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-310-000317_RFI4464_MOD-ITP-XL_220**	
		RFI Nr.:	Date :
Unit	-		
Plant Area	-		
Isometric Number			
Inspection Package Number	**IP-WSR-P-310-000317_RFI4464 - IP Spool Release From Workshop**		

The Present Inspection Package contains the following Elements:

7111-IA91F18-1-SP02-00046;1127-PN52020-1-SP04-00819;2121-IA91F63-1-SP12-00482;1127-PN52022-2-SP02-01045;1121-LS50002-4-SP15-00166;2211-PCW71A01-3-SP11-00423;2211-PCW70A01-2-SP09-00399;2211-PCW70A01-2-SP07-00397;2211-PCW70B04-1-SP01-00986;2121-IA91F63-1-SP13-00483;1121-LS50002-1-SP03-00154;2211-PE62A03-1-SP01-00425;2211-PCW71A01-3-SP09-00421;2211-PCW71A01-3-SP08-00420;2121-IA91F62-3-SP06-00468;1127-LS50009-3-SP04-00800;2211-PCW70A01-2-SP06-00395;2121-LO40B02-5-SP15-00510;1121-LS50002-4-SP14-00165;7111-IA91F18-1-SP01-00045;1127-PN52020-1-SP03-00818;1127-PN52022-2-SP04-01046;1127-PN52022-2-SP01-01044;2211-PCW70A01-2-SP08-00398;2211-PCW70B04-1-SP02-00987;2211-PCW71A01-3-SP10-00422;1127-PN52027-2-SP02-00831;1121-LS50002-1-SP04-00155;2211-PCW71A01-3-SP07-00419;2121-IA91F62-3-SP07-00469

	Ready for		Check List					
Spool No.	**destination to: P: Painting (1) W: Wrapping F: Field**	**NDE Class**	**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)**

On behalf of Tecnimont / R
Piping Supervisor
Cristi Sandu
06.09.2024 C. Sandu

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	06-09-2024	Sergio Morales Collantes	
CONTRACTOR			
COMPANY			
(Free)			

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-310-000317_RFI4464_MOD-ITP-XL_220	
		RFI Nr.:	Date :

Unit	-
Plant Area	-
Isometric Number	
Inspection Package Number	**IP-WSR-P-310-000317_RFI4464 - IP Spool Release From Workshop**

The Present Inspection Package contains the following Elements:

7111-IA91F18-1-SP02-00046;1127-PN52020-1-SP04-00819;2121-IA91F63-1-SP12-00482;1127-PN52022-2-SP02-01045;1121-LS50002-4-SP15-00166;2211-PCW71A01-3-SP11-00423;2211-PCW70A01-2-SP09-00399;2211-PCW70A01-2-SP07-00397;2211-PCW70B04-1-SP01-00986;2121-IA91F63-1-SP13-00483;1121-LS50002-1-SP03-00154;2211-PE62A03-1-SP01-00425;2211-PCW71A01-3-SP09-00421;2211-PCW71A01-3-SP08-00420;2121-IA91F62-3-SP06-00468;1127-LS50009-3-SP04-00800;2211-PCW70A01-2-SP06-00395;2121-LO40B02-5-SP15-00510;1121-LS50002-4-SP14-00165;7111-IA91F18-1-SP01-00045;1127-PN52020-1-SP03-00818;1127-PN52022-2-SP04-01046;1127-PN52022-2-SP01-01044;2211-PCW70A01-2-SP08-00398;2211-PCW70B04-1-SP02-00987;2211-PCW71A01-3-SP10-00422;1127-PN52027-2-SP02-00831;1121-LS50002-1-SP04-00155;2211-PCW71A01-3-SP07-00419;2121-IA91F62-3-SP07-00469

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*"

On behalf of Tecnimont / R
Piping Supervisor
Cristi Sandu
06.09.2024

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	06-09-2024	Sergio Morales Collantes	
CONTRACTOR			
COMPANY			
(Free)			

Tecnimont	Punch List **PUNCH LIST**	IDENTIFICATION CODE SHEET 1 / 1 | DOC.CLASS 1 | ISSUE 01
MECWIDE	**ISO ID:** 2121-IA91F63-1	

No.	Field	Descripton	Date	Completed
		NO COMMENTS		

NOTES AND REMARKS

On behalf of Tecnimont / R
Piping Supervisor
Cristi Sandu
05.09.2024 C. Sandu

	DATE (dd-Mmm-YYYY)	NAME	SIGNATURE
SUBCONTRACTOR			
CONTRACTOR			
COMPANY			
(Free)			

0

REV	DATE	REVISION DESCRIPTION	DRA N UP	CHKD UP	APP D
00	07-11-2023	ISSUED FOR CONSTRUCTION	TG	M	TM

LINE DATA

FLUID CODE: IA — LINE NO. 2"-IA-91F63-6C4

PIPING MATERIAL CLASS	INSULATION	ELD CLASS	HEAT TREATMENT	PAINTING CODE	P&ID No.
6C4	N / 0	M	N	NR	19-A-19-000-1-01-00001 sheet 106

Tecnimont

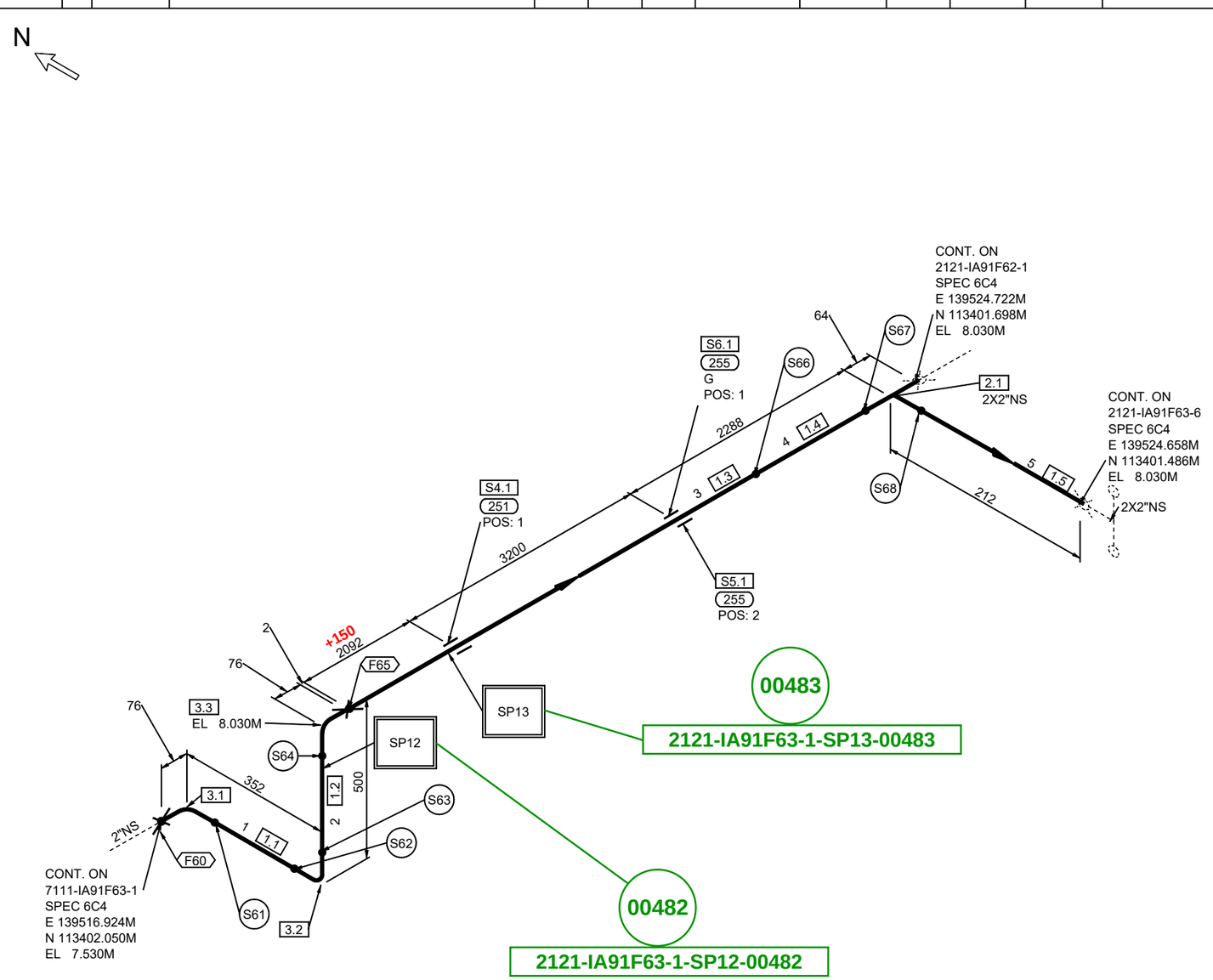
PIPING ISOMETRIC

IDENTIFICATION CODE						
Jo	E C T	Area	N			
4274	XHDL	2121	IA91F63			
UNIT	19	SHEET	1	REV	00	

PLANT: SINES INDUSTRIAL COMPLEX — CLIENT REF: REPSOL POLYMEROS

REFERENCES

PIPING ASSEMBLY DRA ING E C T N	PIPING SUPPORT SPECIFICATION E C T N	PIPING STANDARD SUPPORT SUMMARY E C T N
19-L-19-000-2-00-86197 sheet 3	XH-SG-00000002	XH-LP-00000001
PIPING ISOMETRIC LIST E C T N	**PIPING TYPICAL INSTALLATIONS E C T N**	**ELDING SPECIFICATION E C T N**
XH-LD-21210001	XH-SL-00000002	XH-S -00000001



