



Tecnimont S.p.A.

4274\_CONST

ALBA PROJECT-PP AND PEL PLANTS


**MOD-ITP-XL\_220 RELEASE OF SPOOLS FROM WORKSHOP**  
 Rev.1

Report n°

IP-WSR-P-310-000448\_RFI6152\_MOD-ITP-XL\_220

RFI Nr.:

Date :

Unit -

Plant Area -

Isometric Number

Inspection Package Number **IP-WSR-P-310-000448\_RFI6152 - IP Spool Release From Workshop**

Sheet 01/01

The Present Inspection Package contains the following Elements:

7112-DMW64001-3-SP09-03098;7112-DMW64001-3-SP08-03097;7112-DMW64001-3-SP07-03096;7112-DMW64001-2-SP06-03101;7112-DMW64001-2-SP05-03100;7112-DMW64001-2-SP04-03099;5111-A91F69-2-SP06-00922;5111-A91F69-2-SP05-00921;4222-A91F51-2-SP01-00792;4111-TEA11013-1-SP02-00911;4111-TEA1013-1-SP01-00910;4111-TEA10007-3-SP05-00909;4111-TEA10007-1-SP01-00905;3221-SWW92005-3-SP06-00689;3221-SWW92005-3-SP05-00688;3221-SWW92005-3-SP04-00687;3221-SWW92005-3-SP03-00686;3221-SWW92001-2-SP04-00671;3221-SWW92001-2-SP03-00670;3211-SWW91H17-2-SP03-01110;3211-SWW91H04-1-SP01-01080;2211-PEP71A01-1-SP02-00456;2211-VG62J02-2-SP07-00456;2211-VG62J02-2-SP06-00455;2211-VG62H01-2-SP02-01093;2211-VG62H01-2-SP01-01092;2211-PEP71A05-2-SP03-00434;2211-PEP71A01-1-SP02-00426;2211-PCW70B02-1-SP02-00985;2211-PCW70B02-1-SP01-00984;2211-LA62B03-3-SP01-00978;2211-DMW91Q01-1-SP13-03069;2211-DMW91Q01-1-SP12-03068;2131-LO52C01-1-SP02-00866;2131-LO52C01-1-SP01-00865;2121-LO40B04-2-SP06-01157;2121-LO40B04-2-SP05-01156;2121-LO40B04-2-SP07-01071;2121-LO40B04-2-SP04-01070;2121-A91F63-6-SP11-00494;2121-A91F63-6-SP10-00493;2121-A91F63-6-SP09-00492;2121-A91F63-5-SP03-00491;2121-A91F63-5-SP02-00490;2121-A91F63-5-SP01-00489;2121-A91F62-9-SP08-00479;2121-A91F13-1-SP03-01122;2121-A91F13-1-SP05-00996;2121-A91F13-1-SP04-00995;2121-A91F13-1-SP02-00994;2121-A91F13-1-SP01-00993;1211-VA89003-1-SP02-00976;1211-VA89003-1-SP01-00975;1211-LO89006-1-SP03-00355;1211-LO89006-1-SP02-00354;1211-LO89006-1-SP01-00353;1211-DMW64001-5-SP13-03062;1211-DMW64001-5-SP12-03061;1211-DMW64001-5-SP11-03060;1211-DMW64001-1-SP02-03051;1211-DMW64001-1-SP01-03050;1127-PN52028-1-SP01-00863;1127-PN52025-1-SP02-01048;1127-PN52025-1-SP01-01047;1127-PN52024-2-SP03-00829;1127-PN52024-2-SP02-00828;1127-PN52024-1-SP01-00827;1126-LO36006-1-SP04-01053;1126-LO36006-1-SP05-01052

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

LEGEND OF CHECK RESULT	<input checked="" type="checkbox"/> Checked & NOT Accepted	<input type="checkbox"/> Checked & Accepted	N.A.	Not Applicable	Y/N	Punch List Produced
SUBCONTRACTOR	04-12-2024	Sergio Morales Collantes				 B . 48977995
CONTRACTOR						
COMPANY						
(Free)	04-12-2024	Riccardo Mancino				 R. Mancino 04.Dec.24



Tecnimont S.p.A.

REPSOL POLIMEROS  
SA

4274\_CONST

ALBA PROJECT-PP AND PEL PLANTS

MOD-ITP-XL\_220 RELEASE OF SPOOLS FROM WORKSHOP  
Rev.1Report n°  
**IP-WSR-P-310-000448\_RFI6152\_MOD-ITP-XL\_220**

RFI Nr.:

Date :

Unit -

Plant Area -

Isometric Number

Inspection Package Number **IP-WSR-P-310-000448\_RFI6152 - IP Spool Release From Workshop**

Sheet 01/01

The Present Inspection Package contains the following Elements:

