



Tecnimont S.p.A.

REPSOL POLIMEROS  
SA

4274\_CONST

ALBA PROJECT-PP AND PEL PLANTS



MOD-ITP-XL_220		RELEASE OF SPOOLS FROM WORKSHOP	Report n° <b>IP-WSR-P-310-000420_RFI5573_MOD-ITP-XL_220</b>
Rev.1			RFI Nr.: Date :
Unit	-		
Plant Area	-		
Isometric Number			
Inspection Package Number	<b>IP-WSR-P-310-000420_RFI5573 - IP Spool Release From Workshop</b>		

Sheet 01/01

The Present Inspection Package contains the following Elements:

2211-PCW71A01-1-SP12-01162;2121-LO40B03-1-SP01-00997;2121-LO40B02-2-SP05-01147;2121-IA91F62-7-SP16-00477;1122-O15011-1-SP01-00546;1121-LS50001-4-SP07-01094;2211-PCW70B04-3-SP06-00407;2121-LO40B03-1-SP03-00998;2121-LO40B02-3-SP09-01150;1121-LS50001-4-SP08-01132;1113-PN52018-1-SP02-00862;2211-PCW70B04-3-SP05-01158;2211-VA71A01-1-SP01-00442;2211-PCW71A01-2-SP04-01104;2121-LO40B02-3-SP10-00505;2121-LO40B02-2-SP07-01149;1121-LS50006-2-SP02-01129;1121-LS50002-2-SP08-01126;2211-VA71A01-1-SP02-00443;2211-PCW71A01-2-SP05-01105;2121-LO40B02-3-SP11-00506;2121-LO40B02-3-SP08-00503;1121-PR34029-3-SP03-01131;1121-LS50005-3-SP05-00192;2121-LO40B02-2-SP06-01148;2121-LO40B02-2-SP04-01146;1211-VA81004-1-SP01-01095;1127-LS50009-2-SP01-01130;2211-PCW70B04-3-SP04-00406;2121-LO40B04-1-SP02-01069;2121-LO40B04-1-SP01-01068;2121-LO40B01-1-SP01-00498;2121-IA91F63-4-SP05-00488;2211-PCW70B04-3-SP07-00409;2121-LO40B03-1-SP02-01153;2121-LO40B01-1-SP02-00499;1211-PX86033-2-SP04-01145;1121-LS50002-2-SP05-01125;2211-LS50A05-1-SP02-00385;2121-LO40B04-1-SP03-01155;2121-IA91F63-4-SP04-00487;2121-IA91F62-8-SP17-00478;1113-PN52018-1-SP01-00861

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)

On behalf of Tecnímont / R  
Piping Supervisor  
Cristi Sandu  
29.10.2024

LEGEND OF CHECK RESULT	<input checked="" type="checkbox"/> Checked & NOT Accepted	<input checked="" type="checkbox"/> Checked & Accepted	N.A.	Not Applicable	Y / N	Punch List Produced
SUBCONTRACTOR	Date [DD-MMM-YYYY]	Name	Signature			
CONTRACTOR	29-10-2024	Sergio Morales Collantes				
COMPANY						
(Free)						



Tecnimont S.p.A.

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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 C. Sandu  
29.10.2024

LEGEND OF CHECK RESULT	<input checked="" type="checkbox"/> Checked & NOT Accepted	<input checked="" type="checkbox"/> Checked & Accepted	N.A.	Not Applicable	Y / N	Punch List Produced
			Date [DD-MMM-YYYY]	Name	Signature	
SUBCONTRACTOR	29-10-2024		Sergio Morales Collantes			
CONTRACTOR						
COMPANY						
(Free)						

 <b>Tecnimont</b>	<p style="text-align: center;"><b>Punch List</b></p> <p style="text-align: center;"><b>PUNCH LIST</b></p>	<p style="text-align: center;"><b>IDENTIFICATION CODE</b></p>			
		<table border="1" style="width: 100%; text-align: center;"> <tr> <td>SHEET 1 / 1</td> <td>DOC.CLASS 1</td> <td>ISSUE 01</td> </tr> </table>	SHEET 1 / 1	DOC.CLASS 1	ISSUE 01
SHEET 1 / 1	DOC.CLASS 1	ISSUE 01			
 <b>MECWIDE</b> <small>Engineering Services</small>	<p><b>ISO ID:</b> <b>2121-LO40B03-1</b></p>				

## NOTES AND REMARKS

On behalf of Tecnimont / R  
Piping Supervisor  
Cristi Sandu  
25.10.2024 *C. Sandu*

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

LINES 1-1/2" AND SMALLER SHALL BE SUPPORTED IN FIELD IF NOT OTHERWISE INDICATED  
FOR THE COMPONENT MARKED AS FIELD WELDED ONE WELDED FOR ADJUSTMENT OF IN-LINE COMPONENT  
FIELD WELD SYMBOL FOR ADJUSTMENT OF IN-LINE COMPONENT WHERE MARKED

ALL DIMENSION AND PROPER CONFIGURATION FOR LINES NPS 1-1/2" AND SMALLER SHALL BE CHECKED IN FIELD BEFORE CONSTRUCTION  
LINES SETTING TO BE IMPLEMENTED BY MECHANICAL SUBCONTRACTOR AS PER SPECIFICATION 4048-XH-SG-0000000004  
FOR LINE DATA AND TESTING CONDITIONS REFER TO LINE LIST 4048-XH-LL-10-0000-00001

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	<p><b>BILL OF MATERIAL</b></p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th colspan="6">PIPE</th> </tr> <tr> <th>ITEM</th> <th>LENGTH</th> <th>DIAMETER</th> <th>SCH/mm</th> <th>DESCRIPTION / MATERIAL</th> <th>ITEM CODE</th> </tr> </thead> <tbody> <tr> <td>1.1</td> <td>0,329</td> <td>2"</td> <td>S-10S</td> <td>PIPE - A312-TP304/304L DUAL GR BE SMLS, PExBE</td> <td>I3364302</td> </tr> <tr> <td>1.2</td> <td>2,679</td> <td>2"</td> <td>S-10S</td> <td>PIPE - A312-TP304/304L DUAL GR BE SMLS, BExBE</td> <td>I3364302</td> </tr> </tbody> </table> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th colspan="6">FLANGES</th> </tr> <tr> <th>ITEM</th> <th>QT</th> <th>DIAMÉTRE</th> <th>PRESSION</th> <th>SCH/mm</th> <th>DESCRIPTION / MATERIEL</th> <th>ITEM CODE</th> </tr> </thead> <tbody> <tr> <td>3.1</td> <td>1</td> <td>2"</td> <td>150#</td> <td>S-10S</td> <td>WN FLANGE ASME B16.5 150# A182-F304/304L DUAL GR RF BE 125-250 AARH</td> <td>I2260686</td> </tr> </tbody> </table> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th colspan="6">WELD FITTINGS</th> </tr> <tr> <th>ITEM</th> <th>QT</th> <th>DIAMÉTRE</th> <th>SCH/mm</th> <th>DESCRIPTION / MATERIEL</th> <th>ITEM CODE</th> </tr> </thead> <tbody> <tr> <td>2.1</td> <td>1</td> <td>2"</td> <td>S-10S</td> <td>90 LR ELBOW ASME B16.9 A403-WP304/304L DG BE SMLS</td> <td>I2259133</td> </tr> <tr> <td>2.2</td> <td>1</td> <td>2"</td> <td>S-10S</td> <td>90 LR ELBOW ASME B16.9 A403-WP304/304L DG BE SMLS</td> <td>I2259133</td> </tr> </tbody> </table> <div style="text-align: right; margin-top: 10px;"> <span>P2308S 00997</span>    <span>2121-LO40B03-1-SP01-00997</span> </div> <div style="text-align: center; margin-top: 10px;"> <span>Weld Map Sticker</span> </div> <div style="text-align: right; margin-top: 10px;">  </div>	PIPE						ITEM	LENGTH	DIAMETER	SCH/mm	DESCRIPTION / MATERIAL	ITEM CODE	1.1	0,329	2"	S-10S	PIPE - A312-TP304/304L DUAL GR BE SMLS, PExBE	I3364302	1.2	2,679	2"	S-10S	PIPE - A312-TP304/304L DUAL GR BE SMLS, BExBE	I3364302	FLANGES						ITEM	QT	DIAMÉTRE	PRESSION	SCH/mm	DESCRIPTION / MATERIEL	ITEM CODE	3.1	1	2"	150#	S-10S	WN FLANGE ASME B16.5 150# A182-F304/304L DUAL GR RF BE 125-250 AARH	I2260686	WELD FITTINGS						ITEM	QT	DIAMÉTRE	SCH/mm	DESCRIPTION / MATERIEL	ITEM CODE	2.1	1	2"	S-10S	90 LR ELBOW ASME B16.9 A403-WP304/304L DG BE SMLS	I2259133	2.2	1	2"	S-10S	90 LR ELBOW ASME B16.9 A403-WP304/304L DG BE SMLS	I2259133
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<p>On behalf of Tecnimont / R Piping Supervisor Cristi Sandu <i>C. Sandu</i> 25.10.2024</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td>Rev.</td> <td>Date</td> <td>DRW</td> <td>Check 1</td> <td>Check 2</td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td>Marking Color: GREEN</td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td>Weld Class: QXB-55-M</td> </tr> <tr> <td>01</td> <td>25/04/2024</td> <td>AOM</td> <td>LRG</td> <td>PCO</td> <td>Paint System: NR</td> </tr> </table> <p>Sergio Morales Date: 23-10-24</p> <div style="text-align: center; margin-top: 10px;">  </div>						Rev.	Date	DRW	Check 1	Check 2							Marking Color: GREEN						Weld Class: QXB-55-M	01	25/04/2024	AOM	LRG	PCO	Paint System: NR																																								
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F324-302-0																																																																					