BILL OF MATERIALS

FABRICATION MATERIALS

PS NO	DESCRIPTION	NS MM	ITEM CODE	TY.	HOLD
	PIPE				
1	PIPE - A312-TP304/304L DUAL GR BE SMLS T01AL2CV02 S-10S PIPB04DB2210S L-PIP113	2	I3364302	8.2 M	
	FITTINGS				
2	STRAIGHT TEE ASME B16.9 A403- P304/304L DG BE SMLS C31DL2FV01 S-10S TEBB23DF314071407 L-TEB28	2X2	I2259149	1	
3	90 LR ELBO ASME B16.9 A403- P304/304L DG BE SMLS C01DL2FV01 S-10S 90LB23DF3210S L-8052	2	I2259133	3	

ERECTION MATERIALS

PS NO	DESCRIPTION	NS MM	ITEM CODE	TY.	HOLD
	SUPPORTS				
4	ELDED BRACKET TO STRUCT. SB02 L80X80X10	2	251	1	
5	ELDED BRACKET TO STRUCT. SB02 L80X80X10	2	255	1	
6	SUPPORT HOR.NOT INS.PIP.N4G1	2	255	1	

CUT LIST

PIECE NO	LENGTH MM	SIZE IN
1	196	2"
2	344	2"
3	5497	2"
4	2016	2"
5	147	2"

ELD LIST

ELD NO	ELD CAT.	SIZE IN	ELD TYPE
F60	F	2"	B
S61	S	2"	B
S62	S	2"	B
S63	S	2"	B
S64	S	2"	B
F65	F	2"	B
S66	S	2"	B
S67	S	2"	B
S68	S	2"	B

BOLT LIST

BOLT NO	FLANGE SIZE IN	SIZE IN	LENGTH MM

INCH METER

PIPE NS IN	CL LENGTH M
2	8.9

ISOMETRIC NO. 4274-SP-XH-DL-2121-IA91F63-1-IS00 — SPOOLING REV NO. 00

Sergio Morales

Date: 02-09-24

On behalf of Tecnimont / R
Piping Supervisor
Cristi Sandu
02.09.2024

RECEIVED
14 / 12 / 2023

MEC IDE ENGINEERING CHALLENGES		TG		PCL 22635
		IFC	07-11-2023	00

AUTHORISED FOR CONSTRUCTION

SIGNED FOR CONSTRUCTION IS SHO N 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

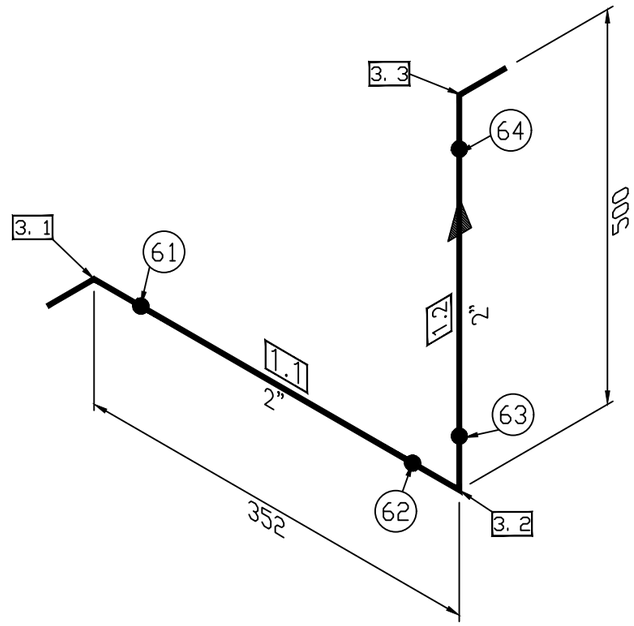
PIPE SUPPORT — A = RESTING SUPPORT G = GUIDE F = AXIAL RESTRAINT B = GUIDE + STOP M = SPRING

WHERE A WITHOUT NUMBERING IS INDICATED THIS MEANS THAT THERE IS A REST DIRECTLY ON STEEL STRUCTURE

PROJECT: LO LINEAL DENSITY POLYETHILENE PEL AND POLYPROPYLENE PP FOR PROJECT - ALBA PROJECT

LINES 1.1/2" AND SMALLER SHALL BE SUPPORTED IN FIELD IF NOT OTHERWISE INDICATED | ALL DIMENSION AND PROPER CONFIGURATION FOR LINES NPS 1.1/2" AND SMALLER SHALL BE CHECKED IN FIELD BEFORE CONSTRUCTION
FOR THE COMPONENT MARKED AS FIELD WELDED,ONE WELDED FOR ADJUSTMENT OF INLINE COMPONENT MUST BE LEFT | GUSSETING TO BE IMPLEMENTED BY MECHANICAL SUBCONTRACTOR AS PER SPECIFICATION 4048-XH-SG-00000000004
FIELD WELD SYMBOL FOR ADJUSTMENT OF IN-LINE COMPONENT WHERE MARKED | FOR LINE DATA AND TESTING CONDITIONS REFER TO LINE LIST 4048-XH-LL-10-0000-00001

N



Sergio Morales

Date: 02-09-24

BILL OF MATERIAL

PIPE

ITEM	LENGTH	DIAMETER	SCH/mm	DESCRIPTION / MATERIAL	ITEM CODE
1.1	0,196	2"	S-10S	PIPE - A312-TP304/304L DUAL GR SMLS, BExBE	I3364302
1.2	0,344	2"	S-10S	PIPE - A312-TP304/304L DUAL GR SMLS, BExBE	I3364302

WELD FITTINGS

ITEM	QT	DIAMETER	SCH/mm	DESCRIPTION / MATERIAL	ITEM CODE
3.1	1	2"	S-10S	90 LR ELBOW ASME B16.9 A403-WP304/304L DG BE SMLS	I2259133
3.2	1	2"	S-10S	90 LR ELBOW ASME B16.9 A403-WP304/304L DG BE SMLS	I2259133
3.3	1	2"	S-10S	90 LR ELBOW ASME B16.9 A403-WP304/304L DG BE SMLS	I2259133

Weld Map Sticker

P2308S 00482

2121-IA91F63-1-SP12-00482

boccard Alliance for success Boccard Portugal, Lda.

Rev.	Date	DRW	Check 1	Check 2		
					Marking Color:	GREEN
					Weld Class:	6C4-M
00	01/03/2024	ANP	AOM	PCO	Paint System:	NR

On behalf of Tecnimont / R
Piping Supervisor
Cristi Sandu
02.09.2024

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-IA91F63-1-SP12-00482	2121-IA91F63-1	P2308S	00482	REPSOL PROJETO ALBA NERVION
Metal Tag:	YES	% MT -	NO	% PMI -	YES	BHN% -	NO	Tolerances:	ASME B31.3					

Spool Material List

Contract : P2308 **Client** NERVION

Job : P2308S **Project** ALBA

Job	Spool	Piece Mark	Drawing	Rev
P2308S	00482	2121-IA91F63-1-SP12-00482	2121-IA91F63-1	00

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 40391	,196	2.0000	S10S	0.0000	NA	PIPE, SEAMLESS, A312-TP304L	S-23594 0357	3,93	0,77
1.2 40391	,344	2.0000	S10S	0.0000	NA	PIPE, SEAMLESS, A312-TP304L	S-23594 0357	3,93	1,35
3.1 42965	1	2.0000	S10S	0.0000	NA	90 LR ELL, SEAMLESS, A403-WP304L	M220696 0410	0,49	0,49
3.2 42965	1	2.0000	S10S	0.0000	NA	90 LR ELL, SEAMLESS, A403-WP304L	M220696 0410	0,49	0,49
3.3 42965	1	2.0000	S10S	0.0000	NA	90 LR ELL, SEAMLESS, A403-WP304L	M220696 0410	0,49	0,49

On behalf of Tecnimont / R
Piping Supervisor
Cristi Sandu
02.09.2024 C. Sandu

Number of Items : **5** Total Weight : **3,59**

	QA	Client
Signature	QA / QC	Sergio Morales Date: 02-09-24
Date	2024-08-26 15:24:03	

CTA Group	Kg 1138	Mt 305,57	Pz No.: 49
This document is reproduced by a computerized system and is conform to the original	Heat No.: S-23594	Cta's job: OC0000319	Date: 29/02/2024
Customer : TECNIMONT SPA AFC	P.O. No.: PO:		Item: I3364302

12 7500118753 N.PRO: 4274 - PP+PE SINES (PORTUGAL) EPC

Inv. No. 356

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** : 680 **Date:** 26.03.2022

Product : Austenitic S.S Seamless Cold Finish,Solution Annealed,Pickled & Passivated Pipes. **P.O.No** : OS-0000175 **Date:** 14.10.2021

W.O.No : 2122/OEP400035 **Date:** 16.10.2021

Sr. No	Specification	Grade	Heat No.	Dimensions		Quantity			Hydro Test Pressure (Psi)
				NPS	SCH	Length Mtr	Pcs	Total Meter	
27	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-23594	2	10S	RL	171	1075.220	1400

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-23594	Heat Analysis	0.025	1.72	0.038	0.008	0.41	18.20	8.08	--	0.079	--

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 5.65√A					
MAX	690	--	--	--			Max-90 HRB	100 Joule Min.(AVG)	ASTM A-262 Practice"E" & ISO 3651-2 Method "A"
MIN	515	205	230	40					
S-23594	624.31	316.22	322.57	55.21	25.40	Satisfactory	76-78	N/A	Satisfactory
	623.05	315.91	320.42	54.89			73-75		

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:EIF+AOD & Material is free of mercury & radioactive contamination.**

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

SURAJ LTD. THOL

Prepared by

For, Suraj Limited.
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

Customer: TECNIMONT S.p.A.