7112-DMW64001-3-SP09-03098;7112-DMW64001-3-SP08-03097;7112-DMW64001-3-SP07-03096;7112-DMW64001-2-SP06-03101;7112-DMW64001-2-SP05-03100;7112-DMW64001-2-SP04-03099;5111-IA91F69-2-SP06-00922;5111-IA91F69-2-SP05-00921;4222-IA91F51-2-SP01-00792;4111-TEA11013-1-SP02-00911;4111-TEA1013-1-SP01-00910;4111-TEA10007-3-SP05-00909;4111-TEA10007-1-SP01-00905;3221-SWW92005-3-SP06-00689;3221-SWW92005-3-SP05-00688;3221-SWW92005-3-SP04-00687;3221-SWW92005-3-SP03-00686;3221-SWW92001-2-SP04-00671;3221-SWW92001-2-SP03-00670;3211-SWW91H17-2-SP03-01110;3211-SWW91H04-1-SP01-01080;2211-PEP71A01-2-SP07-00456;2211-VG62J02-2-SP06-00455;2211-VG62H01-2-SP02-01092;2211-PEP71A05-2-SP03-00434;2211-PEP71A01-1-SP02-00426;2211-PCW70B02-1-SP02-00985;2211-PCW70B02-1-SP01-00984;2211-LA62B03-3-SP01-00978;2211-DMW91Q01-1-SP13-03069;2211-DMW91Q01-1-SP12-03068;2131-LO52C01-1-SP02-00866;2131-LO52C01-1-SP01-00865;2121-LO40B04-2-SP06-01157;2121-LO40B04-2-SP05-01156;2121-LO40B04-2-SP07-01071;2121-LO40B04-2-SP04-01070;2121-IA91F63-6-SP11-00494;2121-IA91F63-6-SP10-00493;2121-IA91F63-6-SP09-00492;2121-IA91F63-5-SP03-00491;2121-IA91F63-5-SP02-00490;2121-IA91F63-5-SP01-00489;2121-IA91F62-9-SP08-00479;2121-IA91F13-1-SP03-01122;2121-IA91F13-1-SP05-00996;2121-IA91F13-1-SP04-00995;2121-IA91F13-1-SP02-00994;2121-IA91F13-1-SP01-00993;1211-VA89003-1-SP02-00976;1211-VA89003-1-SP01-00975;1211-LO89006-1-SP03-00355;1211-LO89006-1-SP02-00354;1211-LO89006-1-SP01-00353;1211-DMW64001-5-SP13-03062;1211-DMW64001-5-SP12-03061;1211-DMW64001-5-SP11-03060;1211-DMW64001-1-SP02-03051;1211-DMW64001-1-SP01-03050;1127-PN52028-1-SP01-00863;1127-PN52025-1-SP02-01048;1127-PN52025-1-SP01-01047;1127-PN52024-2-SP03-00829;1127-PN52024-2-SP02-00828;1127-PN52024-1-SP01-00827;1126-LO36006-1-SP04-01053;1126-LO36006-1-SP05-01052

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

1) Painting cycle to be indicated.

2) Refer to: **4274-LZ-PC-00000214** (COMPANY 4001008GEN-PC-214) "Management of Site Metallic Welding Activities" and **4274-LZ-PC-00000215** (COMPANY 4001008GEN-PC-215) "Procedure for Traceability of Piping Material"3) Refer to: **4274-XH-SG-00000003** (COMPANY 45-L-45-000-2-00-80005) "Specification for Piping Fabrication & Erection Amendment to EC-L-51.01 and EC-L-51.02" and **4274-XH-PQ-00000001** (COMPANY 45-L-45-000-2-00-80081) "Inspection and Test Plan for Steel Piping Works"

LEGEND OF CHECK RESULT	<input checked="" type="checkbox"/> Checked & NOT Accepted	<input type="checkbox"/> Checked & Accepted	N.A.	Not Applicable	Y / N	Punch List Produced
SUBCONTRACTOR	Date [DD-MMM-YYYY]	Name		Signature		 Sergio Morales Collantes CIF B-46877995
CONTRACTOR	04-12-2024					
COMPANY						
(Free)	04-12-2024	Riccardo Mancino				

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


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  
[GUSSETING TO BE IMPLEMENTED BY MECHANICAL SUBCONTRACTOR AS PER SPECIFICATION 4048-XH-SG-00000000044  
FOR LINE DATA AND TESTING CONDITIONS REFER TO LINE LIST 4048-XH-LL-10-0000-00001]

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## **BILL OF MATERIAL**

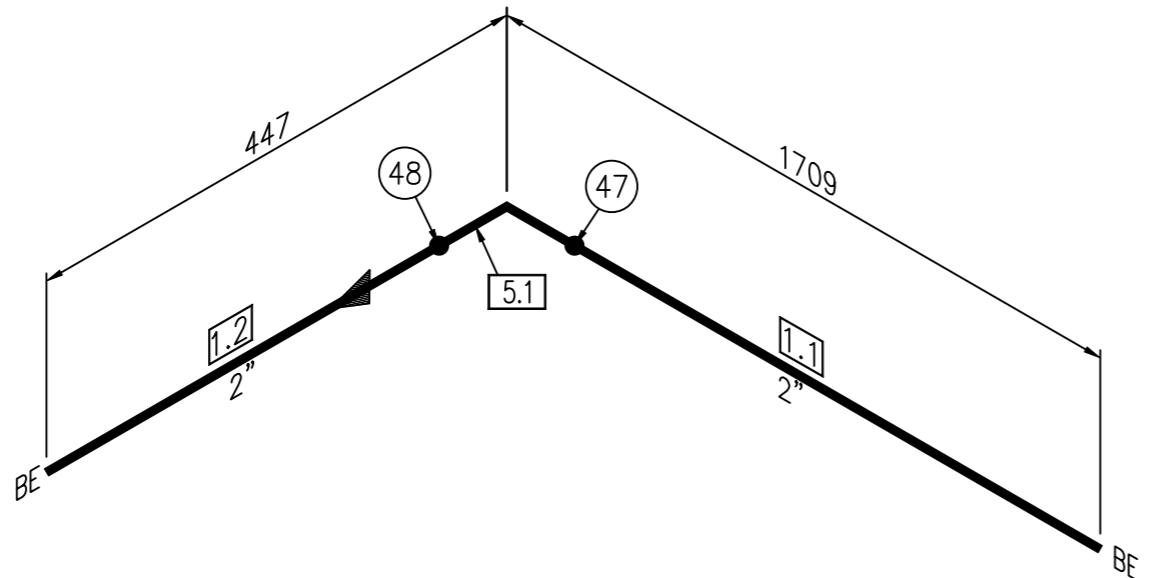
PIPE

ITEM	LONGUEUR	DIAMÉTRE	SCH/mm	DESCRIPTION / MATÉRIEL	ITEM CODE
1.1	1,631	2"	S-10S	PIPE - A312-TP304/304L DUAL GR SMLS, BExBE	I3364302
1.2	0,369	2"	S-10S	PIPE - A312-TP304/304L DUAL GR SMLS, BExBE	I3364302