# Spool Material List

Contract : P2308

Client NERVION

Job : P2308S

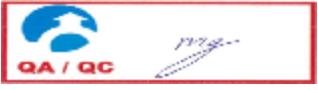
Project ALBA

Job	Spool	Piece Mark	Drawing	Rev			
Item No Tag No ID No	Qty	Size1 Sch1	Size2 Sch2	Description	Heat No MTR No Folder No	Unit Weight Kgs	Weight Kgs
<b>P2308S 00997 2121-LO40B03-1-SP01-00997</b>		<b>2121-LO40B03-1</b>		<b>01</b>			
1.1	,329	2.0000 S10S	0.0000 NA	PIPE, SEAMLESS, A312-TP304L	S-23594 0357	3,93	1,29
40391							
1.2	2,679	2.0000 S10S	0.0000 NA	PIPE, SEAMLESS, A312-TP304L	S-23594 0357	3,93	10,53
40391							
3.1	1	2.0000 S10S	0.0000 NA	WN FLG, RAISED FACE, 150#, A182-F304L	N230210AT03 0146	2,72	2,72
37867							
2.1	1	2.0000 S10S	0.0000 NA	90 LR ELL, SEAMLESS, A403-WP304L	M220696 0410	0,49	0,49
42965							
2.2	1	2.0000 S10S	0.0000 NA	90 LR ELL, SEAMLESS, A403-WP304L	M220696 0410	0,49	0,49
42965							

On behalf of Tecnimont / R  
Piping Supervisor  
Cristi Sandu  
25.10.2024 *C. Sandu*

Number of Items : 5

Total Weight : 15,52

Signature	QA	Client
	Date	Date
	 2024-09-18 15:22:23	Sergio Morales Date: 23-10-24 

<b>CTA Group</b>	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

**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**

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

**INSPECTION CERTIFICATE****In Accordance with EN 10204/3.1**

<b>Customer:</b> Commerciale Tubi Acciaio S.P.A.	<b>T.C No :</b> 680	<b>Date:</b> 26.03.2022
<b>Product :</b> Austenitic S.S Seamless Cold Finish,Solution Annealed,Pickled & Passivated Pipes.	<b>P.O.No :</b> OS-0000175	<b>Date:</b> 14.10.2021
	<b>W.O.No :</b> 2122/OEP400035	<b>Date:</b> 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					Max-90 HRB	100 Joule Min.(AVG)	N/A	ASTM A-262 Practice"E" & ISO 3651-2 Method "A"				
		Rp0.2% Mpa	Rp1 % Mpa							Satisfactory				
MAX	690	--	--	--										
MIN	515	205	230	40										
S-23594	624.31	316.22	322.57	55.21	25.40	Satisfactory	76-78							
	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 requirement 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.

Prepared by

**COMMERCIALE TUBI ACCIAIO S.P.A.****QUALITY CONTROL DEPARTMENT**

For, Suraj Limited.  
C.I.Nayak  
Dept,Head Quality

Page no. 01 of 12

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

# Inspection Certificate(EN 10204-3.1)

Page: 12/21

Shanxi Baolongda Forging Co.,Ltd.

Customer : CHERO PIPING S.P.A.

Cont No:265/2023/OF

Certificate No : BLD-25-0525-012

Article: Hot forging temperature 850°C-1150°C

Melting process :LF+LD

Date of report : 2023.05.25

Specifications compliance: ASTM A182/A182M-21

Work No : T230525

Material : A182F304/304L

Heat Batch No : ZJJ230502

Heat treatment : Solution:1040+10°C /Water

Mark of Manufacturer:

**Content of delivery:**

Item No.	Quantity	Description/Artical					Heat No.		Specimen No	
940	1	FLANGE SW 600 RF Sch.40S 11/2"					N230210AT03		23Y0340	
1030	20	FLANGE WN 150 RF Sch.10S 2"					N230210AT03		23Y0340	
1040	7	FLANGE WN 150 RF Sch.10S 3"					N230210AT03		23Y0340	
1050	9	FLANGE WN 150 RF SCH.10S 4"					N230210AT03		23Y0340	
1060	6	FLANGE WN 150 RF Sch.10S 6"					N230210AT03		23Y0340	
1410	1	FLANGE WN 150 RF SCH.40S 1"					N230210AT03		23Y0340	
1420	14	FLANGE WN 150 RF Sch.40S 3"					N230210AT03		23Y0340	
1430	3	FLANGE WN 150 RF Sch.40S 4"					N230210AT03		23Y0340	
1440	3	FLANGE WN 300 LT 125AARH MAX S80S 1/2"					N230210AT03		23Y0340	
1450	1	FLANGE WN 300 LT 125AARH MAX SCH.40S 2"					N230210AT03		23Y0340	
1460	4	FLANGE WN 300 RF Sch.10S 2"					N230210AT03		23Y0340	
1470	3	FLANGE WN 300 RF Sch.10S 3"					N230210AT03		23Y0340	
1480	1	FLANGE WN 300RF SCH.10S 4"					N230210AT03		23Y0340	
1760	1	FLANGE WN 300 RF SCH.40S 1/2"					N230210AT03		23Y0340	
1770	5	FLANGE WN 300 RF SCH.40S 2"					N230210AT03		23Y0340	
1780	6	FLANGE WN 300 RF SCH.40S 4"					N230210AT03		23Y0340	
1800	6	FLANGE WN 600 LG 125AARH MAX SCH.80S 1/2"					N230210AT03		23Y0340	
1810	12	FLANGE WN 600 LT 125AARH MAX SCH.80S 1/2"					N230210AT03		23Y0340	
1820	5	FLANGE WN 600 LT 125AARH MAX SCH.80S 1"					N230210AT03		23Y0340	
1970	28	FLANGE WN 600RF125AARH S40S 2"					N230210AT03		23Y0340	

**Chemical Analysis: (%)**

Heat No.	C%	Si%	Mn%	P%	S%	Cr%	Mo%	Ni%	Ti%	Al%	N%	Cu%	V%	Nb%	CE%
A182-F304	0.08	1.00	2.00	0.045	0.030	18.00		8.00			0.10				
	0.03	1.00	2.00	0.045	0.030	20.00		11.00							
Min						18.00		8.00							
Max						20.00		13.00			0.10				
N230210AT03	0.019	0.449	1.33	0.038	0.0011	18.13		8.13			0.058				

**Mechanical Properties :**

Heat No:N230210AT03

Specimen No	Dim. Of specimen	Sampling of specimen			Test temp	ASTM A370-2021					ASTM A370-21						
						Yield strength	Yield strength	Tensile Strength	Elongation	Reduction of area	Hardness	Energy of impact test (ISO-V specimen) Charpy size 10mm×10mm×55mm					
		Thickne ss	Width	Location	Direction	Position	R <sub>p0.2</sub> N/mm <sup>2</sup>	R <sub>p1.0</sub> N/mm <sup>2</sup>	R <sub>m</sub> N/mm <sup>2</sup>	A %	Z %	HB	Joule				
A182-F304	mm	mm			T		≥205		≥515	≥30	≥50						
A182-F304L							≥170		≥485	≥30	≥50		1	2	3	Σ/N	
23Y0340	Φ12.5					20	274		540	52	76	156/157					

T : top, B : bottom, L : longitudinal, Tr : transverse, RT : room temperature

Visual inspection

Dimensional check

Surface crack inspection

Renew by zhangchen  
PM&L obo Teckmone

Without Complaint  
Without Complaint  
Without Complaint

We hereby certify that the materials described herein have been manufactured,inspected and tested in accordance with the customer's specification(s),and that they satisfy the requirements.

Date:

2023/5/25

Manufacturer's Authorized Inspection Representative





Contract : P2300

Drawing : 2121-LO40B03-1

## Welding and QC Report Per Spool

Job : P2300S

Material : Stainless Steel 304, 316, 317

Client : NERVION

Revision : 01

Spool : 00997

Spec : QXB-55-M

Project : ALBA

Piece Mark : 2121-LO40B03-1-SP01-00997

## Weld data

## Welding

## Control

Weld No.	Type	Dia	Sch	Weld /Thk	Proc.	1st Pass	1st MTR	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
0001	TW	2	S10S									000797	12-08-2024																
0002	BW	2	S10S	MW.26_BW	AE	10-07-2024	4712055	AE	10-07-2024	4712055		000797	12-08-2024					000931	14-09-2024										
0003	BW	2	S10S	MW.26_BW	AE	10-07-2024	4712055	AE	10-07-2024	4712055		000797	12-08-2024					000931	14-09-2024										
0004	BW	2	S10S	MW.26_BW	AE	09-07-2024	4712055	AE	09-07-2024	4712055		000797	12-08-2024					000931	14-09-2024										

On behalf of Tecnimont / R  
 Piping Supervisor  
 Cristi Sandu  
 25.10.2024 *C. Sandu*

Notes:

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Boccard Portugal QC	Client
 <i>my</i>	Sergio Morales Date: 23-10-24
Signature	
Date 18-09-2024 15:22:23	