Description: CURVE 90° LR 2" SCH.10/S SEAMLESS 1259133

Heat num. or Pcs. marking: M220696 - Qty.71,00

Order: 7500118979 - 26.01.24 - Item n.: 61 - Project: 4274 - PP+PE Shnes (Portugal) EPC - Our ref.: OCVEIT20240000474

Protocol: CTCERC20240000104 * CERTIFIED TRUE COPY * Issued 03-04-2024

CTCERT20230000328 6.1.0001

INSPECTION CERTIFICATE

Page (頁) : 3

Cert. to RACCORTUBI S.P.A

S.P. UNITED INDUSTRY SDN. BHD.
(COMPANY NO. 368524 W)
P.T. 741/745, KAWASAN PERUSAHAAN NILAI,
71800 NILAI, NEGERI SEMBILAN DARUL KHUSUS, MALAYSIA.
TEL: 606-7993577, 7993676, 7993677 FAX: 606-7994366
E-mail: contactus@spunited.com.my

LRQA CERTIFIED ISO 9001
Approval No:ISO9001-0065006
PED Cert No:0343/PED/MUM/101003/3

Order No.: 22TEC003 (注文番号)

Date (日付) : JUNE 22, 2023

P.O. No. : 00000150 S

Certificate No. : 23-06-1169 (書類番号)

Product (形状)	Product Specification (規格)	Specification for Pipe (Raw Material) (材料規格)
STAINLESS STEEL 90 DEG LONG RADIUS ELBOW (SEAMLESS)	ASTM A403-2022 / ASME SA403-2019 / ASME B16.9-2018 MSS SP-43-2019 / ASME BPVC II PART A-2019 WP-S 304/304L	ASTM A312 TP 304/304L

*	Size (寸法)	Dimension in mm (寸法) Outside Dia (外径)	Dimension in mm (寸法) Thickness (厚さ)	Heat No. (溶解番号)	Quantity (数量)	Surface Inspection (外観検査)	Dimension Inspection (寸法検査)	S. P. I. Code No.	Manufacturing Method
1	2"x10S	60.33	2.77	M220696	500	GOOD	GOOD	24812000	COLD FORMED

YS=Yield Strength (0.2%), EL=Elongation, H=Hardness Test
TS= Tensile Strength, GL=Gauge Length, HT=Hydrostatic Test

Chemical Composition of Pipe (Raw Material) % (化学成分) (材料)

*	Raw Pipe Heat No.	C x 100	Si x 100	Mn x 100	P x 1000	S x 1000	Ni x 100	Cr x 100	Mo x 100	
1	L220330	2.3	35.8	138	38	1	804	1817		
Specification		MAX 3.0	MAX 100	MAX 200	MAX 45	MAX 30	800 1100	1800 2000		

Mechanical Properties of Pipe (Raw Material) (機械的性質)

Type of Specimen (試験片)	YS Mpa (耐力)	TS Mpa (引張強さ)	EL% (伸び) (GL:50mm)	EL% (伸び) Standard (規格値)	Flattening Test (へん平試験)	HT Mpa (水圧試験)	Hardness Test HRB	
	230	540	56		GOOD	GOOD	79	
	MIN 205	MIN 515	MIN 28					

Remarks * Hardness acc. to NACE MR0175 / ISO 15156-3: 2015, MR0103:2015
INTERGRANULAR CORROSION TEST (ASTM A262/E) - OK. PMI CHECK GOOD. ISO 9001 / EN 10204-3.1 PED 2014/68/EU ANNEX I SECTION 4.3
HEAT TREATMENT 1050 DEGREE CELCIUS QUENCHED IN WATER WITHIN 1 MINUTES TO BELOW 40°C.
MATERIAL WAS MANUFACTURED, SAMPLED, TESTED AND INSPECTED IN ACCORDANCE WITH INDICATED SPECIFICATIONS AND WAS FOUND TO MEET THE REQUIREMENTS. NO WELD REPAIR WAS PERFORMED AND ALL ITEMS SUPPLIED ARE FREE OF WELD REPAIR.
MATERIAL IS FREE OF MERCURY CONTAMINATION AND RADIOACTIVITY.

We herewith certify that the above products meet the requirements of the relevant standard and of the customer order.
(上記の製品は,当該規格及び,で注文の要求事項に適合するてとを証明します.)

Head of QA/QC Dept.
質量/品質管理課長

Welding and QC Report Per Spool

Contract : P2308 | Drawing : 2121-IA91F63-1 | Job : P2308S | Material : Stainless Steel 304, 316, 317

Client : NERVION | Revision : 00 | Spool : 00482 | Spec : 6C4-M

Project : ALBA | Piece Mark : 2121-IA91F63-1-SP12-00482

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						
0061	BW	2	S10S	MW.26_BW	AE	16/07/2024	4712055	AE	16/07/2024	4712055			000783	09/08/2024					000793	22/08/2024									000254	17/08/2024						
0062	BW	2	S10S	MW.26_BW	AE	16/07/2024	4712055	AE	16/07/2024	4712055			000783	09/08/2024					000793	22/08/2024																
0063	BW	2	S10S	MW.26_BW	AE	16/07/2024	4712055	AE	16/07/2024	4712055			000783	09/08/2024					000793	22/08/2024																
0064	BW	2	S10S	MW.26_BW	AE	16/07/2024	4712055	AE	16/07/2024	4712055			000783	09/08/2024					000793	22/08/2024																

On behalf of Tecnimont / R
Piping Supervisor
Cristi Sandu
05.09.2024

Notes:

	Boccard Portugal QC	Client
Signature	QA / QC	Sergio Morales Date: 02-09-24
Date	26/08/2024 15:24:03	

Shop QC Inspection Report

P2308-000807

Client : NERVION
Job number: P2308S
Contract : P2308 / Project : ALBA
Spool Nº: 00482
Material: Stainless Steel 304, 316, 317
Piece Mark: 2121-IA91F63-1-SP12-00482

Procedure / Instruction reference: 20.2 IT 011 MF 324 - Rev: A
Control Date: 09/08/2024

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		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: 09/08/2024
Signature

QA/QC Inspection: GIL, MIGUEL
Date: 26/08/2024 15:24:03
Signature

Customer Inspection:
Sergio Morales
Date: 02-09-24

On behalf of Tecnimont / R
Piping Supervisor
Cristi Sandu
05.09.2024

Visual Examination Report (Welds)

P2308-000783

Contract : P2308
Client : NERVION
Project : ALBA

Job number: P2308S
Spool Nº: 00482
Piece Mark: 2121-IA91F63-1-SP12-00482

Material: Stainless Steel 304, 316, 317
Procedure & Instructions: 4274-LZ-VD-FW31010370QAC04 - Rev: 1
Testing Date: 09/08/2024

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						
0061	2.0000 S10S BW-Buttweld Straight (MW.26_BW)	AE	30	X			Direct	
0062	2.0000 S10S BW-Buttweld Straight (MW.26_BW)	AE	30	X			Direct	
0063	2.0000 S10S BW-Buttweld Straight (MW.26_BW)	AE	30	X			Direct	
0064	2.0000 S10S BW-Buttweld Straight (MW.26_BW)	AE	30	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: 09/08/2024
Signature: QA/QC

QA/QC Inspection: GIL, MIGUEL
Date: 26/08/2024 15:24:03
Signature: QA / QC

Customer Inspection:
Sergio Morales
Date: 02-09-24

On behalf of Tecnimont / R
Piping Supervisor
Cristi Sandu
05.09.2024

Positive Material Identification Report (PMI)

P2308-000793

Client : NERVION
Contract : P2308 / Project : ALBA

Job number: P2308S
Spool Nº: 00482
Piece Mark: 2121-IA91F63-1-SP12-00482
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: 22/08/2024

Remarks: The results refer to the controlled items

Weld / Item No	Description	Reading Longitudinal number	Chemical Elements %Ti	%Mo	%Cu	%Ni	%Fe	%Mn	%Cr	%Nb	%Al	%V	Accepted	Rejected	Comments
0061	2.0000 S10S BW-Buttweld Straight (MW.26_BW)	65	0	0	0	8	70	1	19	0	0	0	X		
0062	2.0000 S10S BW-Buttweld Straight (MW.26_BW)	66	0	0	0	8	69	1	18	0	0	0	X		
0063	2.0000 S10S BW-Buttweld Straight (MW.26_BW)	67	0	0	0	8	69	1	19	0	0	0	X		
0064	2.0000 S10S BW-Buttweld Straight (MW.26_BW)	68	0	0	0	9	69	1	19	0	0	0	X		
1.1	2.0000 S10S PIPE, SEAMLESS, A312-TP304L (S-23594)	63	0	0	0	7	71	1	18	0	0	0	X		
1.2	2.0000 S10S PIPE, SEAMLESS, A312-TP304L (S-23594)	64	0	0	0	8	71	1	18	0	0	0	X		
3.1	2.0000 S10S 90 LR ELL, SEAMLESS, A403-WP304L (M220696)	61	0	0	0	8	71	1	18	0	0	0	X		
3.2	2.0000 S10S 90 LR ELL, SEAMLESS, A403-WP304L (M220696)	62	0	0	0	8	72	1	17	0	0	0	X		
3.3	2.0000 S10S 90 LR ELL, SEAMLESS, A403-WP304L (M220696)	60	0	0	0	7	72	1	17	0	0	0	X		