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WELD FITTINGS

ITEM	QT	DIAMÉTRE	SCH/PRESS.	DESCRIPTION / MATÉRIEL	ITEM CODE
5.1	1	2"	S-10S	90 LR ELBOW ASME B16.9 A403-WP304/304L DG BE SMLS	I2259133



On behalf of Tecnimont/R  
Piping Supervisor  
R. Mancino  
03.dec.2024

Sergio Morales

Date: 18-11-24



Weld Map Sticke

P2308S 00492



2121-IA91F63-6-SP09-00492

Rev.	Date	DRW	Check 1	Check 2	
					<b>Marking Color:</b> GREEN
01	22/05/2024	SLU	OPE		<b>Weld Class:</b> 6C4-M
00	04/03/2024	AOM	MCM	PCO	<b>Paint System:</b> NA

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-IA91F63-6-SP09-00492	2121-IA91F63-6	P2308S	00492	REPSOL PROJETO ALBA NERVION
Metal Tag:	YES	% MT -	NO	% PML -	YES	BHN% -	NO	Tolerances:	ASME B31.3					

F324-302-0

# Spool Material List

Contract : P2308

Client NERVION

Job : P2308S

Project ALBA

Job	Spool	Piece Mark	Drawing	Rev			
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 00492 2121-IA91F63-6-SP09-00492</b>		<b>2121-IA91F63-6</b>		<b>01</b>			
1.2	,369 2.0000 S10S	0.0000 NA		PIPE, SEAMLESS, A312-TP304L	S-23594 0357	3,93	1,45
40391							
1.1	1,631 2.0000 S10S	0.0000 NA		PIPE, SEAMLESS, A312-TP304L	S-23594 0357	3,93	6,41
40391							
5.1	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  
 R. Mancino  
 03.dec.2024 

Number of Items : **3** Total Weight : **8,35**

Signature	QA	Client
		Sergio Morales Date: 18-11-24 
Date	2024-09-12 08:34:36	

<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)	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	N/A						

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

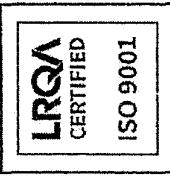
**COMMERCIALE TUBI ACCIAIO S.p.A.****QUALITY CONTROL DEPARTMENT**

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



Approve No:1509001-00400  
PCO Cert No:0343/P/2014/10/007/3

## INSPECTION CERTIFICATE



RACCORDI TUBI S.P.A.

Order No.: 22TEC003  
(注文番号)

P.O. No. : 000000150 S

### Chemical Composition of Pipe (Raw Material) %

**Remarks** \* Hardness acc. to NACE MR0175 / ISO 15156-3:2015. MR0103:2015

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

IN BIKU AND LORANGAN - 31 (AS INDIVIDUALS) WHO ARE IDENTIFIED AS MEMBERS OF THE TERRITORIAL GUARD IN THE COUNTRY. THEY ARE TO BE TREATED AS AN ELEMENT OF THE TERRITORIAL GUARD.

HEAT TREATMENT 1030 DEGREES CELSIUS QUENCHED IN WATER WILL PREVENT SPALLATION.

WE HEREBY CERTIFY THAT THE ABOVE PRODUCTS MEET THE REQUIREMENTS OF THE RELEVANT STANDARD AND OF THE CUSTOMER ORDER.

WITNESS: *[Signature]*

DATE: *[Signature]*

WELDING & INSPECTION CO., INC. • 700-1000 • 700-1000

上記の商品は、監修規格及び、『津文の要』に述言するところを組合ります。

版權頁

卷之三

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**Customer:**

TECNIMONT S.p.A.

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

**Description:**

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

raccortubi

Heat num. or Pcs. marking: M220696 - Qty:71,000

Protocol: CTCERC202400003104 \* CERTIFIED TRUE COPY  
\* Issued 03-04-2024



Contract : P2300

Drawing : 2121-IA91F63-6

## Welding and QC Report Per Spool

Job : P2300S

Material : Stainless Steel 304, 316, 317

Client : NERVION

Revision : 01

Spool : 00492

Spec : 6C4-M

Project : ALBA

Piece Mark : 2121-IA91F63-6-SP09-00492

Weld data

Welding

Control

Weld No.	Type	Dia	Sch	Weld /Thk	1st Proc.	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
0047	BW	2	S10S	MW.26_BW	AH	05-07-2024	4712055	AH	05-07-2024	4712055			000853	28-08-2024					000911	07-09-2024									
0048	BW	2	S10S	MW.26_BW	AH	05-07-2024	4712055	AH	05-07-2024	4712055			000853	28-08-2024					000911	07-09-2024									

03/12/2024

On behalf of Tecnimont  
QC Welding Inspector

GABRIEL HONECKY  
VTP/TM/TUT-TORO - PA  
(R)

Notes:

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Signature

Boccard Portugal QC	Client
	Sergio Morales Date: 18-11-24
12-09-2024 08:34:36	



# Shop QC Inspection Report

P2308-000885

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

Job number: P2308S  
 Spool N°: 00492  
 Piece Mark: 2121-IA91F63-6-SP09-00492

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

Control Date: 28-08-2024

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

Comments:

