located on external surfaces	Surface finish that could interfere with other testing required
Incomplete penetration of welds / Indications of undercut on surfaces which are greater than specified in project procedure	Misalignment greater than specified in applicable code or poor fit up of weld joints

Identification			Temp. (ºF/ºC)				Technique	
Weld No.	Weld Desc.	Welder		Accepted	Rejected	Defect	Used	Comments
0014	3.0000 S10S SP-Pipe/Fitting Without Weld ()		17	X			Direct	

Sketch / Photo:

Defects									
Clustered Porosity	CP	Porosity	P	Cap	C	Lack of Cleanup	LC	Hollow in Cap	W
Unibmly Porosity	UP	Slag	S	Undercut	UC	Crack	CR	Surface	SU

Test Performed by: MATOS, MARCO (N2 VT/PT)
Date: 11-10-2024
Signature

QA/QC Inspection: RAIMUNDO, MARIANA
Date: 16-10-2024 16:25:39
Signature

Customer Inspection:
Sergio Morales
Date: 07-11-24

On behalf of Tecnimont
QC Welding Inspector
GABRIEL BOLEZATU
IWI & IWI-S Engineer
ISO EN 9712 certification Level 2
VT/PT/MT/RT/UT-TOFD - PA
29/11/2024

Positive Material Identification Report (PMI)

P2308-001181

Client : NERVION
Contract : P2308 / Project : ALBA

Job number: P2308S
Spool Nº: 01157
Piece Mark: 2121-LO40B04-2-SP06-01157
Material:

Procedure / Instruction reference: 4274-LZ-VD-FW31010370QAC11 - Rev: 1
PMI Equipment : Niton XL3t800 Serial Nº 32735 (FP01)
Equipment Deviation : + - 5%
Testing Date: 14-10-2024

Remarks: The results refer to the controlled items

Weld / Item No	Description	Reading number	Chemical Elements										Accepted	Rejected	Comments
		Longitudinal	%Ti	%Mo	%Cu	%Ni	%Fe	%Mn	%Cr	%Nb	%Al	%V			
2.2	3.0000 S10S PIPE, SEAMLESS, A312-TP304L (S-20134)	205	0	0	0	8	71	1	18	0	0	0	X		

On behalf of Tecnimont
QC Welding Inspector

GABRIEL HOGEATU
IWT&IWI-S Responsible
ISO EN 9712 certified Examiner Level 2
VT/PT/MT/RT/UT-TOFD - PA

29/11/2024

Test Performed by: GONCALVES(QA), J. (N2 PT/RT)
Date: 14-10-2024
Signature

QA/QC Inspection: RAIMUNDO, MARIANA
Date: 16-10-2024 16:25:39
Signature

Customer Inspection:
Date: Sergio Morales
Date: 07-11-24
Signature

Boccard Portugal, Lda
Zona Industrial de Montalvo, Lote 3
Constância, Portugal2250-999

Certificate of PMI Reading

XL3t-32735

Reading No	205
Mode	ALLOY
Time	2024-10-14 10:52
Duration	11.32
Sequence	Final
Alloy1	304SS : 0.62
Alloy2	No Match : *2.21
Flags	
SAMPLE	
HEAT	
LOT	
BATCH	
MISC	
NOTE	

	%	±	Error
Sb	< LOD	:	0.036
Sn	< LOD	:	0.045
Pd	< LOD	:	0.034
Ag	< LOD	:	0.127
Al	< LOD	:	80.000
Mo	0.057	±	0.008
Nb	< LOD	:	0.004
Zr	< LOD	:	0.003
Bi	< LOD	:	0.005
Pb	< LOD	:	0.011
Se	< LOD	:	0.005
W	< LOD	:	0.081
Zn	< LOD	:	0.025
Cu	0.161	±	0.075
Ni	8.110	±	0.276
Co	< LOD	:	0.467
Fe	71.468	±	0.424
Mn	1.462	±	0.188
Cr	18.058	±	0.244
V	< LOD	:	0.126
Ti	< LOD	:	0.136

Sergio Morales

Date: 07-11-24

On behalf of Tecnimont
QC Welding Inspector

GABRIEL BOLEIAU
IWT&IWI-S Responsible
ISO EN 9712 certification Level 2
VT/PT/MT/RT/UT-TOFD - PA

29/11/2024