On behalf of Tecnimont / R
Piping Supervisor
Cristi Sandu
05.09.2024

Test Performed by: GONCALVES(QA), J. (N2 PT/RT)
Date: 22/08/2024
Signature

QA/QC Inspection: GIL, MIGUEL
Date: 26/08/2024 15:24:03
Signature

Customer Inspection:
Date:
Signature

Sergio Morales
Date: 02-09-24

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

Certificate of PMI Reading

XL3t-32735

Reading No	65
Mode	ALLOY
Time	2024-08-22 14:23
Duration	9.21
Sequence	Final
Alloy1	304SS : 0.00
Alloy2	No Match : *2.10
Flags	
SAMPLE	
HEAT	
LOT	
BATCH	
MISC	
NOTE	

	%	±	Error
Sb	< LOD	:	0.045
Sn	< LOD	:	0.050
Pd	< LOD	:	0.039
Ag	< LOD	:	0.181
Al	< LOD	:	80.000
Mo	0.033	±	0.008
Nb	< LOD	:	0.008
Zr	< LOD	:	0.003
Bi	< LOD	:	0.010
Pb	< LOD	:	0.018
Se	< LOD	:	0.008
W	< LOD	:	0.099
Zn	< LOD	:	0.035
Cu	< LOD	:	0.161
Ni	8.441	±	0.309
Co	< LOD	:	0.511
Fe	70.249	±	0.472
Mn	1.656	±	0.216
Cr	19.208	±	0.278
V	< LOD	:	0.140
Ti	< LOD	:	0.137

Sergio Morales

Date: 02-09-24

On behalf of Tecnimont / R
Piping Supervisor
Cristi Sandu
05.09.2024

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

Certificate of PMI Reading

XL3t-32735

Reading No	66
Mode	ALLOY
Time	2024-08-22 14:23
Duration	8.68
Sequence	Final
Alloy1	304SS : 0.48
Alloy2	No Match : 1.75
Flags	
SAMPLE	
HEAT	
LOT	
BATCH	
MISC	
NOTE	

	%	±	Error
Sb	< LOD	:	0.049
Sn	0.061	±	0.030
Pd	< LOD	:	0.040
Ag	< LOD	:	0.155
Al	< LOD	:	80.000
Mo	0.038	±	0.008
Nb	< LOD	:	0.009
Zr	< LOD	:	0.004
Bi	< LOD	:	0.010
Pb	< LOD	:	0.026
Se	< LOD	:	0.005
W	< LOD	:	0.102
Zn	< LOD	:	0.027
Cu	< LOD	:	0.175
Ni	8.893	±	0.331
Co	< LOD	:	0.536
Fe	69.596	±	0.497
Mn	1.859	±	0.229
Cr	18.962	±	0.290
V	< LOD	:	0.142
Ti	< LOD	:	0.179

Sergio Morales

Date: 02-09-24

On behalf of Tecnimont / R
Piping Supervisor
Cristi Sandu
05.09.2024

Boccard Portugal, Lda
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Constância, Portugal2250-999

Certificate of PMI Reading

XL3t-32735

Reading No	67
Mode	ALLOY
Time	2024-08-22 14:23
Duration	8.66
Sequence	Final
Alloy1	304SS : 0.28
Alloy2	No Match : *2.12
Flags	
SAMPLE	
HEAT	
LOT	
BATCH	
MISC	
NOTE	

	%	±	Error
Sb	< LOD	:	0.046
Sn	< LOD	:	0.060
Pd	< LOD	:	0.040
Ag	< LOD	:	0.173
Al	< LOD	:	80.000
Mo	0.029	±	0.008
Nb	< LOD	:	0.010
Zr	< LOD	:	0.004
Bi	< LOD	:	0.018
Pb	< LOD	:	0.016
Se	< LOD	:	0.004
W	< LOD	:	0.105
Zn	< LOD	:	0.038
Cu	< LOD	:	0.166
Ni	8.452	±	0.328
Co	< LOD	:	0.551
Fe	69.722	±	0.501
Mn	1.820	±	0.231
Cr	19.224	±	0.295
V	< LOD	:	0.142
Ti	< LOD	:	0.142

Sergio Morales
Date: 02-09-24

On behalf of Tecnimont / R
Piping Supervisor
Cristi Sandu
05.09.2024

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

Certificate of PMI Reading

XL3t-32735

Reading No	68
Mode	ALLOY
Time	2024-08-22 14:24
Duration	10.07
Sequence	Final
Alloy1	304SS : 0.00
Alloy2	No Match : *2.10
Flags	
SAMPLE	
HEAT	
LOT	
BATCH	
MISC	
NOTE	

	%	±	Error
Sb	< LOD	:	0.041
Sn	< LOD	:	0.052
Pd	< LOD	:	0.038
Ag	< LOD	:	0.175
Al	< LOD	:	80.000
Mo	0.050	±	0.008
Nb	< LOD	:	0.007
Zr	< LOD	:	0.005
Bi	< LOD	:	0.005
Pb	< LOD	:	0.002
Se	< LOD	:	0.006
W	< LOD	:	0.078
Zn	< LOD	:	0.034
Cu	< LOD	:	0.149
Ni	9.045	±	0.301
Co	< LOD	:	0.487
Fe	69.503	±	0.449
Mn	1.775	±	0.206
Cr	19.040	±	0.263
V	< LOD	:	0.137
Ti	< LOD	:	0.148

Sergio Morales

Date: 02-09-24

On behalf of Tecnimont / R
Piping Supervisor
Cristi Sandu
05.09.2024

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

Certificate of PMI Reading

XL3t-32735

Reading No	63
Mode	ALLOY
Time	2024-08-22 14:22
Duration	7.44
Sequence	Final
Alloy1	304SS : 1.70
Alloy2	No Match : *2.17
Flags	
SAMPLE	
HEAT	
LOT	
BATCH	
MISC	
NOTE	

	%	±	Error
Sb	< LOD	:	0.048
Sn	< LOD	:	0.061
Pd	< LOD	:	0.043
Ag	< LOD	:	0.184
Al	< LOD	:	80.000
Mo	0.039	±	0.009
Nb	< LOD	:	0.006
Zr	< LOD	:	0.004
Bi	< LOD	:	0.014
Pb	< LOD	:	0.022
Se	< LOD	:	0.011
W	< LOD	:	0.119
Zn	< LOD	:	0.039
Cu	0.320	±	0.103
Ni	7.876	±	0.342
Co	< LOD	:	0.584
Fe	71.302	±	0.534
Mn	1.408	±	0.236
Cr	18.308	±	0.308
V	< LOD	:	0.156
Ti	< LOD	:	0.186

Sergio Morales

Date: 02-09-24

On behalf of Tecnimont / R
Piping Supervisor
Cristi Sandu
05.09.2024 C. Sandu

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

Certificate of PMI Reading

XL3t-32735

Reading No	64
Mode	ALLOY
Time	2024-08-22 14:23
Duration	5.97
Sequence	Final
Alloy1	304SS : 0.71
Alloy2	No Match : *2.16
Flags	
SAMPLE	
HEAT	
LOT	
BATCH	
MISC	
NOTE	

	%	±	Error
Sb	< LOD	:	0.055
Sn	< LOD	:	0.072
Pd	< LOD	:	0.050
Ag	< LOD	:	0.126
Al	< LOD	:	80.000
Mo	< LOD	:	0.014
Nb	< LOD	:	0.008
Zr	< LOD	:	0.004
Bi	< LOD	:	0.027
Pb	< LOD	:	0.029
Se	< LOD	:	0.011
W	< LOD	:	0.136
Zn	< LOD	:	0.054
Cu	< LOD	:	0.189
Ni	8.349	±	0.408
Co	< LOD	:	0.684
Fe	71.301	±	0.624
Mn	1.549	±	0.279
Cr	18.031	±	0.358
V	0.205	±	0.102
Ti	< LOD	:	0.193

Sergio Morales
Date: 02-09-24

On behalf of Tecnimont / R
Piping Supervisor
Cristi Sandu
05.09.2024 C. Sandu

Boccard Portugal, Lda
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Certificate of PMI Reading

XL3t-32735

Reading No	61
Mode	ALLOY
Time	2024-08-22 14:22
Duration	11.29
Sequence	Final
Alloy1	304SS : 0.85
Alloy2	No Match : *2.12
Flags	
SAMPLE	
HEAT	
LOT	
BATCH	
MISC	
NOTE	

	%	±	Error
Sb	< LOD	:	0.039
Sn	0.050	±	0.025
Pd	< LOD	:	0.033
Ag	< LOD	:	0.143
Al	< LOD	:	80.000
Mo	0.063	±	0.008
Nb	< LOD	:	0.007
Zr	< LOD	:	0.004
Bi	< LOD	:	0.002
Pb	< LOD	:	0.017
Se	< LOD	:	0.006
W	< LOD	:	0.088
Zn	< LOD	:	0.033
Cu	0.215	±	0.077
Ni	8.094	±	0.273
Co	< LOD	:	0.461
Fe	71.314	±	0.421
Mn	1.351	±	0.186
Cr	18.235	±	0.243
V	0.160	±	0.066
Ti	< LOD	:	0.132

Sergio Morales
Date: 02-09-24

On behalf of Tecnimont / R
Piping Supervisor
Cristi Sandu
05.09.2024 C. Sandu

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

Certificate of PMI Reading

XL3t-32735

Reading No	62
Mode	ALLOY
Time	2024-08-22 14:22
Duration	8.88
Sequence	Final
Alloy1	301SS : 1.68
Alloy2	No Match : *1.92
Flags	
SAMPLE	
HEAT	
LOT	
BATCH	
MISC	
NOTE	