Performed by: MATOS, MARCO (N2 VT/PT)  Date: 28-08-2024  Signature 	QA/QC Inspection: RAIMUNDO, MARIANA  Date: 12-09-2024 08:34:36  Signature 	Customer Inspection:  <b>Sergio Morales</b>  Date: 18-11-24  
--	--	--

On behalf of Tecnimont  
 QC Welding Inspector 03/12/2024

GABRIEL BONETTU  
 ISO 9001:2015 certified  
 VTP/PTM/TOT/TOFD-Lewis  
 (R)

# Visual Examination Report (Welds)

P2308-000853

Contract : P2308

Job number: P2308S

Material: Stainless Steel 304, 316, 317

Client : NERVION

Spool Nº: 00492

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

Project : ALBA

Piece Mark: 2121-IA91F63-6-SP09-00492

Testing Date: 28-08-2024

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
0047	2.0000 S10S BW-Buttweld Straight (MW.26_BW)	AH	23	X			Direct	
0048	2.0000 S10S BW-Buttweld Straight (MW.26_BW)	AH	23	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: 28-08-2024

Date: 12-09-2024 08:34:36

Sergio Morales

Signature



Signature



Date: 18-11-24



03/12/2024

On behalf of Tecnimont  
QC Welding Inspector

GABRIEL BOFFELI  
INTERNAIS CONSULTORES LTDA  
ISO EN 1090-1:2019  
VIPI/T/1001-1001-1001-1001  
(R)



# Positive Material Identification Report (PMI)

P2308-000911

Client : NERVION  
 Contract : P2308 / Project : ALBA

Remarks: The results refer to the controlled items

Job number: P2308S

Spool N°: 00492

Piece Mark: 2121-IA91F63-6-SP09-00492

Material: Stainless Steel 304, 316, 317

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

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

Equipment Deviation : + - 5%

Testing Date: 07-09-2024

Weld / Item No	Description	Reading Number	Chemical Elements										Accepted	Rejected	Comments
			%Ti	%Mo	%Cu	%Ni	%Fe	%Mn	%Cr	%Nb	%Al	%V			
0047	2.0000 S10S BW-Buttweld Straight (MW.26_BW)	347	0	0	0	8	69	1	19	0	0	0	X		
0048	2.0000 S10S BW-Buttweld Straight (MW.26_BW)	349	0	0	0	8	69	1	19	0	0	0	X		
1.1	2.0000 S10S PIPE, SEAMLESS, A312-TP304L (S-23594)	346	0	0	0	8	71	1	18	0	0	0	X		
1.2	2.0000 S10S PIPE, SEAMLESS, A312-TP304L (S-23594)	350	0	0	0	7	71	1	17	0	0	0	X		
5.1	2.0000 S10S 90 LR ELL, SEAMLESS, A403-WP304L (M220696)	348	0	0	0	8	71	1	17	0	0	0	X		

On behalf of Tecnimont  
 QC Welding Inspector (R)

GABRIEL RIBEIRO  
 ISO EN 10609 Certified Welder  
 VITAR/IRIST/TOF/PA

03/12/2024

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

Customer Inspection:

Date: 07-09-2024

Date: 12-09-2024 08:34:36

Sergio Morales

Signature



Signature



Signature

Date: 18-11-24



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

## Certificate of PMI Reading

XL3t-32735

Reading No	347
Mode	ALLOY
Time	2024-09-07 08:49
Duration	12.16
Sequence	Final
Alloy1	304SS : 0.36
Alloy2	No Match : *2.10
Flags	
SAMPLE	
HEAT	
LOT	
BATCH	
MISC	
NOTE	

	%	±	Error
Sb	< LOD	:	0.038
Sn	< LOD	:	0.046
Pd	< LOD	:	0.037
Ag	< LOD	:	0.134
Al	< LOD	:	80.000
Mo	0.036	±	0.007
Nb	< LOD	:	0.008
Zr	< LOD	:	0.003
Bi	< LOD	:	0.006
Pb	< LOD	:	0.005
Se	< LOD	:	0.008
W	< LOD	:	0.084
Zn	< LOD	:	0.029
Cu	< LOD	:	0.135
Ni	8.800	±	0.270
Co	< LOD	:	0.445
Fe	69.398	±	0.409
Mn	1.651	±	0.185
Cr	19.381	±	0.241
V	< LOD	:	0.116
Ti	< LOD	:	0.146

On behalf of Tecnimont  
QC Welding Inspector

03/12/2024

GABRIEL BOCCARD  
Tecnicontrol  
VTP/PTM/TFT-TOD-LB-04  
(R)

Sergio Morales

Date: 18-11-24



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

## Certificate of PMI Reading

XL3t-32735

Reading No	349
Mode	ALLOY
Time	2024-09-07 08:50
Duration	4.94
Sequence	Final
Alloy1	304SS : 0.67
Alloy2	No Match : 1.83
Flags	
SAMPLE	
HEAT	
LOT	
BATCH	
MISC	
NOTE	

	%	±	Error
Sb	< LOD	:	0.069
Sn	< LOD	:	0.081
Pd	< LOD	:	0.061
Ag	< LOD	:	0.157
Al	< LOD	:	80.000
Mo	0.044	±	0.012
Nb	< LOD	:	0.012
Zr	< LOD	:	0.009
Bi	< LOD	:	0.018
Pb	< LOD	:	0.012
Se	< LOD	:	0.020
W	< LOD	:	0.134
Zn	< LOD	:	0.039
Cu	< LOD	:	0.240
Ni	8.699	±	0.465
Co	< LOD	:	0.775
Fe	69.529	±	0.709
Mn	1.546	±	0.318
Cr	19.177	±	0.415
V	< LOD	:	0.223
Ti	< LOD	:	0.247