## Shop QC Inspection Report

P2308-000822

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

Job number: P2308S  
Spool N°: 00997  
Piece Mark: 2121-LO40B03-1-SP01-00997

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

Control Date: 12-08-2024

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	<input type="checkbox"/>	X
Spool Barcode label printed	X	<input type="checkbox"/>	X
Spool is identified with the metal tag	X	<input type="checkbox"/>	X
Spool stencil required (hard stamp low stress)	<input type="checkbox"/>	X	<input type="checkbox"/>
Joint preparation & cleanliness / spool dimensions checked	X	<input type="checkbox"/>	X
Level, plumb, Two holes, flanges and internal alignment, Squareness	X	<input type="checkbox"/>	X
Material checked (type of material, rate, heat numbers, filler material, etc.)	X	<input type="checkbox"/>	X
Welders list match with actual welder stencil / Id. on pipe	X	<input type="checkbox"/>	X
PWHT- Spool identified as per Procedure / Instruction for PWHT	<input type="checkbox"/>	X	<input type="checkbox"/>
HT ( Hardness Test)- Welds identified as per Procedure / Instruction	<input type="checkbox"/>	X	<input type="checkbox"/>
MT - Welds identified as per Procedure / Instruction	<input type="checkbox"/>	X	<input type="checkbox"/>
PT - Welds identified as per Procedure / Instruction	<input type="checkbox"/>	X	<input type="checkbox"/>
PMI - Welds identified as per Procedure / Instruction	X	<input type="checkbox"/>	X
FE (Ferrite test) - Welds identified as per Procedure / Instruction	<input type="checkbox"/>	X	<input type="checkbox"/>
RT - Welds identified as per Procedure / Instruction	<input type="checkbox"/>	X	<input type="checkbox"/>
UT - Welds identified as per Procedure / Instruction	<input type="checkbox"/>	X	<input type="checkbox"/>
Spool identified (by marker) as per Procedure / Instruction (Job number, sheet number and Paint type if required)	X	<input type="checkbox"/>	X
Hydro - Spool identified as per Procedure / Instruction	<input type="checkbox"/>	X	<input type="checkbox"/>
Cleanliness - Cleaned inside free of slag, scale, sand, weld spatter, cutting chips, etc. and blow out by compressed air	X	<input type="checkbox"/>	X

Comments:

Performed by: MATOS, MARCO (N2 VT/PT)  Date: 12-08-2024  Signature 	QA/QC Inspection: GIL, MIGUEL  Date: 18-09-2024 15:22:23  Signature 	Customer Inspection: <b>Sergio Morales</b>  Date: 23-10-24  
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On behalf of Tecnimont / R  
Piping Supervisor  
Cristi Sandu *C. Sandu*  
25.10.2024

# Visual Examination Report (Welds)

P2308-000797

Contract : P2308

Job number: P2308S

Material: Stainless Steel 304, 316, 317

Client : NERVION

Spool Nº: 00997

Procedure &amp; Instructions: 4274-LZ-VF-W31010370QAC04 - Rev: 1

Project : ALBA

Piece Mark: 2121-LO40B03-1-SP01-00997

Testing Date: 12-08-2024

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

Weld No.	Weld Desc.	Welder	Temp. (°F/°C)	Accepted	Rejected	Defect	Technique Used	Comments
0001	2.0000 S10S TW-Tack Weld ()		28	X			Direct	
0002	2.0000 S10S BW-Buttweld Straight (MW.26_BW)	AE	28	X			Direct	
0003	2.0000 S10S BW-Buttweld Straight (MW.26_BW)	AE	28	X			Direct	
0004	2.0000 S10S BW-Buttweld Straight (MW.26_BW)	AE	28	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)

QA/QC Inspection: GIL, MIGUEL

Customer Inspection:

Date: 12-08-2024

Date: 18-09-2024 15:22:23

Sergio Morales

Signature



Signature



Date: 23-10-24


On behalf of Tecnimon / R  
Piping Supervisor  
Cristi Sandu C. Sandu  
25.10.2024



# Positive Material Identification Report (PMI)

P2308-000931

Client : NERVION  
 Contract : P2308 / Project : ALBA

Remarks: The results refer to the controlled items

Job number: P2308S

Spool N°: 00997

Piece Mark: 2121-LO40B03-1-SP01-00997

Material: Stainless Steel 304, 316, 317

Procedure / Instruction reference: 4274-LZ-VF-FW31010370QAC11 - Rev: 1

PMI Equipment : Niton XL3t800 Serial N° 32735 (FP01)

Equipment Deviation : + - 5%

Testing Date: 14-09-2024

Weld / Item No	Description	Reading Number	Chemical Elements										Accepted	Rejected	Comments
			%Ti	%Mo	%Cu	%Ni	%Fe	%Mn	%Cr	%Nb	%Al	%V			
0002	2.0000 S10S BW-Buttweld Straight (MW.26_BW)	278	0	0	0	8	69	1	19	0	0	0	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
0003	2.0000 S10S BW-Buttweld Straight (MW.26_BW)	280	0	0	0	8	69	1	19	0	0	0	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
0004	2.0000 S10S BW-Buttweld Straight (MW.26_BW)	282	0	0	0	8	69	1	19	0	0	0	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1.1	2.0000 S10S PIPE, SEAMLESS, A312-TP304L (S-23594)	277	0	0	0	8	71	1	18	0	0	0	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1.2	2.0000 S10S PIPE, SEAMLESS, A312-TP304L (S-23594)	281	0	0	0	8	71	1	18	0	0	0	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.1	2.0000 S10S 90 LR ELL, SEAMLESS, A403-WP304L (M220696)	279	0	0	0	8	71	1	18	0	0	0	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.2	2.0000 S10S 90 LR ELL, SEAMLESS, A403-WP304L (M220696)	283	0	0	0	8	71	1	18	0	0	0	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.1	2.0000 S10S WN FLG, RAISED FACE, 150#, A182-F304L (N230210AT03)	276	0	0	0	8	71	1	18	0	0	0	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

On behalf of Tecnicont / R  
 Piping Supervisor  
 Cristi Sandu  
 25.10.2024

Test Performed by: GONCALVES(QA), J. (N2 PT/RT) QA/QC Inspection: GIL, MIGUEL

Date: 14-09-2024

Signature

Date: 18-09-2024 15:22:23

Signature

Customer Inspection:

Sergio Morales

Date:

Signature Date: 23-10-24



Boccard Portugal, Lda  
Zona Industrial de Montalvo, Lote 3  
Constância, Portugal 2250-999

## Certificate of PMI Reading

XL3t-32735

Reading No	278
Mode	ALLOY
Time	2024-09-14 08:40
Duration	7.08
Sequence	Final
Alloy1	304SS : 0.00
Alloy2	No Match : *2.09
Flags	
SAMPLE	
HEAT	
LOT	
BATCH	
MISC	
NOTE	

	%	±	Error
Sb	< LOD	:	0.042
Sn	< LOD	:	0.062
Pd	< LOD	:	0.042
Ag	< LOD	:	0.170
Al	< LOD	:	80.000
Mo	0.040	±	0.009
Nb	< LOD	:	0.009
Zr	< LOD	:	0.007
Bi	< LOD	:	0.015
Pb	< LOD	:	0.020
Se	< LOD	:	0.008
W	< LOD	:	0.126
Zn	< LOD	:	0.037
Cu	< LOD	:	0.185
Ni	8.852	±	0.363
Co	< LOD	:	0.591
Fe	69.902	±	0.545
Mn	1.578	±	0.246
Cr	19.041	±	0.319
V	< LOD	:	0.162
Ti	< LOD	:	0.169

Sergio Morales

Date: 23-10-24



On behalf of Tecnimont / R  
Piping Supervisor  
Cristi Sandu  
25.10.2024 C. Sandu

Boccard Portugal, Lda  
Zona Industrial de Montalvo, Lote 3  
Constância, Portugal 2250-999

## Certificate of PMI Reading

XL3t-32735

Reading No	280
Mode	ALLOY
Time	2024-09-14 08:40
Duration	8.81
Sequence	Final
Alloy1	304SS : 0.20
Alloy2	No Match : *2.09
Flags	
SAMPLE	
HEAT	
LOT	
BATCH	
MISC	
NOTE	

	%	±	Error
Sb	< LOD	:	0.049
Sn	< LOD	:	0.059
Pd	< LOD	:	0.043
Ag	< LOD	:	0.173
Al	< LOD	:	80.000
Mo	0.048	±	0.009
Nb	< LOD	:	0.009
Zr	< LOD	:	0.007
Bi	< LOD	:	0.014
Pb	< LOD	:	0.034
Se	< LOD	:	0.009
W	< LOD	:	0.099
Zn	< LOD	:	0.039
Cu	< LOD	:	0.178
Ni	8.465	±	0.342
Co	< LOD	:	0.567
Fe	69.764	±	0.523
Mn	1.862	±	0.241
Cr	19.255	±	0.307
V	< LOD	:	0.147
Ti	< LOD	:	0.180

Sergio Morales

Date: 23-10-24



On behalf of Tecnimont / R  
Piping Supervisor  
Cristi Sandu  
25.10.2024 C. Sandu

Boccard Portugal, Lda  
Zona Industrial de Montalvo, Lote 3  
Constância, Portugal 2250-999

## Certificate of PMI Reading

XL3t-32735

Reading No	282
Mode	ALLOY
Time	2024-09-14 08:41
Duration	10.79
Sequence	Final
Alloy1	304SS : 0.00
Alloy2	No Match : *2.11
Flags	
SAMPLE	
HEAT	
LOT	
BATCH	
MISC	
NOTE	

	%	±	Error
Sb	< LOD	:	0.038
Sn	< LOD	:	0.049
Pd	< LOD	:	0.039
Ag	< LOD	:	0.147
Al	< LOD	:	80.000
Mo	0.037	±	0.007
Nb	< LOD	:	0.005
Zr	< LOD	:	0.004
Bi	< LOD	:	0.015
Pb	< LOD	:	0.016
Se	< LOD	:	0.006
W	< LOD	:	0.095
Zn	< LOD	:	0.035
Cu	0,192	±	0.081
Ni	8.705	±	0.294
Co	< LOD	:	0.480
Fe	69.996	±	0.444
Mn	1.755	±	0.203
Cr	19.013	±	0.260
V	< LOD	:	0.127
Ti	< LOD	:	0.125