	%	±	Error
Sb	< LOD	:	0.047
Sn	< LOD	:	0.058
Pd	< LOD	:	0.044
Ag	< LOD	:	0.173
Al	< LOD	:	80.000
Mo	< LOD	:	0.008
Nb	< LOD	:	0.006
Zr	< LOD	:	0.004
Bi	< LOD	:	0.009
Pb	< LOD	:	0.016
Se	< LOD	:	0.010
W	< LOD	:	0.104
Zn	< LOD	:	0.029
Cu	< LOD	:	0.163
Ni	8.020	±	0.325
Co	< LOD	:	0.547
Fe	72.236	±	0.500
Mn	1.415	±	0.222
Cr	17.667	±	0.286
V	0.229	±	0.084
Ti	< LOD	:	0.145

Sergio Morales

Date: 02-09-24

On behalf of Tecnimont / R
Piping Supervisor
Cristi Sandu
05.09.2024 C. Sandu

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

Certificate of PMI Reading

XL3t-32735

Reading No	60
Mode	ALLOY
Time	2024-08-22 14:22
Duration	8.41
Sequence	Final
Alloy1	301SS : 1.49
Alloy2	321SS : 1.97
Flags	
SAMPLE	
HEAT	
LOT	
BATCH	
MISC	
NOTE	

	%	±	Error
Sb	< LOD	:	0.044
Sn	< LOD	:	0.059
Pd	< LOD	:	0.041
Ag	< LOD	:	0.194
Al	< LOD	:	80.000
Mo	0.102	±	0.012
Nb	< LOD	:	0.010
Zr	< LOD	:	0.005
Bi	< LOD	:	0.019
Pb	< LOD	:	0.016
Se	< LOD	:	0.008
W	< LOD	:	0.090
Zn	< LOD	:	0.038
Cu	< LOD	:	0.173
Ni	7.933	±	0.328
Co	< LOD	:	0.555
Fe	72.017	±	0.509
Mn	1.294	±	0.223
Cr	17.884	±	0.291
V	< LOD	:	0.146
Ti	< LOD	:	0.190

Sergio Morales

Date: 02-09-24

On behalf of Tecnimont / R
Piping Supervisor
Cristi Sandu
05.09.2024 C. Sandu

Radiographic Examination Report

P2308-000254

Contract : P2308
Client : NERVION
Project : ALBA

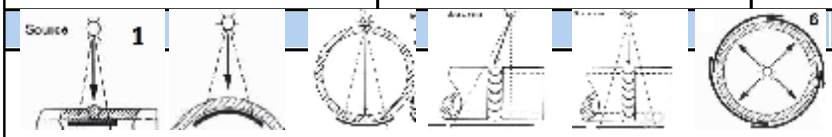
Spool Nº: P2308S-00482
Isometric Nº: 2121-IA91F63-1
Piece Mark: 2121-IA91F63-1-SP12-00482

Procedure/ Instruction:	Acceptance Criteria:	Testing Date:	Material:
4274-LZ-VD-FW31010370QAC02 - Rev.1	ASME B.31.3 – Table 341.3.2	17/08/2024	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:	5	Temperature:	29
Activity (Ci):	35	Lead Sheets:	0,5	Ø of visible wire/hole	0,008(0,2)	Developer:	G135
		Films/Casette:	Single			Fixer:	G335

Normal Fluid

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
0061	2.0000 S10S BW (MW.26_BW)	AE	A	500	440	NA	4	360	3.9	W4		-	RX346
0061	2.0000 S10S BW (MW.26_BW)	AE	B	500	440	NA	4	360	3.7	W4		-	RX346

Radiographic Examination Report

P2308-000254

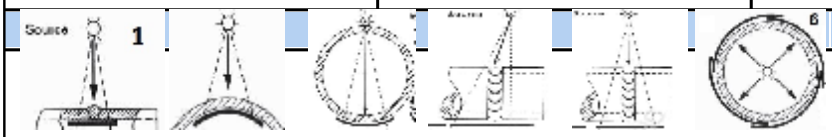
Contract : P2308
Client : NERVION
Project : ALBA

Spool Nº: P2308S-00482
Isometric Nº: 2121-IA91F63-1
Piece Mark: 2121-IA91F63-1-SP12-00482

Procedure/ Instruction:	Acceptance Criteria:	Testing Date:	Material:
4274-LZ-VD-FW31010370QAC02 - Rev.1	ASME B.31.3 – Table 341.3.2 Normal Fluid	17/08/2024	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: 5	Temperature: 29
Activity (Ci): 35	Lead Sheets: 0,5	Ø of visible wire/hole 0,008(0,2)	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 - 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

	Performed by:	Examined by:	QA/QC Inspection:	Customer Inspection:
Name:	GONCALVES(QA), J. (N2 PT/RT)	FIGUEIRAS(QA), RUI (N2 PT/RT)	GIL, MIGUEL	
Date:	17/08/2024	17/08/2024	26/08/2024 15:24:03	
Signature:			QA / QC	Sergio Morales Date: 02-09-24

On behalf of Tecnimont / R
Piping Supervisor
Cristi Sandu
05.09.2024

Pickling & Passivation Report

P2308 – 000852

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

Job number: P2308S
Spool N°: 00482
Piece Mark: 2121-IA91F63-1-SP12-00482

Procedure/Instruction: 23A008/010 Rev.0

Pick Tape		Clean Spray		Clean Wipes	
Brand:	Nitty Gritty Pick&Clean	Brand:	Nitty Gritty Pick&Clean	Brand:	Nitty Gritty Pick&Clean
Batch:	N/A	Batch:	N/A	Batch:	N/A
Opening Date:	03/05/2024	Opening Date:	03/05/2024	Opening Date:	03/05/2024
Expiration Date:	03/09/2024	Expiration Date:	03/09/2024	Expiration Date:	03/09/2024

Weld No.	Pickling and Cleaning			Accepted	Rejected
	Pick tape duration (at least 10/15 min)	Cleaning (with spray) and drying (with blotting paper)	OR Cleaning (clean wipes)		
0061	15 min	OK		X	
0062	15 min	OK		X	
0063	15 min	OK		X	
0064	15 min	OK		X	

Performed by: FERREIRA, FILIPE
Date: 16/07/2024
Signature

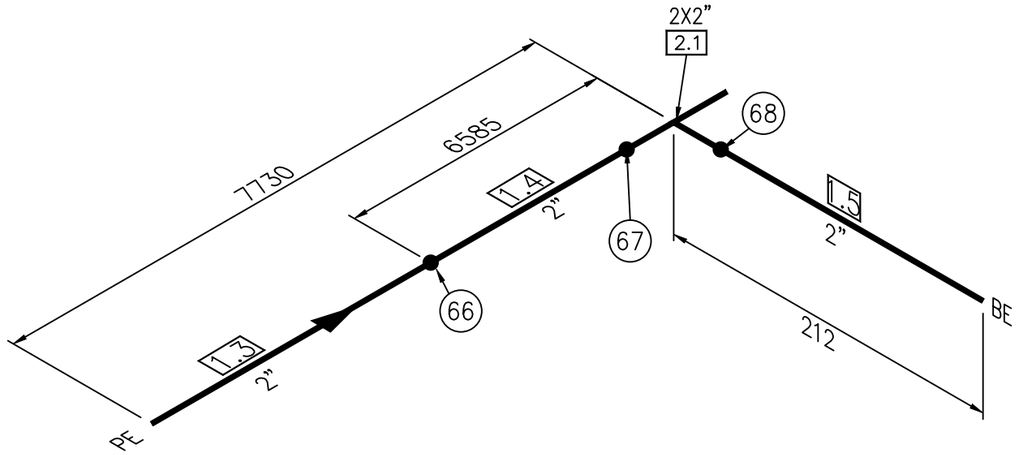
QA/QC Inspection: GIL, MIGUEL
Date: 26/08/2024 15:36:13
Signature

QA / QC

Customer Inspection:
Sergio Morales
Date: 02-09-24

On behalf of Tecnimont / R
Piping Supervisor
Cristi Sandu
05.09.2024

N



BILL OF MATERIAL

PIPE

ITEM	LENGTH	DIAMETER	SCH/mm	DESCRIPTION / MATERIAL	ITEM CODE
1.3	1,143	2"	S-10S	PIPE - A312-TP304/304L DUAL GR SMLS, PExBE	I3364302
1.4	6,519	2"	S-10S	PIPE - A312-TP304/304L DUAL GR SMLS, BExBE	I3364302
1.5	0,146	2"	S-10S	PIPE - A312-TP304/304L DUAL GR SMLS, BExBE	I3364302

WELD FITTINGS

ITEM	QT	DIAMETER	SCH/mm	DESCRIPTION / MATERIAL	ITEM CODE
2.1	1	2" x 2"	S-10S	STRAIGHT TEE ASME B16.9 A403-WP304/304L DG BE SMLS	I2259149

Sergio Morales

Date: 02-09-24

Rev.	Date	DRW	Check 1	Check 2		
					Marking Color:	GREEN
					Weld Class:	6C4-M
00	01/03/2024	ANP	AOM	PCO	Paint System:	NR

On behalf of Tecnimont / R
Piping Supervisor
Cristi Sandu
02.09.2024

Weld Map Sticker

P2308S 00483

2121-IA91F63-1-SP13-00483

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-IA91F63-1-SP13-00483	2121-IA91F63-1	P2308S	00483	REPSOL PROJETO ALBA NERVION
Metal Tag:	YES	**% MT -** NO	**% PMI -** YES	**BHN% -** NO	**Tolerances:** ASME B31.3					

Spool Material List

Contract : P2308 Client NERVION

Job : P2308S Project ALBA

Job	Spool	Piece Mark	Drawing	Rev
P2308S	00483	2121-IA91F63-1-SP13-00483	2121-IA91F63-1	00