03/12/2024

Sergio Morales



Date: 18-11-24

On behalf of Tecnimont  
QC Welding Inspector

GABRIEL HENRIQUEZ  
Welding Inspector  
ISO EN 9609-1  
VTPPTMTRUTTOFD-PA  
(R)

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

## Certificate of PMI Reading

XL3t-32735

Reading No	346
Mode	ALLOY
Time	2024-09-07 08:49
Duration	4.75
Sequence	Final
Alloy1	304SS : 0.24
Alloy2	No Match : 2.17
Flags	
SAMPLE	
HEAT	
LOT	
BATCH	
MISC	
NOTE	

	%	±	Error
Sb	< LOD	:	0.064
Sn	< LOD	:	0.078
Pd	< LOD	:	0.057
Ag	< LOD	:	0.172
Al	< LOD	:	80.000
Mo	0.052	±	0.013
Nb	< LOD	:	0.011
Zr	< LOD	:	0.009
Bi	< LOD	:	0.033
Pb	< LOD	:	0.045
Se	< LOD	:	0.018
W	< LOD	:	0.105
Zn	< LOD	:	0.059
Cu	< LOD	:	0.258
Ni	8.011	±	0.461
Co	< LOD	:	0.783
Fe	71.492	±	0.712
Mn	1.429	±	0.319
Cr	18.212	±	0.411
V	< LOD	:	0.209
Ti	< LOD	:	0.207

03/12/2024

On behalf of Tecnimont  
QC Welding Inspector

Sergio Morales

Date: 18-11-24



GABRIEL RODRIGUES  
ISO EN 9719 Certified Welder  
VIRFIMETRAUTO-TOFO PA  
(R)

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

## Certificate of PMI Reading

XL3t-32735

Reading No	350
Mode	ALLOY
Time	2024-09-07 08:50
Duration	18.71
Sequence	Final
Alloy1	304SS : 1.35
Alloy2	No Match : 1.96
Flags	
SAMPLE	
HEAT	
LOT	
BATCH	
MISC	
NOTE	

	%	±	Error
Sb	< LOD	:	0.029
Sn	< LOD	:	0.036
Pd	< LOD	:	0.027
Ag	< LOD	:	0.184
Al	< LOD	:	80.000
Mo	0.056	±	0.006
Nb	< LOD	:	0.005
Zr	< LOD	:	0.002
Bi	< LOD	:	0.008
Pb	< LOD	:	0.002
Se	< LOD	:	0.008
W	< LOD	:	0.069
Zn	< LOD	:	0.022
Cu	0.250	±	0.060
Ni	7.986	±	0.208
Co	< LOD	:	0.349
Fe	71.764	±	0.323
Mn	1.426	±	0.142
Cr	17.998	±	0.184
V	< LOD	:	0.092
Ti	< LOD	:	0.101

03/12/2024  
On behalf of Tecnimont

QC Welding Inspector

Sergio Morales

Date: 18-11-24



GABRIEL BOCCARD  
INTERNAIS & ASSOCIADOS  
ISO EN 17025:2017  
CERTIFICADO DE CALIBRACIÓN  
(R)

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

## Certificate of PMI Reading

XL3t-32735

Reading No	348
Mode	ALLOY
Time	2024-09-07 08:50
Duration	7.88
Sequence	Final
Alloy1	304SS : 1.58
Alloy2	No Match : *1.94
Flags	
SAMPLE	
HEAT	
LOT	
BATCH	
MISC	
NOTE	

	%	±	Error
Sb	< LOD	:	0.049
Sn	< LOD	:	0.055
Pd	< LOD	:	0.042
Ag	< LOD	:	0.188
Al	< LOD	:	80.000
Mo	< LOD	:	0.008
Nb	< LOD	:	0.006
Zr	< LOD	:	0.007
Bi	< LOD	:	0.018
Pb	< LOD	:	0.034
Se	< LOD	:	0.008
W	< LOD	:	0.093
Zn	< LOD	:	0.024
Cu	< LOD	:	0.164
Ni	8.427	±	0.342
Co	< LOD	:	0.570
Fe	71.274	±	0.522
Mn	1.662	±	0.234
Cr	17.857	±	0.297
V	0.165	±	0.082
Ti	< LOD	:	0.176

03/12/2024

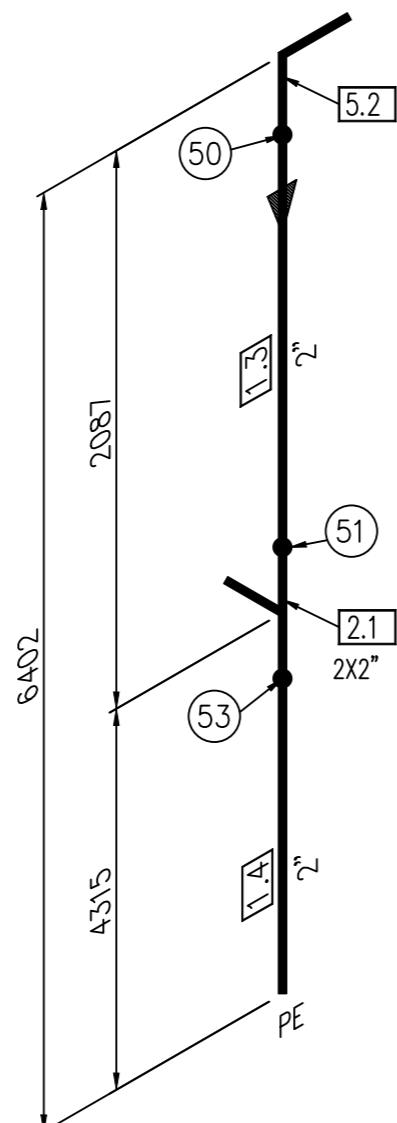
Sergio Morales



Date: 18-11-24

On behalf of Tecnimont  
QC Welding Inspector

GABRIEL BOFFELA  
ISO 9609-1  
VTP/PMTR/TOT/TOFD-Pt  
(R)