Sergio Morales

Date: 23-10-24



On behalf of Tecnimont / R  
Piping Supervisor  
Cristi Sandu  
25.10.2024 C. Sandu

Boccard Portugal, Lda  
Zona Industrial de Montalvo, Lote 3  
Constância, Portugal 2250-999

## Certificate of PMI Reading

XL3t-32735

Reading No	277
Mode	ALLOY
Time	2024-09-14 08:39
Duration	6.31
Sequence	Final
Alloy1	304SS : 0.72
Alloy2	No Match : 2.49
Flags	
SAMPLE	
HEAT	
LOT	
BATCH	
MISC	
NOTE	

	%	±	Error
Sb	< LOD	:	0.052
Sn	< LOD	:	0.068
Pd	< LOD	:	0.048
Ag	< LOD	:	0.201
Al	< LOD	:	80.000
Mo	< LOD	:	0.010
Nb	< LOD	:	0.009
Zr	< LOD	:	0.008
Bi	< LOD	:	0.011
Pb	< LOD	:	0.021
Se	< LOD	:	0.008
W	< LOD	:	0.108
Zn	< LOD	:	0.052
Cu	< LOD	:	0.187
Ni	8.146	±	0.386
Co	< LOD	:	0.650
Fe	71.812	±	0.594
Mn	1.029	±	0.256
Cr	18.303	±	0.343
V	< LOD	:	0.185
Ti	< LOD	:	0.185

Sergio Morales

Date: 23-10-24



On behalf of Tecnomont / R  
Piping Supervisor  
Cristi Sandu  
25.10.2024 C. Sandu

Boccard Portugal, Lda  
Zona Industrial de Montalvo, Lote 3  
Constância, Portugal 2250-999

## Certificate of PMI Reading

XL3t-32735

Reading No	281
Mode	ALLOY
Time	2024-09-14 08:41
Duration	22.18
Sequence	Final
Alloy1	304SS : 0.75
Alloy2	No Match : 1.70
Flags	
SAMPLE	
HEAT	
LOT	
BATCH	
MISC	
NOTE	

	%	±	Error
Sb	< LOD	:	0.033
Sn	< LOD	:	0.039
Pd	< LOD	:	0.029
Ag	< LOD	:	0.223
Al	< LOD	:	80.000
Mo	< LOD	:	0.008
Nb	< LOD	:	0.006
Zr	< LOD	:	0.004
Bi	< LOD	:	0.008
Pb	< LOD	:	0.015
Se	< LOD	:	0.007
W	< LOD	:	0.086
Zn	< LOD	:	0.025
Cu	< LOD	:	0.112
Ni	8.045	±	0.317
Co	< LOD	:	0.368
Fe	71.001	±	0.648
Mn	1.439	±	0.161
Cr	18.736	±	0.836
V	< LOD	:	0.364
Ti	< LOD	:	0.319

Sergio Morales

Date: 23-10-24



On behalf of Tecnimont / R  
Piping Supervisor  
Cristi Sandu  
25.10.2024 C. Sandu

Boccard Portugal, Lda  
Zona Industrial de Montalvo, Lote 3  
Constância, Portugal 2250-999

## Certificate of PMI Reading

XL3t-32735

Reading No	279
Mode	ALLOY
Time	2024-09-14 08:40
Duration	21.92
Sequence	Final
Alloy1	304SS : 0.79
Alloy2	No Match : 1.93
Flags	
SAMPLE	
HEAT	
LOT	
BATCH	
MISC	
NOTE	

	%	±	Error
Sb	< LOD	:	0.029
Sn	< LOD	:	0.038
Pd	< LOD	:	0.029
Ag	< LOD	:	0.186
Al	< LOD	:	80.000
Mo	0.083	±	0.008
Nb	< LOD	:	0.006
Zr	< LOD	:	0.004
Bi	< LOD	:	0.011
Pb	< LOD	:	0.009
Se	< LOD	:	0.007
W	< LOD	:	0.074
Zn	< LOD	:	0.023
Cu	0.305	±	0.065
Ni	8.282	±	0.301
Co	< LOD	:	0.350
Fe	71.038	±	0.573
Mn	1.722	±	0.159
Cr	18.045	±	0.758
V	< LOD	:	0.206
Ti	< LOD	:	0.278

Sergio Morales

Date: 23-10-24



On behalf of Tecnimont / R  
Piping Supervisor  
Cristi Sandu  
25.10.2024 C. Sandu

Boccard Portugal, Lda  
Zona Industrial de Montalvo, Lote 3  
Constância, Portugal 2250-999

## Certificate of PMI Reading

XL3t-32735

Reading No	283
Mode	ALLOY
Time	2024-09-14 08:42
Duration	8.65
Sequence	Final
Alloy1	304SS : 0.32
Alloy2	No Match : *2.11
Flags	
SAMPLE	
HEAT	
LOT	
BATCH	
MISC	
NOTE	

	%	±	Error
Sb	< LOD	:	0.045
Sn	< LOD	:	0.059
Pd	< LOD	:	0.043
Ag	< LOD	:	0.181
Al	< LOD	:	80.000
Mo	0.043	±	0.009
Nb	< LOD	:	0.006
Zr	< LOD	:	0.005
Bi	< LOD	:	0.016
Pb	< LOD	:	0.003
Se	< LOD	:	0.011
W	< LOD	:	0.105
Zn	< LOD	:	0.036
Cu	0.222	±	0.094
Ni	8.065	±	0.331
Co	< LOD	:	0.560
Fe	71.206	±	0.512
Mn	1.370	±	0.226
Cr	18.412	±	0.296
V	< LOD	:	0.148
Ti	< LOD	:	0.177

Sergio Morales

Date: 23-10-24



On behalf of Tecnimont / R  
Piping Supervisor  
Cristi Sandu  
25.10.2024 C. Sandu

Boccard Portugal, Lda  
Zona Industrial de Montalvo, Lote 3  
Constância, Portugal 2250-999

## Certificate of PMI Reading

XL3t-32735

---

Reading No	276
Mode	ALLOY
Time	2024-09-14 08:39
Duration	4.96
Sequence	Final
Alloy1	304SS : 0.11
Alloy2	No Match : *2.07
Flags	
SAMPLE	
HEAT	
LOT	
BATCH	
MISC	
NOTE	

---

	%	±	Error
Sb	< LOD	:	0.060
Sn	< LOD	:	0.074
Pd	< LOD	:	0.059
Ag	< LOD	:	0.166
Al	< LOD	:	80.000
Mo	0.068	±	0.015
Nb	< LOD	:	0.008
Zr	< LOD	:	0.007
Bi	< LOD	:	0.022
Pb	< LOD	:	0.042
Se	< LOD	:	0.010
W	< LOD	:	0.134
Zn	< LOD	:	0.048
Cu	< LOD	:	0.246
Ni	8.645	±	0.461
Co	< LOD	:	0.758
Fe	71.260	±	0.694
Mn	1.229	±	0.304
Cr	18.142	±	0.399
V	< LOD	:	0.205
Ti	< LOD	:	0.211

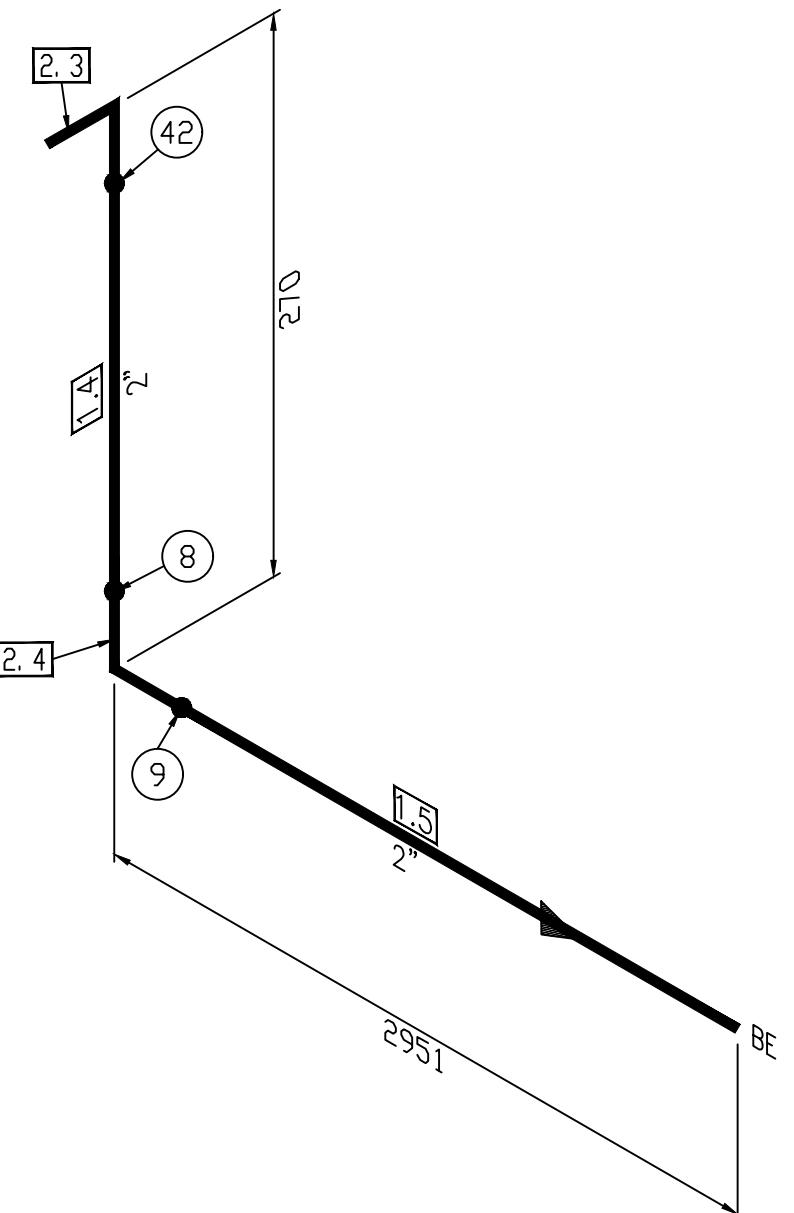
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Sergio Morales