Item No / Tag No / ID No	Qty	Size1	Sch1	Size2	Sch2	Description	Heat No / MTR No / Folder No	Unit Weight Kgs	Weight Kgs
1.3 40391	1,143	2.0000	S10S	0.0000	NA	PIPE, SEAMLESS, A312-TP304L	S-23594 0357	3,93	4,49
1.5 40391	,146	2.0000	S10S	0.0000	NA	PIPE, SEAMLESS, A312-TP304L	S-23594 0357	3,93	0,57
1.4 40391	6,519	2.0000	S10S	0.0000	NA	PIPE, SEAMLESS, A312-TP304L	S-23594 0357	3,93	25,62
2.1 44252	1	2.0000	S10S	0.0000	NA	TEE, SEAMLESS, A403-WP304L	S1030418 0062	0,78	0,78

On behalf of Tecnimont / R
Piping Supervisor
Cristi Sandu
02.09.2024 C. Sandu

Number of Items : 4 Total Weight : 31,47

	QA	Client
Signature	QA / QC	Sergio Morales Date: 02-09-24
Date	2024-08-13 16:53:45	

CTA Group	Kg 1138	Mt 305,57	Pz No.: 49
This document is reproduced by a computerized system and is conform to the original	Heat No.: S-23594	Cta's job: OC0000319	Date: 29/02/2024
Customer : TECNIMONT SPA AFC	P.O. No.: PO:		Item: I3364302

12 7500118753 N.PRO: 4274 - PP+PE SINES (PORTUGAL) EPC

Inv. No. 356

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** : 680 **Date:** 26.03.2022

Product : Austenitic S.S Seamless Cold Finish,Solution Annealed,Pickled & Passivated Pipes. **P.O.No** : OS-0000175 **Date:** 14.10.2021

W.O.No : 2122/OEP400035 **Date:** 16.10.2021

Sr. No	Specification	Grade	Heat No.	Dimensions		Quantity			Hydro Test Pressure (Psi)
				NPS	SCH	Length Mtr	Pcs	Total Meter	
27	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-23594	2	10S	RL	171	1075.220	1400

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-23594	Heat Analysis	0.025	1.72	0.038	0.008	0.41	18.20	8.08	--	0.079	--

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 5.65√A					
MAX	690	--	--	--			Max-90 HRB	100 Joule Min.(AVG)	ASTM A-262 Practice"E" & ISO 3651-2 Method "A"
MIN	515	205	230	40					
S-23594	624.31	316.22	322.57	55.21	25.40	Satisfactory	76-78	N/A	Satisfactory
	623.05	315.91	320.42	54.89			73-75		

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:EIF+AOD & Material is free of mercury & radioactive contamination.**

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

SURAJ LTD. THOL

Prepared by

For, Suraj Limited.
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

CENA ITALY

VIRGILIO CENA & FIGLI S.p.A.

www.cenafittings.com
Via G. Oberdan, 39 – 25128 – BRESCIA (ITALY)

QMS approved acc.to ISO 9001:2015
LRQA Cert. N° 10082605 according to Annex I, Chapt. 4.3 PED 2014/68/EU

Issued in agreement with TÜV SÜD Industrie Service GmbH (05.1992) and approved according to PED, annex I, para 4.3 by Notified body 0036, cert. n. DGR-QS-W 024/2002/MUC-001

INSPECTION CERTIFICATE EN 10204/3.1 — **CE23002480_3.1_01**

TECNIMONT SPA
Via Gaetano De Castillia 6A
20124 MILANO, (MI)
Italia

Customer Order	7500107591 25.10.22-Proj.4274 Sines	Your Item Ref. 308 - I2259149
Article/Specification	Seamless tees WP304/WP304L-S ASTM/ASME A/SA-403 ASME B16.9/18	
Heat Treatment	Cold formed - Solution annealed at 1050°Cx1,5'/mm	Brand of manufacturer: **CENA**
Marking	IT - CENA - SA 403 WP304/304L-S - Heat Nr - Od. x Th.	

Extent of material delivered	Our pos.	Quantity	Article
	OV22001749/3010000	NR 1	2" 10s

Heat	Marking code	Certificate	Supplier
S1030418	S1030418	21-03-011 *	HUADI STEEL GROUP

Raw material: Seamless pipe ASTM/ASME A/SA 312 Gr.P304

Results of chemical analysis % — *Ceq: C+ (Mn/6) + (Cr +Mo + V)/5 + (Cu + Ni)/15*

	C	Mn	Si	P	S	Cu	Ni	Cr	Mo	Al	Ti	Nb	V	N	B	Ceq	Pcm	Jfact.
min.							8,0000	18,0000										
max.	0,0800	2,0000	1,0000	0,0450	0,0300		11,0000	20,0000										
Ladle	0,022	1,35	0,31	0,027	0,002		8,05	18,03										
Check	0,021	1,34	0,32	0,026	0,003		8,06	18,04										

Mechanical Tests: On fittings

Specimen	Position	Direction	Temperature °C	Dimension mm	Yield Point N/mm²	Tensile Strength N/mm²	Elongation % 2"	Ys / Ts	Hardness HB 10% of batch 3 tests min.	Impact Test - Specimen = KV: Position	Direction	Temperature °C	Dimension mm	Obtained energy Joule: Values	Obtained energy Joule: Average	Shear Area %: Values	Shear Area %
0101495.0.0	A	L	20		235	540	46	0,44	143-145								

The pipes are tested on tightness.

Steel making process:

Specimen position: A=neutral axis of base material; W=weld; E=extrados of base material; I=intrados of base material; Z=heat affected zone

Results of visual and dimensional inspection of fittings: SATISFACTORY Controllo visivo e dimensionale dei pezzi speciali / Results of visual and dimensional inspection of fittings: Soddisfacente / Satisfactory Il materiale fornito è in accordo ai requisiti dell'ordine / The product supplied is in compliance with the requirements of the order Documento redatto a fronte delle prove eseguite o della documentazione in ns.possesso. / Edited document on the strength of the made examinations or our own documents. Prodotti decapati e passivati / Products pickled and passivated Controllo PMI / Alloy steel verification (PMI):soddisfacente / satisfactory Prova di corrosione intergranulare secondo ASTM A 262 E / IGC test according to ASTM A262 E: soddisfacente/satisfactory --- La société VIRGILIO CENA S.p.A. garantit que tous le produits, objet du certificat susdit, respectent en leur totalité les specifications de l'article 15 de l'Arreté Ministeriel du 24 mars 1978. Materiale esente da radiazioni / Material radiation free Material compliant with PED2014/68/EU

MT on the body satisfactory acc. to E709

ITEx Quality Services

Date 16/01/23

Inspection
Discipline: Inspection ☒ W ☐ R ☒ — ☐
Expediting ☐
G. Di Lauro Date 22/03/2023
Signature

Quality Control Manager BUTTURINI RICCARDO

THIS DOCUMENT HAS BEEN ISSUED WITH THE INFORMATIC HELP AND IT IS VALID WITHOUT A SIGNATURE.
MODIFICATIONS OR ELSE OTHER PRODUCTS USE WILL BE PERSECUTED ACCORDING TO THE LAW AS FALSIFICATION OF DOCUMENTS OR FRAUD.

ITEx Quality Services

Discipline: Inspection ☒ W ☐ R ☒ ☐

Expediting ☐

G. Di Lauro Date 22/03/2023

Signature

HUA GANG

BUREAU VERITAS

华迪钢业集团有限公司
HUADI STEEL GROUP CO., LTD
工厂检验证书
MILL TEST CERTIFICATE (EN 10204/3.1)

Lloyd's Register NO.MD00/3209/0001/4 TÜV SÜD Industrie Service

Date(日期) :21.03.07
No. (编号) :21-03-011

INVOICE NO.: CONTRACT NO.: EXECUTIVE STANDARD:ASTM A312/A312M				DESCRIPTION OF GOODS: SEAMLESS STAINLESS STEEL PIPE DELIVERY CONDITION: COLD FINISHED PICKLED&SOLUTION ANNEALED AT 1050 DEG. C COOLING MEDIUM:WATER STEELMAKING: AOD FURNACE NO WELD REPAIR AND MERCURY FREE							Surface condition (表面情况)	ACCEPTABLE
												Size tolerance (尺寸公差)	ACCEPTABLE

No.	Chemical Composition (%) (化学成份)											Lot No. (批号)
	Heat No. (炉号)	Grade (钢种)	Elements	C	Si	Mn	P	S	Ni	Cr	Mo	Ti	
			Specification	≤0.035	≤1.00	≤2.00	≤0.045	≤0.030	8.0-13.0	18.0-20.0	--	--	
1	S1030418	TP304L	Results(Heat)	0.022	0.31	1.35	0.027	0.002	8.05	18.03	--	--	HD2021022060
			Results(product)	0.021	0.32	1.34	0.026	0.003	8.06	18.04	--	--	

No.	Size (尺寸)	QTY 数量	T.S. 抗拉伸强度	Y.S. 0.2% 屈服强度	EL. GL=50mm 延伸率 (%) GW=25.4mm	IGC Test 晶间腐蚀 ASTM A262 E	Flattening Test 压扁 Continuous Heating Furnace	Hardness HB 硬度	PMI Test 材质鉴定 Gradual Pcs	Eddy Current Test 涡探 Gradual Pcs	Hydrostatic Test 水压 Gradual Pcs	Ultrasonic Test 超探 Gradual Pcs
		MTRS	(Mpa)	(Mpa)	(%)							
1	60.3*3	420	540	235	46	ACCEPTABLE	ACCEPTABLE	145	ACCEPTABLE	ACCEPTABLE	—	—