		<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th colspan="6" style="text-align: center;">BILL OF MATERIAL</th> </tr> <tr> <th colspan="6" style="text-align: center;">PIPE</th> </tr> <tr> <th>ITEM</th> <th>LONGUEUR</th> <th>DIAMÉTRE</th> <th>SCH/mm</th> <th>DESCRIPTION / MATÉRIEL</th> <th>ITEM CODE</th> </tr> </thead> <tbody> <tr> <td>1.3</td> <td>1,943</td> <td>2"</td> <td>S-10S</td> <td>PIPE - A312-TP304/304L DUAL GR SMLS, BExBE</td> <td>I3364302</td> </tr> <tr> <td>1.4</td> <td>4,249</td> <td>2"</td> <td>S-10S</td> <td>PIPE - A312-TP304/304L DUAL GR SMLS, BExPE</td> <td>I3364302</td> </tr> </tbody> </table> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th colspan="6" style="text-align: center;">WELD FITTINGS</th> </tr> <tr> <th>ITEM</th> <th>QT</th> <th>DIAMÉTRE</th> <th>SCH/PRESS.</th> <th>DESCRIPTION / MATÉRIEL</th> <th>ITEM CODE</th> </tr> </thead> <tbody> <tr> <td>2.1</td> <td>1</td> <td>2" x 2"</td> <td>S-10S</td> <td>STRAIGHT TEE ASME B16.9 A403-WP316/16L DG BE SMLS</td> <td>I2259149</td> </tr> <tr> <td>5.2</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>	BILL OF MATERIAL						PIPE						ITEM	LONGUEUR	DIAMÉTRE	SCH/mm	DESCRIPTION / MATÉRIEL	ITEM CODE	1.3	1,943	2"	S-10S	PIPE - A312-TP304/304L DUAL GR SMLS, BExBE	I3364302	1.4	4,249	2"	S-10S	PIPE - A312-TP304/304L DUAL GR SMLS, BExPE	I3364302	WELD FITTINGS						ITEM	QT	DIAMÉTRE	SCH/PRESS.	DESCRIPTION / MATÉRIEL	ITEM CODE	2.1	1	2" x 2"	S-10S	STRAIGHT TEE ASME B16.9 A403-WP316/16L DG BE SMLS	I2259149	5.2	1	2"	S-10S	90 LR ELBOW ASME B16.9 A403-WP304/304L DG BE SMLS	I2259133
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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	Qty	Size1	Sch1	Size2	Sch2	Description	Heat No	Unit	Weight	Kgs
Tag No							MTR No			
ID No							Folder No			
P2308S	00493	2121-IA91F63-6-SP10-00493	2121-IA91F63-6	01						
1.4	4,249	2.0000	S10S	0.0000	NA	PIPE, SEAMLESS, A312-TP304L	S-23594	3,93	16,70	
40391							0357			
1.3	1,943	2.0000	S10S	0.0000	NA	PIPE, SEAMLESS, A312-TP304L	S-23594	3,93	7,64	
40391							0357			
5.2	1	2.0000	S10S	0.0000	NA	90 LR ELL, SEAMLESS, A403-WP304L	M220696	0,49	0,49	
42965							0410			
2.1	1	2.0000	S10S	0.0000	NA	TEE, SEAMLESS, A403-WP304L	MN012-1	0,78	0,78	
44252							0430			

On behalf of Tecnimont/R

Piping Supervisor

R. Mancino

03.dec.2024



Number of Items : 4

Total Weight : 25,60

Signature	QA	Client
	 QA / QC	Sergio Morales Date: 18-11-24
Date	2024-09-10 13:52:17	

<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)	ASTM A-262 Practice"E" & ISO 3651-2 Method "A"					
		Rp0.2% Mpa	Rp1 % Mpa											
MAX	690	--	--	--										
MIN	515	205	230	40										
S-23594	624.31	316.22	322.57	55.21	25.40	Satisfactory	76-78	73-75	N/A		Satisfactory			
	623.05	315.91	320.42	54.89										

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

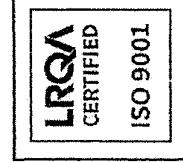
**COMMERCIALE TUBI ACCIAIO S.P.A.****QUALITY CONTROL DEPARTMENT**

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 Notified Body No. 00000000000000000000  
PEO Certified by LRQA Pte Ltd, Singapore

## INSPECTION CERTIFICATE

Page  
(頁)

3

Cert. to RACCORDUBI S.P.A.



Order No.: 22TEC003  
(注文番号)

P.O. No. : 00000150 S

## S.P. UNITED INDUSTRY SDN. BHD.

(COMPANY NO. 368324 W)

P.T. 741745, KAWASAN PERUSAHAAN NILAI,  
71800 NILAI, NEGERI SEMBILAN DARUL KHUSUS, MALAYSIA.  
TEL: 606-7993577, 7993676, 7993677 FAX: 606-7954366  
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Product  
(形狀)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

*	Size (寸法)	Dimension in mm (寸法)		Heat No. (熔接番号)	Quantity (数量)	Surface Inspection (外觀檢驗)	Dimension Inspection (寸法検査)	S. P. I. Code No. (規格番号)	Manufacturing Method (製造方法)
		Outside Dia. (外径)	Thickness (厚さ)						
1	2" x 10S	60.33	2.77	MP220696	500	GOOD	GOOD	24812000	COLD FORMED

Specification for Pipe (Raw Material)  
(材料規格)

ASTM A312 TP 304/304L

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

YS=Yield Strength (0.2%), EL=Elongation, H=Hardness Test

TS=Tensile Strength, GL=Gauge Length, HT=Hydrostatic Test

Remarks \* Hardness acc. to NACE MR0175 / ISO 15156-3 : 2015, MR013:2015

INTERGRANULAR CORROSION TEST (ASTM A362(E) - OK, PM CHECK GOOD, ISO 9001 / EN 10204-3.1 PED 2014/68/EU ANNEX I SECTION 4.3

HEAT TREATMENT 1050 DEGREE CELSIUS 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 RADACTIVITY.