Date: 23-10-24



On behalf of Tecnimont / R  
Piping Supervisor  
Cristi Sandu  
25.10.2024 C. Sandu

<div style="text-align: center; padding: 10px;">       <p>On behalf of Tecnimont / R Piping Supervisor Cristi Sandu <i>C. Sandu</i> 25.10.2024</p> </div>	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th colspan="6" style="text-align: center;"><b>BILL OF MATERIAL</b></th> </tr> <tr> <th colspan="6" style="text-align: center;"><b>PIPE</b></th> </tr> <tr> <th>ITEM</th> <th>LENGTH</th> <th>DIAMETER</th> <th>SCH/mm</th> <th>DESCRIPTION / MATERIAL</th> <th>ITEM CODE</th> </tr> </thead> <tbody> <tr> <td>1.4</td> <td>0,114</td> <td>2"</td> <td>S-10S</td> <td>PIPE - A312-TP304/304L DUAL GR BE SMLS, BExBE</td> <td>I3364302</td> </tr> <tr> <td>1.5</td> <td>2,873</td> <td>2"</td> <td>S-10S</td> <td>PIPE - A312-TP304/304L DUAL GR BE SMLS, BExBE</td> <td>I3364302</td> </tr> <tr> <th colspan="6" style="text-align: center;"><b>WELD FITTINGS</b></th> </tr> <tr> <th>ITEM</th> <th>QT</th> <th>DIAMÉTRE</th> <th>SCH/mm</th> <th>DESCRIPTION / MATERIEL</th> <th>ITEM CODE</th> </tr> <tr> <td>2.3</td> <td>1</td> <td>2"</td> <td>S-10S</td> <td>90 LR ELBOW ASME B16.9 A403-WP304/304L DG BE SMLS</td> <td>I2259133</td> </tr> <tr> <td>2.4</td> <td>1</td> <td>2"</td> <td>S-10S</td> <td>90 LR ELBOW ASME B16.9 A403-WP304/304L DG BE SMLS</td> <td>I2259133</td> </tr> </tbody> </table> <div style="text-align: right; margin-top: 10px;"> <span>P2308S 00998</span>    <span>2121-LO40B03-1-SP03-00998</span> </div> <div style="text-align: right; margin-top: 10px;">  </div> <div style="text-align: right; margin-top: 10px;"> <span>Weld Map Sticker</span> </div>	<b>BILL OF MATERIAL</b>						<b>PIPE</b>						ITEM	LENGTH	DIAMETER	SCH/mm	DESCRIPTION / MATERIAL	ITEM CODE	1.4	0,114	2"	S-10S	PIPE - A312-TP304/304L DUAL GR BE SMLS, BExBE	I3364302	1.5	2,873	2"	S-10S	PIPE - A312-TP304/304L DUAL GR BE SMLS, BExBE	I3364302	<b>WELD FITTINGS</b>						ITEM	QT	DIAMÉTRE	SCH/mm	DESCRIPTION / MATERIEL	ITEM CODE	2.3	1	2"	S-10S	90 LR ELBOW ASME B16.9 A403-WP304/304L DG BE SMLS	I2259133	2.4	1	2"	S-10S	90 LR ELBOW ASME B16.9 A403-WP304/304L DG BE SMLS	I2259133	
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					Tolerances:	ASME B31.3																																																		

# Spool Material List

Contract : P2308

Client NERVION

Job : P2308S

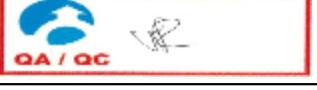
Project ALBA

Job	Spool	Piece Mark	Drawing	Rev						
Item No	Qty	Size1	Sch1	Size2	Sch2	Description	Heat No	Unit	Weight	Kgs
Tag No							MTR No			
ID No							Folder No			
P2308S	00998	2121-LO40B03-1-SP03-00998	2121-LO40B03-1	01						
1.5	2,873	2.0000	S10S	0.0000	NA	PIPE, SEAMLESS, A312-TP304L	S-23594	3,93	11,29	
40391							0357			
1.4	,114	2.0000	S10S	0.0000	NA	PIPE, SEAMLESS, A312-TP304L	S-23594	3,93	0,45	
40391							0357			
2.4	1	2.0000	S10S	0.0000	NA	90 LR ELL, SEAMLESS, A403-WP304L	M220696	0,49	0,49	
42965							0410			
2.3	1	2.0000	S10S	0.0000	NA	90 LR ELL, SEAMLESS, A403-WP304L	M220696	0,49	0,49	
42965							0410			

On behalf of Tecnimont / R  
 Piping Supervisor  
 Cristi Sandu *C. Sandu*  
 25.10.2024

Number of Items : 4

Total Weight : 12,72

Signature	QA	Client
		Sergio Morales Date: 23-10-24
Date	2024-09-23 14:17:41	

<b>CTA Group</b>	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

**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**

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

**INSPECTION CERTIFICATE****In Accordance with EN 10204/3.1**

<b>Customer:</b> Commerciale Tubi Acciaio S.P.A.	<b>T.C No :</b> 680	<b>Date:</b> 26.03.2022
<b>Product :</b> Austenitic S.S Seamless Cold Finish,Solution Annealed,Pickled & Passivated Pipes.	<b>P.O.No :</b> OS-0000175	<b>Date:</b> 14.10.2021
	<b>W.O.No :</b> 2122/OEP400035	<b>Date:</b> 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					Max-90 HRB	100 Joule Min.(AVG)	N/A	ASTM A-262 Practice"E" & ISO 3651-2 Method "A"				
		Rp0.2% Mpa	Rp1 % Mpa							Satisfactory				
MAX	690	--	--	--										
MIN	515	205	230	40										
S-23594	624.31	316.22	322.57	55.21	25.40	Satisfactory	76-78							
	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 requirement 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.

Prepared by

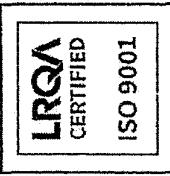
**COMMERCIALE TUBI ACCIAIO S.P.A.****QUALITY CONTROL DEPARTMENT**

For, Suraj Limited.  
C.I.Nayak  
Dept,Head Quality

Page no. 01 of 12

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



Approved No:1509001-00400  
RCO Cert No:0343/P/2014/UW/101007/3

## INSPECTION CERTIFICATE



RACCORDI TUBI S.P.A.

Order No.: 22TEC003  
(注文番号)

P.O. No. : 000000150 S

Order: 7500118979 - 26.01.24 - Item n.: 61 - Project: 4274 - PP+PE Sines (Portugal) EPC - Our ref.: OCVEIT202400000474

**Customer:**

TECNIMONT S.p.A.

**Description:**

CURVE 90° LR 2" SCH.10/S SEAMLESS  
I2259133

 raccortubi

Heat num., or Pcs. marking: M220696 - Qty.71.00

Protocol: CTCERC202400003104 \* CERTIFIED TRUE COPY

\* Issued 03-04-2024

Remarks \* Harness acc. to NACE MRO175 / ISO 15156-3: 2015 MRO103/2015

UNITED PACIFIC AD CORROSION TEST (ASTM A1262/EN) - ON BMU CHECK GOOD ISO 9001 / EN 10204-3 PED 2014/68/EU ANNEX I SECTION 1.3

STUDENTS WHO ARE ELIGIBLE FOR THE AUTOMATIC SECTION 495  
EXAMINATION

HEAT TREATMENT 1050 DEGREE CELCIUS QUENCHED IN WATER WITHIN MINUTES TO BELOW 40°C.