ISO9001: 2000 Certified by ABS Group. Ltd
Conform to EN10204 (2004) —3.1
Country of melt and Country of manufacture: Zhejiang China

1. WE HEREBY CERTIFY THAT THE MATERIAL DESCRIBED HERE HAS BEEN MADE IN ACCORDANCE WITH ABOVE STANDARD AND CONFORM TO CONTRACT STIPULATED REQUIREMENTS.
2. THE CERTIFICATE SHALL NOT BE REPRODUCED EXCEPT IN FULL APPROVAL OF THE COMPANY.
3.NO PAINTING

ISSUED BY	YEHEJIE	JUDGED BY	ZHANGJIANG

华迪钢业集团有限公司 HUADI STEEL GROUP CO., LTD 质保科 QUALITY DEPARTMENT

ADD: 24-32 ZHENBIAO ROAD, YOUNGZHONG TOWN, WENZHOU, ZHEJIANG, CHINA TEL: 86-577-85982882 FAX: 86-577-28806686

Welding and QC Report Per Spool

Contract : P2308 | Drawing : 2121-IA91F63-1 | Job : P2308S | Material : Stainless Steel 304, 316, 317

Client : NERVION | Revision : 00 | Spool : 00483 | Spec : 6C4-M

Project : ALBA | Piece Mark : 2121-IA91F63-1-SP13-00483

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
0066	BW	2	S10S	MW.26_BW	AH	22/05/2024	4712055	AH	22/05/2024	4712055			000621	13/06/2024					000582	17/06/2024									000234	09/08/2024
0067	BW	2	S10S	MW.26_BW	AH	22/05/2024	4712055	AH	22/05/2024	4712055			000621	13/06/2024					000582	17/06/2024										
0068	BW	2	S10S	MW.26_BW	AH	22/05/2024	4712055	AH	22/05/2024	4712055			000621	13/06/2024					000582	17/06/2024										

On behalf of Tecnimont / R
Piping Supervisor
Cristi Sandu
05.09.2024

Notes:

	Boccard Portugal QC	Client
Signature	QA / QC	Sergio Morales Date: 02-09-24
Date	13/08/2024 16:53:45	

Shop QC Inspection Report

P2308-000647

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

Job number: P2308S
Spool Nº: 00483
Piece Mark: 2121-IA91F63-1-SP13-00483

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

Control Date: 13/06/2024

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: 13/06/2024
Signature

QA/QC Inspection: GIL, MIGUEL
Date: 13/08/2024 16:53:45
Signature

Customer Inspection:
Sergio Morales
Date: 02-09-24

On behalf of Tecnimont / R
Piping Supervisor
Cristi Sandu
05.09.2024

Visual Examination Report (Welds)

P2308-000621

Contract : P2308
Client : NERVION
Project : ALBA

Job number: P2308S
Spool Nº: 00483
Piece Mark: 2121-IA91F63-1-SP13-00483

Material: Stainless Steel 304, 316, 317
Procedure & Instructions: 4274-LZ-VD-FW31010370QAC04 - Rev: 1
Testing Date: 13/06/2024

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						
0066	2.0000 S10S BW-Buttweld Straight (MW.26_BW)	AH	27	X			Direct	
0067	2.0000 S10S BW-Buttweld Straight (MW.26_BW)	AH	27	X			Direct	
0068	2.0000 S10S BW-Buttweld Straight (MW.26_BW)	AH	27	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: 13/06/2024
Signature

QA/QC Inspection: GIL, MIGUEL
Date: 13/08/2024 16:53:45
Signature

Customer Inspection:
Sergio Morales
Date: 02-09-24

On behalf of Tecnimont / R
Piping Supervisor
Cristi Sandu
05.09.2024

Positive Material Identification Report (PMI)

P2308-000582

Client : NERVION
Contract : P2308 / Project : ALBA

Job number: P2308S
Spool Nº: 00483
Piece Mark: 2121-IA91F63-1-SP13-00483
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: 17/06/2024

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			
0066	2.0000 S10S BW-Buttweld Straight (MW.26_BW)	299	0	0	0	8	70	1	18	0	0	0	X		
0067	2.0000 S10S BW-Buttweld Straight (MW.26_BW)	298	0	0	0	8	70	1	18	0	0	0	X		
0068	2.0000 S10S BW-Buttweld Straight (MW.26_BW)	297	0	0	0	8	69	1	19	0	0	0	X		
1.3	2.0000 S10S PIPE, SEAMLESS, A312-TP304L (S-23594)	293	0	0	0	8	71	1	17	0	0	0	X		
1.4	2.0000 S10S PIPE, SEAMLESS, A312-TP304L (S-23594)	294	0	0	0	7	72	1	17	0	0	0	X		
1.5	2.0000 S10S PIPE, SEAMLESS, A312-TP304L (S-23594)	295	0	0	0	8	70	1	17	0	0	0	X		
2.1	2.0000 S10S TEE, SEAMLESS, A403-WP304L (S1030418)	296	0	0	0	8	70	1	17	0	0	0	X		

On behalf of Tecnimont / R
Piping Supervisor
Cristi Sandu
05.09.2024

Test Performed by: FIGUEIRAS(QA), RUI (N2 PT/RT)
Date: 17/06/2024
Signature

QA/QC Inspection: GIL, MIGUEL
Date: 13/08/2024 16:53:45
Signature

Customer Inspection:
Date: Sergio Morales
Date: 02-09-24
Signature

Thermo Fisher Scientific
900 Middlesex Turnpike
Billerica, MA 01821

Certificate of Verification

XL3t-32735

Reading No	299
Mode	ALLOY
Time	2024-06-17 09:23
Duration	4.18
Sequence	Final
Alloy1	321SS : 0.98
Alloy2	No Match : 1.55
Flags	
SAMPLE	
HEAT	
LOT	
BATCH	
MISC	
NOTE	

	%	±	Error
Sb	< LOD	:	0.075
Sn	< LOD	:	0.073
Pd	< LOD	:	0.064
Ag	< LOD	:	0.155
Al	< LOD	:	80.000
Mo	0.037	±	0.013
Nb	< LOD	:	0.015
Zr	< LOD	:	0.010
Bi	< LOD	:	0.010
Pb	< LOD	:	0.015
Se	< LOD	:	0.015
W	< LOD	:	0.148
Zn	< LOD	:	0.049
Cu	< LOD	:	0.266
Ni	8.893	±	0.525
Co	< LOD	:	0.857
Fe	70.168	±	0.788
Mn	1.675	±	0.356
Cr	18.442	±	0.454
V	< LOD	:	0.229
Ti	< LOD	:	0.304

Supervised By: _____

Sergio Morales

Date: 02-09-24

On behalf of Tecnimont / R
Piping Supervisor
Cristi Sandu
05.09.2024 C. Sandu

Thermo Fisher Scientific
900 Middlesex Turnpike
Billerica, MA 01821

Certificate of Verification

XL3t-32735

Reading No	298
Mode	ALLOY
Time	2024-06-17 09:23
Duration	4.51
Sequence	Final
Alloy1	304SS : 0.53
Alloy2	No Match : 1.77
Flags	
SAMPLE	
HEAT	
LOT	
BATCH	
MISC	
NOTE	

	%	±	Error
Sb	< LOD	:	0.067
Sn	< LOD	:	0.086
Pd	< LOD	:	0.066
Ag	< LOD	:	0.186
Al	< LOD	:	80.000
Mo	< LOD	:	0.017
Nb	< LOD	:	0.009
Zr	< LOD	:	0.006
Bi	< LOD	:	0.006
Pb	< LOD	:	0.017
Se	< LOD	:	0.014
W	< LOD	:	0.159
Zn	< LOD	:	0.049
Cu	< LOD	:	0.241
Ni	8.615	±	0.492
Co	< LOD	:	0.813
Fe	70.736	±	0.747
Mn	1.558	±	0.334
Cr	18.320	±	0.430
V	< LOD	:	0.241
Ti	< LOD	:	0.253

Supervised By: _____

Sergio Morales

Date: 02-09-24

On behalf of Tecnimont / R
Piping Supervisor
Cristi Sandu
05.09.2024 C. Sandu

Thermo Fisher Scientific
900 Middlesex Turnpike
Billerica, MA 01821

Certificate of Verification

XL3t-32735

Reading No	297
Mode	ALLOY
Time	2024-06-17 09:23
Duration	4.18
Sequence	Final
Alloy1	304SS : 0.97
Alloy2	321SS : 1.44
Flags	
SAMPLE	
HEAT	
LOT	
BATCH	
MISC	
NOTE	

	%	±	Error
Sb	< LOD	:	0.063
Sn	< LOD	:	0.092
Pd	< LOD	:	0.061
Ag	< LOD	:	0.211
Al	< LOD	:	80.000
Mo	0.045	±	0.014
Nb	< LOD	:	0.013
Zr	< LOD	:	0.005
Bi	< LOD	:	0.025
Pb	< LOD	:	0.048
Se	< LOD	:	0.013
W	< LOD	:	0.151
Zn	< LOD	:	0.063
Cu	< LOD	:	0.282
Ni	8.936	±	0.519
Co	< LOD	:	0.853
Fe	69.397	±	0.780
Mn	1.580	±	0.351
Cr	19.002	±	0.454
V	< LOD	:	0.205
Ti	< LOD	:	0.289

Supervised By: _____

Sergio Morales

Date: 02-09-24

On behalf of Tecnimont / R
Piping Supervisor
Cristi Sandu
05.09.2024 C. Sandu

Thermo Fisher Scientific
900 Middlesex Turnpike
Billerica, MA 01821

Certificate of Verification

XL3t-32735

Reading No	293
Mode	ALLOY
Time	2024-06-17 09:22
Duration	4.17
Sequence	Final
Alloy1	321SS : 1.10
Alloy2	No Match : *1.73
Flags	
SAMPLE	
HEAT	
LOT	
BATCH	
MISC	
NOTE	