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、ご注文の要件並に適合する事を証明します。)

Customer: TECNIMONT S.p.A.  
Description: CURVE 90° LR 2" SCH.10/S SEAMLESS  
I2259133

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

Head of Q.C. Dept.  
品質管理部長







Contract : P2300

Drawing : 2121-IA91F63-6

## Welding and QC Report Per Spool

Job : P2300S

Material : Stainless Steel 304, 316, 317

Client : NERVION

Revision : 01

Project : ALBA

Piece Mark : 2121-IA91F63-6-SP10-00493

Spec : 6C4-M

Weld data				Welding												Control														
Weld No.	Type	Dia /Thk	Sch	Weld 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		
0050	BW	2	S10S	MW.26_BW	AY	04/07/2024	4712055	AY	04/07/2024	4712055						000849	27/08/2024					000826	07/09/2024							
0051	BW	2	S10S	MW.26_BW	AY	04/07/2024	4712055	AY	04/07/2024	4712055						000849	27/08/2024					000826	07/09/2024							
0053	BW	2	S10S	MW.26_BW	AY	04/07/2024	4712055	AY	04/07/2024	4712055						000849	27/08/2024					000826	07/09/2024							

On behalf of Tecnimont  
QC Welding Inspector

03/12/2024

(R)

Notes:

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Signature

Boccard Portugal QC	Client
	Sergio Morales Date: 18-11-24
10/09/2024 13:52:17	



# Shop QC Inspection Report

P2308-000881

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

Job number: P2308S  
 Spool N°: 00493  
 Piece Mark: 2121-IA91F63-6-SP10-00493

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

Control Date: 27/08/2024

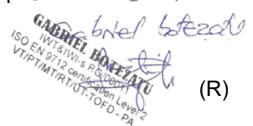
Remarks: The results refer to the controlled items

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

Comments:

Performed by: MATOS, MARCO (N2 VT/PT)  Date: 27/08/2024  Signature 	QA/QC Inspection: GIL, MIGUEL  Date: 10/09/2024 13:52:17  Signature 	Customer Inspection: <b>Sergio Morales</b>  Date: 18-11-24   On behalf of Tecnimont
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03/12/2024 QC Welding Inspector



GABRIEL MOREIRA  
ISO EN 9712 certified welding level 2  
VTP/PTM/TIG/TOFD - PA  
(R)

# Visual Examination Report (Welds)

P2308-000849

Contract : P2308

Job number: P2308S

Material: Stainless Steel 304, 316, 317

Client : NERVION

Spool Nº: 00493

Procedure &amp; Instructions: 4274-LZ-VF31010370QAC04 - Rev: 1

Project : ALBA

Piece Mark: 2121-IA91F63-6-SP10-00493

Testing Date: 27/08/2024

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. (°F/°C)	Accepted	Rejected	Defect	Technique Used	Comments
Weld No.	Weld Desc.	Welder							
0050	2.0000 S10S BW-Buttweld Straight (MW.26_BW)	AY	29	X				Direct	
0051	2.0000 S10S BW-Buttweld Straight (MW.26_BW)	AY	29	X				Direct	
0053	2.0000 S10S BW-Buttweld Straight (MW.26_BW)	AY	29	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: 27/08/2024

Date: 10/09/2024 13:52:17

Sergio Morales

Signature



Signature



Date: 18-11-24



03/12/2024

On behalf of Tecnimont  
QC Welding Inspector

GABRIEL BONETE MU  
ISO EN 1070-1:2015's Registered  
VT/PT/MT/RT/UT-TOFD - PA  
(R)



# Positive Material Identification Report (PMI)

P2308-000826

Client : NERVION  
 Contract : P2308 / Project : ALBA

Remarks: The results refer to the controlled items

Job number: P2308S

Spool N°: 00493

Piece Mark: 2121-IA91F63-6-SP10-00493

Material: Stainless Steel 304, 316, 317

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

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

Equipment Deviation : + - 5%

Testing Date: 07/09/2024

Weld / Item No	Description	Reading Number	Chemical Elements										Accepted	Rejected	Comments
			%Ti	%Mo	%Cu	%Ni	%Fe	%Mn	%Cr	%Nb	%Al	%V			
0050	2.0000 S10S BW-Buttweld Straight (MW.26_BW)	705	0	0	0	8	69	1	19	0	0	0	X		
0051	2.0000 S10S BW-Buttweld Straight (MW.26_BW)	707	0	0	0	8	69	1	19	0	0	0	X		
0053	2.0000 S10S BW-Buttweld Straight (MW.26_BW)	710	0	0	0	8	70	1	18	0	0	0	X		
1.3	2.0000 S10S PIPE, SEAMLESS, A312-TP304L (S-23594)	706	0	0	0	8	71	1	17	0	0	0	X		
1.4	2.0000 S10S PIPE, SEAMLESS, A312-TP304L (S-23594)	711	0	0	0	8	71	1	17	0	0	0	X		
2.1	2.0000 S10S TEE, SEAMLESS, A403-WP304L (MN012-1)	709	0	0	0	8	70	1	18	0	0	0	X		
5.2	2.0000 S10S 90 LR ELL, SEAMLESS, A403-WP304L (M220696)	704	0	0	0	8	71	1	18	0	0	0	X		