MATERIAL WAS MANUFACTURED, SAMPLLED, TESTED AND INSPECTED IN ACCORDANCE WITH INDICATED SPECIFICATIONS AND WAS

WEBB REPAIR WAS PERFORMED AND ALL ITEMS SUPPLIED ARE FREE OF WEBB 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、注文の要件に適合する事を証明します。)

Head of QA/QC Dept  
QA/QC 部門經理

Head of QA/QC Dept  
QA/QC 部門經理



Contract : P2300

Drawing : 2121-LO40B03-1

## Welding and QC Report Per Spool

Job : P2300S

Material : Stainless Steel 304, 316, 317

Client : NERVION

Revision : 01

Spool : 00998

Spec : QXB-55-M

Project : ALBA

Piece Mark : 2121-LO40B03-1-SP03-00998

Weld data

Welding

Control

Weld No.	Type	Dia	Sch	Weld /Thk	Proc.	1st Pass	1st MTR	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	2	S10S	MW.26_BW	AE	09-07-2024	4712055	AE	09-07-2024	4712055			000798	12-08-2024				000935	14-09-2024										
0009	BW	2	S10S	MW.26_BW	AE	09-07-2024	4712055	AE	09-07-2024	4712055			000798	12-08-2024				000935	14-09-2024										
0042	BW	2	S10S	MW.26_BW	AE	09-07-2024	4712055	AE	09-07-2024	4712055			000798	12-08-2024				000935	14-09-2024										

On behalf of Tecnimont / R  
 Piping Supervisor  
 Cristi Sandu  
 25.10.2024

Notes:

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Signature	Boccard Portugal QC	Client
		Sergio Morales Date: 23-10-24
Date	23-09-2024 14:17:41	



# Shop QC Inspection Report

P2308-000823

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

Job number: P2308S  
 Spool N°: 00998  
 Piece Mark: 2121-LO40B03-1-SP03-00998

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

Control Date: 12-08-2024

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	<input type="checkbox"/>	X
Spool Barcode label printed	X	<input type="checkbox"/>	X
Spool is identified with the metal tag	X	<input type="checkbox"/>	X
Spool stencil required (hard stamp low stress)	<input type="checkbox"/>	X	<input type="checkbox"/>
Joint preparation & cleanliness / spool dimensions checked	X	<input type="checkbox"/>	X
Level, plumb, Two holes, flanges and internal alignment, Squareness	X	<input type="checkbox"/>	X
Material checked (type of material, rate, heat numbers, filler material, etc.)	X	<input type="checkbox"/>	X
Welders list match with actual welder stencil / Id. on pipe	X	<input type="checkbox"/>	X
PWHT- Spool identified as per Procedure / Instruction for PWHT	<input type="checkbox"/>	X	<input type="checkbox"/>
HT ( Hardness Test)- Welds identified as per Procedure / Instruction	<input type="checkbox"/>	X	<input type="checkbox"/>
MT - Welds identified as per Procedure / Instruction	<input type="checkbox"/>	X	<input type="checkbox"/>
PT - Welds identified as per Procedure / Instruction	<input type="checkbox"/>	X	<input type="checkbox"/>
PMI - Welds identified as per Procedure / Instruction	X	<input type="checkbox"/>	X
FE (Ferrite test) - Welds identified as per Procedure / Instruction	<input type="checkbox"/>	X	<input type="checkbox"/>
RT - Welds identified as per Procedure / Instruction	<input type="checkbox"/>	X	<input type="checkbox"/>
UT - Welds identified as per Procedure / Instruction	<input type="checkbox"/>	X	<input type="checkbox"/>
Spool identified (by marker) as per Procedure / Instruction (Job number, sheet number and Paint type if required)	X	<input type="checkbox"/>	X
Hydro - Spool identified as per Procedure / Instruction	<input type="checkbox"/>	X	<input type="checkbox"/>
Cleanliness - Cleaned inside free of slag, scale, sand, weld spatter, cutting chips, etc. and blow out by compressed air	X	<input type="checkbox"/>	X

Comments:

Performed by: MATOS, MARCO (N2 VT/PT)  Date: 12-08-2024  Signature 	QA/QC Inspection: RAIMUNDO, MARIANA  Date: 23-09-2024 14:17:41  Signature 	Customer Inspection:  <b>Sergio Morales</b>  Date: 23-10-24  
--	---	--

On behalf of Tecnimont / R  
 Piping Supervisor  
 Cristi Sandu   
 25.10.2024

# Visual Examination Report (Welds)

P2308-000798

Contract : P2308

Job number: P2308S

Material: Stainless Steel 304, 316, 317

Client : NERVION

Spool Nº: 00998

Procedure &amp; Instructions: 4274-LZ-VF-W31010370QAC04 - Rev: 1

Project : ALBA

Piece Mark: 2121-LO40B03-1-SP03-00998

Testing Date: 12-08-2024

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

Weld No.	Weld Desc.	Identification		Temp. (°F/°C)	Accepted	Rejected	Defect	Technique Used	Comments
		Welder							
0009	2.0000 S10S BW-Buttweld Straight (MW.26_BW)	AE	28	X				Direct	
0008	2.0000 S10S BW-Buttweld Straight (MW.26_BW)	AE	28	X				Direct	
0042	2.0000 S10S BW-Buttweld Straight (MW.26_BW)	AE	28	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)

QA/QC Inspection: RAIMUNDO, MARIANA

Customer Inspection:

Date: 12-08-2024

Date: 23-09-2024 14:17:41

Sergio Morales

Signature



Signature



Date: 23-10-24



On behalf of Tecnimon / R  
Piping Supervisor  
Cristi Sandu  
25.10.2024 C. Sandu



# Positive Material Identification Report (PMI)

P2308-000935

Client : NERVION

Contract : P2308 / Project : ALBA

Remarks: The results refer to the controlled items

Job number: P2308S

Spool N°: 00998

Piece Mark: 2121-LO40B03-1-SP03-00998

Material: Stainless Steel 304, 316, 317

Procedure / Instruction reference: 4274-LZ-VF-FW31010370QAC11 - Rev: 1

PMI Equipment : Niton XL3t800 Serial N° 32735 (FP01)

Equipment Deviation : + - 5%

Testing Date: 14-09-2024

Weld / Item No	Description	Reading Number	Chemical Elements										Accepted	Rejected	Comments
			%Ti	%Mo	%Cu	%Ni	%Fe	%Mn	%Cr	%Nb	%Al	%V			
0008	2.0000 S10S BW-Buttweld Straight (MW.26_BW)	272	0	0	0	8	69	1	18	0	0	0	X		
0009	2.0000 S10S BW-Buttweld Straight (MW.26_BW)	270	0	0	0	8	69	1	19	0	0	0	X		
0042	2.0000 S10S BW-Buttweld Straight (MW.26_BW)	274	0	0	0	8	69	1	19	0	0	0	X		
1.4	2.0000 S10S PIPE, SEAMLESS, A312-TP304L (S-23594)	273	0	0	0	8	71	1	17	0	0	0	X		
1.5	2.0000 S10S PIPE, SEAMLESS, A312-TP304L (S-23594)	269	0	0	0	7	71	1	18	0	0	0	X		
2.3	2.0000 S10S 90 LR ELL, SEAMLESS, A403-WP304L (M220696)	275	0	0	0	8	71	1	18	0	0	0	X		
2.4	2.0000 S10S 90 LR ELL, SEAMLESS, A403-WP304L (M220696)	271	0	0	0	8	71	1	17	0	0	0	X		

On behalf of Tecnimont / R  
Piping Supervisor  
Cristi Sandu  
25.10.2024 C. Sandu

Test Performed by: GONCALVES(QA), J. (N2 PT/RT) QA/QC Inspection: RAIMUNDO, MARIANA

Customer Inspection:

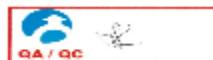
Date: 14-09-2024

Signature



Date: 23-09-2024 14:17:41

Signature



Sergio Morales

Date: 23-10-24



Boccard Portugal, Lda  
Zona Industrial de Montalvo, Lote 3  
Constância, Portugal 2250-999

## Certificate of PMI Reading

XL3t-32735

Reading No	272
Mode	ALLOY
Time	2024-09-14 08:37
Duration	7.89
Sequence	Final
Alloy1	304SS : 0.27
Alloy2	No Match : *2.11
Flags	
SAMPLE	
HEAT	
LOT	
BATCH	
MISC	
NOTE	

	%	±	Error
Sb	< LOD	:	0.046
Sn	< LOD	:	0.056
Pd	< LOD	:	0.042
Ag	< LOD	:	0.179
Al	< LOD	:	80.000
Mo	0.046	±	0.009
Nb	< LOD	:	0.010
Zr	< LOD	:	0.004
Bi	< LOD	:	0.020
Pb	< LOD	:	0.025
Se	< LOD	:	0.010
W	< LOD	:	0.105
Zn	< LOD	:	0.039
Cu	< LOD	:	0.181
Ni	8.687	±	0.346
Co	< LOD	:	0.572
Fe	69.818	±	0.525
Mn	1.890	±	0.242
Cr	18.919	±	0.306
V	< LOD	:	0.143
Ti	< LOD	:	0.158

Sergio Morales



Date: 23-10-24

On behalf of Tecnimont / R  
Piping Supervisor  
Cristi Sandu *C. Sandu*  
25.10.2024

Boccard Portugal, Lda  
Zona Industrial de Montalvo, Lote 3  
Constância, Portugal 2250-999

## Certificate of PMI Reading

XL3t-32735

Reading No	270
Mode	ALLOY
Time	2024-09-14 08:37
Duration	6.57
Sequence	Final
Alloy1	304SS : 0.09
Alloy2	No Match : *2.08
Flags	
SAMPLE	
HEAT	
LOT	
BATCH	
MISC	
NOTE	

	%	±	Error
Sb	< LOD	:	0.049
Sn	< LOD	:	0.062
Pd	< LOD	:	0.047
Ag	< LOD	:	0.182
Al	< LOD	:	80.000
Mo	0.078	±	0.012
Nb	< LOD	:	0.010
Zr	< LOD	:	0.005
Bi	< LOD	:	0.002
Pb	< LOD	:	0.026
Se	< LOD	:	0.008
W	< LOD	:	0.088
Zn	< LOD	:	0.052
Cu	< LOD	:	0.203
Ni	8.670	±	0.379
Co	< LOD	:	0.622
Fe	69.832	±	0.573
Mn	1.786	±	0.264
Cr	19.042	±	0.336
V	< LOD	:	0.164
Ti	< LOD	:	0.196

Sergio Morales

Date: 23-10-24



On behalf of Tecnimont / R  
Piping Supervisor  
Cristi Sandu *C. Sandu*  
25.10.2024