	%	±	Error
Sb	< LOD	:	0.066
Sn	< LOD	:	0.086
Pd	< LOD	:	0.062
Ag	< LOD	:	0.189
Al	< LOD	:	80.000
Mo	0.041	±	0.013
Nb	< LOD	:	0.013
Zr	< LOD	:	0.011
Bi	< LOD	:	0.017
Pb	< LOD	:	0.053
Se	< LOD	:	0.017
W	< LOD	:	0.153
Zn	< LOD	:	0.050
Cu	< LOD	:	0.298
Ni	8.433	±	0.513
Co	< LOD	:	0.850
Fe	71.621	±	0.778
Mn	1.370	±	0.341
Cr	17.540	±	0.440
V	< LOD	:	0.191
Ti	< LOD	:	0.305

Supervised By: _____

Sergio Morales

Date: 02-09-24

On behalf of Tecnimont / R
Piping Supervisor
Cristi Sandu
05.09.2024 C. Sandu

Thermo Fisher Scientific
900 Middlesex Turnpike
Billerica, MA 01821

Certificate of Verification

XL3t-32735

Reading No	294
Mode	ALLOY
Time	2024-06-17 09:22
Duration	3.06
Sequence	Final
Alloy1	301SS : 1.30
Alloy2	321SS : 1.68
Flags	
SAMPLE	
HEAT	
LOT	
BATCH	
MISC	
NOTE	

	%	±	Error
Sb	< LOD	:	0.109
Sn	< LOD	:	0.125
Pd	< LOD	:	0.102
Ag	< LOD	:	0.264
Al	< LOD	:	80.000
Mo	< LOD	:	0.025
Nb	< LOD	:	0.016
Zr	< LOD	:	0.015
Bi	< LOD	:	0.028
Pb	< LOD	:	0.007
Se	< LOD	:	0.019
W	< LOD	:	0.299
Zn	< LOD	:	0.112
Cu	< LOD	:	0.375
Ni	7.997	±	0.751
Co	< LOD	:	1.245
Fe	72.197	±	1.167
Mn	1.586	±	0.526
Cr	17.629	±	0.663
V	< LOD	:	0.365
Ti	< LOD	:	0.417

Supervised By: _____

Sergio Morales

Date: 02-09-24

On behalf of Tecnimont / R
Piping Supervisor
Cristi Sandu
05.09.2024 C. Sandu

Thermo Fisher Scientific
900 Middlesex Turnpike
Billerica, MA 01821

Certificate of Verification

XL3t-32735

Reading No	295
Mode	ALLOY
Time	2024-06-17 09:22
Duration	3.38
Sequence	Final
Alloy1	321SS : 0.76
Alloy2	No Match : *1.78
Flags	
SAMPLE	
HEAT	
LOT	
BATCH	
MISC	
NOTE	

	%	±	Error
Sb	< LOD	:	0.112
Sn	< LOD	:	0.113
Pd	< LOD	:	0.088
Ag	< LOD	:	0.208
Al	< LOD	:	80.000
Mo	< LOD	:	0.032
Nb	< LOD	:	0.018
Zr	< LOD	:	0.012
Bi	< LOD	:	0.046
Pb	< LOD	:	0.048
Se	< LOD	:	0.021
W	< LOD	:	0.253
Zn	< LOD	:	0.092
Cu	< LOD	:	0.390
Ni	8.940	±	0.705
Co	< LOD	:	1.133
Fe	70.941	±	1.058
Mn	1.462	±	0.464
Cr	17.617	±	0.596
V	< LOD	:	0.297
Ti	< LOD	:	0.494

Supervised By: _____

Sergio Morales

Date: 02-09-24

On behalf of Tecnimont / R
Piping Supervisor
Cristi Sandu
05.09.2024 C. Sandu

Thermo Fisher Scientific
900 Middlesex Turnpike
Billerica, MA 01821

Certificate of Verification

XL3t-32735

Reading No	296
Mode	ALLOY
Time	2024-06-17 09:22
Duration	3.93
Sequence	Final
Alloy1	321SS : 1.39
Alloy2	No Match : 2.00
Flags	
SAMPLE	
HEAT	
LOT	
BATCH	
MISC	
NOTE	

	%	±	Error
Sb	< LOD	:	0.075
Sn	< LOD	:	0.092
Pd	< LOD	:	0.071
Ag	< LOD	:	0.170
Al	< LOD	:	80.000
Mo	< LOD	:	0.012
Nb	< LOD	:	0.011
Zr	< LOD	:	0.005
Bi	< LOD	:	0.015
Pb	< LOD	:	0.029
Se	< LOD	:	0.017
W	< LOD	:	0.177
Zn	< LOD	:	0.064
Cu	< LOD	:	0.286
Ni	8.479	±	0.552
Co	< LOD	:	0.927
Fe	70.906	±	0.846
Mn	1.499	±	0.373
Cr	17.870	±	0.480
V	< LOD	:	0.291
Ti	< LOD	:	0.322

Supervised By: _____

Sergio Morales

Date: 02-09-24

On behalf of Tecnimont / R
Piping Supervisor
Cristi Sandu
05.09.2024 C. Sandu

Radiographic Examination Report

P2308-000234

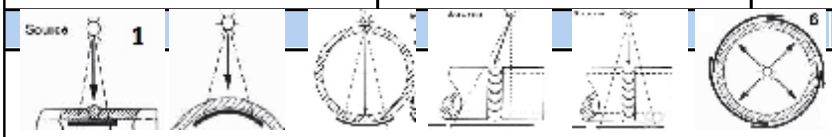
Contract : P2308
Client : NERVION
Project : ALBA

Spool Nº: P2308S-00483
Isometric Nº: 2121-IA91F63-1
Piece Mark: 2121-IA91F63-1-SP13-00483

Procedure/ Instruction:	Acceptance Criteria:	Testing Date:	Material:
4274-LZ-VD-FW31010370QAC02 - Rev.1	ASME B.31.3 – Table 341.3.2	09/08/2024	Stainless Steel 304, 316, 317

Equipment		Film		IQI		Development	
Type:	X-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):	37,8	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
0066	2.0000 S10S BW (MW.26_BW)	AH	A	500	0	NA	4	350	3.4	4		-	
0066	2.0000 S10S BW (MW.26_BW)	AH	B	500	0	NA	4	350	3.2	4		-	

Radiographic Examination Report

P2308-000234

Contract : P2308
Client : NERVION
Project : ALBA

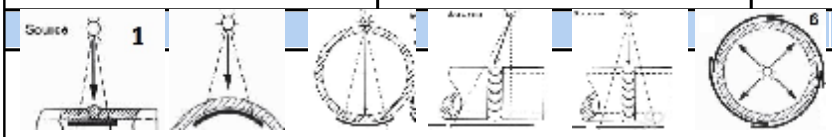
Spool Nº: P2308S-00483
Isometric Nº: 2121-IA91F63-1
Piece Mark: 2121-IA91F63-1-SP13-00483

Procedure/ Instruction:	Acceptance Criteria:	Testing Date:	Material:
4274-LZ-VD-FW31010370QAC02 - Rev.1	ASME B.31.3 – Table 341.3.2	09/08/2024	Stainless Steel 304, 316, 317

Equipment		Film		IQI		Development	
Type:	X-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):	37,8	Lead Sheets:	0,5	Ø of visible wire/hole	0,0063(0,16)	Developer:	G135
		Films/Casette:	Single			Fixer:	G335

Testing Technique

Indication Codes (ISO 6520)



1 2 3 4 5 6

--	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

	Performed by:	Examined by:	QA/QC Inspection:	Customer Inspection:
Name:	GONCALVES(QA), J. (N2 PT/RT)	GONCALVES(QA), J. (N2 PT/RT)	GIL, MIGUEL	
Date:	09/08/2024	09/08/2024	13/08/2024 16:53:45	
Signature:			QA / QC	Sergio Morales Date: 02-09-24

On behalf of Tecnimont / R
Piping Supervisor
Cristi Sandu
05.09.2024

Pickling & Passivation Report

P2308 – 000656

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

Job number: P2308S
Spool N°: 00483
Piece Mark: 2121-IA91F63-1-SP13-00483

Procedure/Instruction: 23A008/010 Rev.0

Pick Tape		Clean Spray		Clean Wipes	
Brand:	Nitty Gritty Pick&Clean	Brand:	Nitty Gritty Pick&Clean	Brand:	Nitty Gritty Pick&Clean
Batch:	N/A	Batch:	N/A	Batch:	N/A
Opening Date:	03/05/2024	Opening Date:	03/05/2024	Opening Date:	03/05/2024
Expiration Date:	03/09/2024	Expiration Date:	03/09/2024	Expiration Date:	03/09/2024

Weld No.	Pickling and Cleaning				Accepted	Rejected
	Pick tape duration (at least 10/15 min)	Cleaning (with spray) and drying (with blotting paper)	OR	Cleaning (clean wipes)		
0066	15 min	OK			X	
0067	15 min	OK			X	
0068	15 min	OK			X	

Performed by: LOPES, EDUARDO
Date: 13/06/2024
Signature

QA/QC Inspection: GIL, MIGUEL
Date: 13/08/2024 16:52:57
Signature

QA / QC

Customer Inspection:
Sergio Morales
Date: 02-09-24

On behalf of Tecnimont / R
Piping Supervisor
Cristi Sandu
05.09.2024