Boccard Portugal, Lda  
Zona Industrial de Montalvo, Lote 3  
Constância, Portugal 2250-999

## Certificate of PMI Reading

XL3t-32735

Reading No	274
Mode	ALLOY
Time	2024-09-14 08:38
Duration	15.07
Sequence	Final
Alloy1	304SS : 0.34
Alloy2	No Match : *2.11
Flags	
SAMPLE	
HEAT	
LOT	
BATCH	
MISC	
NOTE	

	%	±	Error
Sb	< LOD	:	0.028
Sn	< LOD	:	0.040
Pd	< LOD	:	0.027
Ag	< LOD	:	0.145
Al	< LOD	:	80.000
Mo	0.040	±	0.006
Nb	< LOD	:	0.006
Zr	< LOD	:	0.003
Bi	< LOD	:	0.011
Pb	< LOD	:	0.013
Se	< LOD	:	0.006
W	< LOD	:	0.064
Zn	< LOD	:	0.025
Cu	< LOD	:	0.117
Ni	8.777	±	0.235
Co	< LOD	:	0.384
Fe	69.633	±	0.355
Mn	1.683	±	0.162
Cr	19.323	±	0.209
V	< LOD	:	0.102
Ti	< LOD	:	0.128

Sergio Morales

Date: 23-10-24



On behalf of Tecnimont / R  
Piping Supervisor  
Cristi Sandu  
25.10.2024 C. Sandu

Boccard Portugal, Lda  
Zona Industrial de Montalvo, Lote 3  
Constância, Portugal 2250-999

## Certificate of PMI Reading

XL3t-32735

Reading No	273
Mode	ALLOY
Time	2024-09-14 08:38
Duration	15.29
Sequence	Final
Alloy1	304SS : 1.73
Alloy2	No Match : *1.96
Flags	
SAMPLE	
HEAT	
LOT	
BATCH	
MISC	
NOTE	

	%	±	Error
Sb	< LOD	:	0.033
Sn	< LOD	:	0.039
Pd	< LOD	:	0.030
Ag	< LOD	:	0.124
Al	< LOD	:	80.000
Mo	0.039	±	0.006
Nb	< LOD	:	0.004
Zr	< LOD	:	0.003
Bi	< LOD	:	0.011
Pb	< LOD	:	0.010
Se	< LOD	:	0.006
W	< LOD	:	0.060
Zn	< LOD	:	0.023
Cu	0.266	±	0.068
Ni	8.081	±	0.233
Co	< LOD	:	0.389
Fe	71.982	±	0.361
Mn	1.365	±	0.158
Cr	17.836	±	0.206
V	0.132	±	0.055
Ti	< LOD	:	0.125

Sergio Morales

Date: 23-10-24



On behalf of Tecnimont / R  
Piping Supervisor  
Cristi Sandu *C. Sandu*  
25.10.2024

Boccard Portugal, Lda  
Zona Industrial de Montalvo, Lote 3  
Constância, Portugal 2250-999

## Certificate of PMI Reading

XL3t-32735

Reading No	269
Mode	ALLOY
Time	2024-09-14 08:37
Duration	8.43
Sequence	Final
Alloy1	304SS : 1.16
Alloy2	No Match : 1.83
Flags	
SAMPLE	
HEAT	
LOT	
BATCH	
MISC	
NOTE	

	%	±	Error
Sb	< LOD	:	0.047
Sn	< LOD	:	0.056
Pd	< LOD	:	0.043
Ag	< LOD	:	0.155
Al	< LOD	:	80.000
Mo	0.133	±	0.014
Nb	< LOD	:	0.009
Zr	< LOD	:	0.005
Bi	< LOD	:	0.011
Pb	< LOD	:	0.028
Se	< LOD	:	0.010
W	< LOD	:	0.104
Zn	< LOD	:	0.036
Cu	0.258	±	0.092
Ni	7.961	±	0.318
Co	< LOD	:	0.542
Fe	71.351	±	0.492
Mn	1.553	±	0.221
Cr	18.001	±	0.283
V	< LOD	:	0.147
Ti	< LOD	:	0.166

Sergio Morales

Date: 23-10-24



On behalf of Tecnimont / R  
Piping Supervisor  
Cristi Sandu *C. Sandu*  
25.10.2024

Boccard Portugal, Lda  
Zona Industrial de Montalvo, Lote 3  
Constância, Portugal 2250-999

## Certificate of PMI Reading

XL3t-32735

Reading No	275
Mode	ALLOY
Time	2024-09-14 08:38
Duration	7.42
Sequence	Final
Alloy1	304SS : 0.32
Alloy2	No Match : *2.12
Flags	
SAMPLE	
HEAT	
LOT	
BATCH	
MISC	
NOTE	

	%	±	Error
Sb	< LOD	:	0.045
Sn	< LOD	:	0.061
Pd	< LOD	:	0.043
Ag	< LOD	:	0.160
Al	< LOD	:	80.000
Mo	< LOD	:	0.008
Nb	< LOD	:	0.006
Zr	< LOD	:	0.004
Bi	< LOD	:	0.015
Pb	< LOD	:	0.015
Se	< LOD	:	0.008
W	< LOD	:	0.101
Zn	< LOD	:	0.026
Cu	< LOD	:	0.168
Ni	8.205	±	0.345
Co	< LOD	:	0.576
Fe	71.889	±	0.532
Mn	1.336	±	0.234
Cr	18.089	±	0.305
V	< LOD	:	0.166
Ti	< LOD	:	0.160

Sergio Morales

Date: 23-10-24



On behalf of Tecnimont / R  
Piping Supervisor  
Cristi Sandu *C. Sandu*  
25.10.2024

Boccard Portugal, Lda  
Zona Industrial de Montalvo, Lote 3  
Constância, Portugal 2250-999

## Certificate of PMI Reading

XL3t-32735

Reading No	271
Mode	ALLOY
Time	2024-09-14 08:37
Duration	7.35
Sequence	Final
Alloy1	304SS : 1.74
Alloy2	No Match : *1.86
Flags	
SAMPLE	
HEAT	
LOT	
BATCH	
MISC	
NOTE	

	%	±	Error
Sb	< LOD	:	0.049
Sn	< LOD	:	0.059
Pd	< LOD	:	0.049
Ag	< LOD	:	0.101
Al	< LOD	:	80.000
Mo	0.061	±	0.011
Nb	< LOD	:	0.007
Zr	< LOD	:	0.007
Bi	< LOD	:	0.002
Pb	< LOD	:	0.032
Se	< LOD	:	0.011
W	< LOD	:	0.107
Zn	< LOD	:	0.042
Cu	< LOD	:	0.197
Ni	8.291	±	0.362
Co	< LOD	:	0.601
Fe	71.811	±	0.551
Mn	1.498	±	0.246
Cr	17.801	±	0.314
V	< LOD	:	0.157
Ti	< LOD	:	0.167

Sergio Morales

Date: 23-10-24



On behalf of Tecnimont / R  
Piping Supervisor  
Cristi Sandu  
25.10.2024 C. Sandu



# Spool Material List

Contract : P2308

Client NERVION

Job : P2308S

Project ALBA

Job	Spool	Piece Mark	Drawing	Rev				
Item No	Qty	Size1	Sch1	Size2	Description	Heat No	Unit	Weight
Tag No						MTR No	Weight	Kgs
ID No						Folder No		
P2308S	01153	2121-LO40B03-1-SP02-01153	2121-LO40B03-1	01				
1.3	4,536	2.0000	S10S	0.0000	NA PIPE, SEAMLESS, A312-TP304L	NY231216AS15 0391	3,93	17,83
40391								

On behalf of Tecnimont / R  
 Piping Supervisor  
 Cristi Sandu  
 25.10.2024 *C. Sandu*

Number of Items : 1

Total Weight : 17,83

Signature	QA	Client
		Sergio Morales Date: 23-10-24 
Date	2024-10-15 14:54:42	

 Stainless Steel Experience				 DNV GL GROUP				<b>CERTIFICATO DI COLLAUDO</b> <b>WORK TEST CERTIFICATE</b> EN 10204/3.1 DIN 50049/3.1 NR. BD24016251 DEL 11/06/24												<b>Delivery Note</b> NR. BD24016251 DEL 11/06/24				<b>CLIENTE:</b> PANTALONE S.R.L. <b>CUSTOMER</b> VIA DON PRIMO MAZZOLARI, 21 - Z.I. SELVAIEZZI 66100 CHIETI (CHIETI SCALO) CH							
<b>RIF. DDT</b> BD24016251																															

**ANALISI CHIMICA - CHEMICAL COMPOSITION**

COLATA	QTA'	CODICE	DESCRIZIONE	MATERIALE	C%	Si%	Mn%	S%	P%	Ni%	Cr%	Mo%	Al%	Cu%	Ti%	N%
HEAT NO.	Q.TY	CODE	DESCRIPTION	MATERIAL	C%	Si%	Mn%	S%	P%	Ni%	Cr%	Mo%	Al%	Cu%	Ti%	N%
			Ns. Ordine Cliente Nr. OC24017381 del 11/06/24													
			Vs. Ordine Cliente Nr. 2024-BOF-0001035 del 11/06/24													
NY231216AS1 5	134,40	946#200010304	TUBO SMLS ASTM/ASME A/SA312/A999 2" (60.3) SCH10S (2.77) AISI 304/304L	TP304/304L-1.4301/1.4307	0,022	0,4	1,37	0,001	0,035	8,03	18,34					0,076
NY231216AS1 5	106,40	946#200010304	TUBO SMLS ASTM/ASME A/SA312/A999 2" (60.3) SCH10S (2.77) AISI 304/304L	TP304/304L-1.4301/1.4307	0,022	0,4	1,37	0,001	0,035	8,03	18,34					0,076

Note - Notes

Firma  
Signature

I dati dell'analisi chimica e delle prove meccaniche corrispondono fedelmente al certificato inviato dal fabbricante del materiale base e/o dal laboratorio che ha effettuato le prove. I certificati sono conservati nel nostro archivio.  
 The chemical analysis and mechanical properties fully comply with the certificate issued by the manufacturer of the basic material and/or by the laboratory carrying out test. The certificates are kept in our archives.

 <b>TECNICATRE</b> Stainless Steel Experience  <b>TECNICA TRE s.r.l.</b> 36061 BASSANO DEL GR. -VI- Via delle Viole, 16 - Tel. +39 0424 Fax: Sede legale: Via delle Viole, 16 36061 BASSANO DEL GR. -VI- Partita Iva 02523320246 - R.I. VI-1996-149	<b>CERTIFICATO DI COLLAUDO</b> <b>WORK TEST CERTIFICATE</b>  EN 10204/3.1 DIN 50049/3.1 NR. BD24016251 DEL 11/06/24	<b>Delivery Note</b>  NR. BD24016251 DEL 11/06/24	<b>CLIENTE:</b> PANTALONE S.R.L. <b>CUSTOMER</b>  VIA DON PRIMO MAZZOLARI, 21 - Z.I. SELVAIEZZI 66100 CHIETI (CHIETI SCALO) CH
			<b>RIF. DDT</b> BD24016251

**CARATTERISTICHE MECCANICHE - MECHANICAL TEST**

COLATA Heat no.	SNERVAMENTO yield point - N/mm <sup>2</sup>	ROTTURA tensile - N/mm <sup>2</sup>	ALLUNGAMENTO elongation - %	CONTRAZIONE red of area - %	DUREZZA hardness - %
NY231216AS15	320,0	545,0	44,5	0,0	0,0
NY231216AS15	320,0	545,0	44,5	0,0	0,0

Note - Notes

Firma  
Signature

I dati dell'analisi chimica e delle prove meccaniche corrispondono fedelmente al certificato inviato dal fabbricante del materiale base e/o dal laboratorio che ha effettuato le prove. I certificati sono conservati nel nostro archivio.  
The chemical analysis and mechanical properties fully comply with the certificate issued by the manufacturer of the basic material and/or by the laboratory carrying out test. The certificates are kept in our archives.



Contract : P2300

Drawing : 2121-LO40B03-1

## Welding and QC Report Per Spool

Job : P2300S

Material : Stainless Steel 304, 316, 317

Client : NERVION

Revision : 01

Project : ALBA

Piece Mark : 2121-LO40B03-1-SP02-01153

Spec : QXB-55-M

Weld data				Welding												Control														
Weld No.	Type	Dia	Sch	Weld /Thk	1st Proc.	Pass	1st Pass	MTR	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
0005	SP	2	S10S										001103	09-10-2024																

On behalf of Tecimont / R  
Piping Supervisor  
Cristi Sandu  
25.10.2024 C. Sandu

Notes:

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Boccard Portugal QC	Client
	Sergio Morales Date: 23-10-24
15-10-2024 14:54:42	



# Shop QC Inspection Report

P2308-001143

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

Job number: P2308S  
 Spool N°: 01153  
 Piece Mark: 2121-LO40B03-1-SP02-01153

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

Control Date: 09-10-2024

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	<input type="checkbox"/>	X
Spool Barcode label printed	X	<input type="checkbox"/>	X
Spool is identified with the metal tag	X	<input type="checkbox"/>	X
Spool stencil required (hard stamp low stress)	<input type="checkbox"/>	X	<input type="checkbox"/>
Joint preparation & cleanliness / spool dimensions checked	X	<input type="checkbox"/>	X
Level, plumb, Two holes, flanges and internal alignment, Squareness	X	<input type="checkbox"/>	X
Material checked (type of material, rate, heat numbers, filler material, etc.)	X	<input type="checkbox"/>	X
Welders list match with actual welder stencil / Id. on pipe	X	<input type="checkbox"/>	X
PWHT- Spool identified as per Procedure / Instruction for PWHT	<input type="checkbox"/>	X	<input type="checkbox"/>
HT ( Hardness Test)- Welds identified as per Procedure / Instruction	<input type="checkbox"/>	X	<input type="checkbox"/>
MT - Welds identified as per Procedure / Instruction	<input type="checkbox"/>	X	<input type="checkbox"/>
PT - Welds identified as per Procedure / Instruction	<input type="checkbox"/>	X	<input type="checkbox"/>
PMI - Welds identified as per Procedure / Instruction	X	<input type="checkbox"/>	X
FE (Ferrite test) - Welds identified as per Procedure / Instruction	<input type="checkbox"/>	X	<input type="checkbox"/>
RT - Welds identified as per Procedure / Instruction	<input type="checkbox"/>	X	<input type="checkbox"/>
UT - Welds identified as per Procedure / Instruction	<input type="checkbox"/>	X	<input type="checkbox"/>
Spool identified (by marker) as per Procedure / Instruction (Job number, sheet number and Paint type if required)	X	<input type="checkbox"/>	X
Hydro - Spool identified as per Procedure / Instruction	<input type="checkbox"/>	X	<input type="checkbox"/>
Cleanliness - Cleaned inside free of slag, scale, sand, weld spatter, cutting chips, etc. and blow out by compressed air	X	<input type="checkbox"/>	X

Comments:

Performed by: MATOS, MARCO (N2 VT/PT)  Date: 09-10-2024  Signature 	QA/QC Inspection: RAIMUNDO, MARIANA  Date: 15-10-2024 14:54:42  Signature 	Customer Inspection: <b>Sergio Morales</b>  Date: 23-10-24  
--	---	--

On behalf of Tecnimont / R  
 Piping Supervisor  
 Cristi Sandu  
 25.10.2024 

# Visual Examination Report (Welds)

P2308-001103

Contract : P2308

Job number: P2308S

Material: Stainless Steel 304, 316, 317

Client : NERVION

Spool Nº: 01153

Procedure &amp; Instructions: 4274-LZ-VF-W31010370QAC04 - Rev: 1

Project : ALBA

Piece Mark: 2121-LO40B03-1-SP02-01153

Testing Date: 09-10-2024

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

Weld No.	Weld Desc.	Welder	Temp. (°F/°C)	Accepted	Rejected	Defect	Technique Used	Comments
0005	2.0000 S10S SP-Pipe/Fitting Without Weld ()		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)

QA/QC Inspection: RAIMUNDO, MARIANA

Customer Inspection:

Date: 09-10-2024

Date: 15-10-2024 14:54:42

Sergio Morales

Signature



Signature



Date: 23-10-24


On behalf of Tecnimont / R  
Piping Supervisor  
Cristi Sandu  
25.10.2024 C. Sandu



# Positive Material Identification Report (PMI)

P2308-001177

Client : NERVION  
 Contract : P2308 / Project : ALBA

Remarks: The results refer to the controlled items

Job number: P2308S

Spool N°: 01153

Piece Mark: 2121-LO40B03-1-SP02-01153

Material:

Procedure / Instruction reference: 4274-LZ-VD-FW31010370QAC11 - Rev: 1

PMI Equipment : Niton XL3t800 Serial N° 32735 (FP01)

Equipment Deviation : + - 5%

Testing Date: 14-10-2024

Weld / Item No	Description	Reading Number	Chemical Elements										Accepted	Rejected	Comments
			%Ti	%Mo	%Cu	%Ni	%Fe	%Mn	%Cr	%Nb	%Al	%V			
1.3	2.0000 S10S PIPE, SEAMLESS, A312-TP304L (NY231216AS15)	19	0	0	0	7	72	1	17	0	0	0	<input checked="" type="checkbox"/> X	<input type="checkbox"/>	

On behalf of Tecnimont / R  
 Piping Supervisor  
 Cristi Sandu  
 25.10.2024

Test Performed by: GONCALVES(QA), J. (N2 PT/RT) QA/QC Inspection: RAIMUNDO, MARIANA

Customer Inspection:

Date: 14-10-2024

Date: 15-10-2024 14:54:42

Date: Sergio Morales

Signature



Signature



Signature Date: 23-10-24



Boccard Portugal, Lda  
Zona Industrial de Montalvo, Lote 3  
Constância, Portugal 2250-999

## Certificate of PMI Reading

XL3t-32735

Reading No	19
Mode	ALLOY
Time	2024-10-14 09:11
Duration	12.39
Sequence	Final
Alloy1	301SS : 1.58
Alloy2	No Match : *2.41
Flags	
SAMPLE	
HEAT	
LOT	
BATCH	
MISC	
NOTE	

	%	±	Error
Sb	< LOD	:	0.035
Sn	< LOD	:	0.046
Pd	< LOD	:	0.032
Ag	< LOD	:	0.164
Al	< LOD	:	80.000
Mo	0.019	±	0.006
Nb	< LOD	:	0.005
Zr	< LOD	:	0.003
Bi	< LOD	:	0.008
Pb	< LOD	:	0.013
Se	< LOD	:	0.006
W	< LOD	:	0.070
Zn	< LOD	:	0.023
Cu	< LOD	:	0.137
Ni	7.940	±	0.263
Co	< LOD	:	0.447
Fe	72.049	±	0.407
Mn	1.501	±	0.181
Cr	17.654	±	0.232
V	< LOD	:	0.122
Ti	< LOD	:	0.146

Sergio Morales

Date: 23-10-24



On behalf of Tecnimont / R  
Piping Supervisor  
Cristi Sandu  
25.10.2024 C. Sandu