On behalf of Tecnimont  
 QC Welding Inspector

GABRIEL BONETTO  
 INTENSISSIMO INSTITUTO  
 ISO EN 3132 certificado  
 VPP/TMR/ITUT/TOFO-PA

(R)

03/12/2024

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

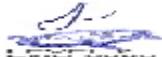
Customer Inspection:

Date: 07/09/2024

Date: 10/09/2024 13:52:17

Date: Sergio Morales

Signature



Signature



Signature

Date: 18-11-24



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

## Certificate of PMI Reading

XL3t-32735

Reading No	705
Mode	ALLOY
Time	2024-09-07 13:31
Duration	8.87
Sequence	Final
Alloy1	304SS : 0.52
Alloy2	No Match : 1.78
Flags	
SAMPLE	
HEAT	
LOT	
BATCH	
MISC	
NOTE	

	%	±	Error
Sb	< LOD	:	0.042
Sn	< LOD	:	0.055
Pd	< LOD	:	0.043
Ag	< LOD	:	0.126
Al	< LOD	:	80.000
Mo	0.038	±	0.008
Nb	< LOD	:	0.005
Zr	< LOD	:	0.004
Bi	< LOD	:	0.006
Pb	< LOD	:	0.019
Se	< LOD	:	0.009
W	< LOD	:	0.091
Zn	< LOD	:	0.040
Cu	< LOD	:	0.159
Ni	8.720	±	0.320
Co	< LOD	:	0.529
Fe	69.658	±	0.485
Mn	1.754	±	0.221
Cr	19.137	±	0.284
V	< LOD	:	0.121
Ti	< LOD	:	0.174

Sergio Morales



Date: 18-11-24

03/12/2024  
On behalf of Tecnimont  
QC Welding Inspector

GABRIEL BOCCARD  
INTERVIEWS A DOCUMENTATION LEVEL  
ISO EN 9712 CERTIFICATION  
VISUAL/MT/THT-TOT-TODD-PQ  
(R)

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

## Certificate of PMI Reading

XL3t-32735

Reading No	707
Mode	ALLOY
Time	2024-09-07 13:32
Duration	6.51
Sequence	Final
Alloy1	304SS : 0.01
Alloy2	No Match : *2.08
Flags	
SAMPLE	
HEAT	
LOT	
BATCH	
MISC	
NOTE	

	%	±	Error
Sb	< LOD	:	0.055
Sn	< LOD	:	0.067
Pd	< LOD	:	0.047
Ag	< LOD	:	0.212
Al	< LOD	:	80.000
Mo	0.043	±	0.010
Nb	< LOD	:	0.010
Zr	< LOD	:	0.005
Bi	< LOD	:	0.011
Pb	< LOD	:	0.013
Se	< LOD	:	0.008
W	< LOD	:	0.108
Zn	< LOD	:	0.044
Cu	< LOD	:	0.196
Ni	8.816	±	0.391
Co	< LOD	:	0.639
Fe	69.777	±	0.590
Mn	1.754	±	0.271
Cr	19.148	±	0.346
V	< LOD	:	0.161
Ti	< LOD	:	0.188

03/12/2024

Sergio Morales



Date: 18-11-24

On behalf of Tecnimont  
QC Welding Inspector

GABRIEL BOCELLATO  
INTERNAZIONALE  
VITRIMETRUTTO-TOEPA  
ISO EN 9712 certified on Level 2  
(R)

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

## Certificate of PMI Reading

XL3t-32735

Reading No	710
Mode	ALLOY
Time	2024-09-07 13:33
Duration	8.37
Sequence	Final
Alloy1	304SS : 0.24
Alloy2	No Match : *2.11
Flags	
SAMPLE	
HEAT	
LOT	
BATCH	
MISC	
NOTE	

	%	±	Error
Sb	< LOD	:	0.043
Sn	< LOD	:	0.055
Pd	< LOD	:	0.043
Ag	< LOD	:	0.151
Al	< LOD	:	80.000
Mo	0.027	±	0.007
Nb	< LOD	:	0.009
Zr	< LOD	:	0.004
Bi	< LOD	:	0.010
Pb	< LOD	:	0.015
Se	< LOD	:	0.007
W	< LOD	:	0.087
Zn	< LOD	:	0.030
Cu	< LOD	:	0.169
Ni	8.652	±	0.330
Co	< LOD	:	0.546
Fe	70.116	±	0.500
Mn	1.520	±	0.224
Cr	18.928	±	0.292
V	< LOD	:	0.152
Ti	< LOD	:	0.163

On behalf of Tecnimont  
QC Welding Inspector

03/12/2024

GABRIEL BOCCARD  
INTERNAIS R&D  
ISO EN 9712 certification level 2  
VTP/TM/IR1/UT-TOP0-PA

(R)

Sergio Morales

Date: 18-11-24



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

## Certificate of PMI Reading

XL3t-32735

Reading No	706
Mode	ALLOY
Time	2024-09-07 13:31
Duration	22.89
Sequence	Final
Alloy1	304SS : 1.60
Alloy2	No Match : *1.99
Flags	
SAMPLE	
HEAT	
LOT	
BATCH	
MISC	
NOTE	

	%	±	Error
Sb	< LOD	:	0.030
Sn	< LOD	:	0.039
Pd	< LOD	:	0.029
Ag	< LOD	:	0.176
Al	< LOD	:	80.000
Mo	0.047	±	0.006
Nb	< LOD	:	0.006
Zr	< LOD	:	0.003
Bi	< LOD	:	0.007
Pb	< LOD	:	0.009
Se	< LOD	:	0.006
W	< LOD	:	0.068
Zn	< LOD	:	0.023
Cu	0.235	±	0.061
Ni	8.225	±	0.245
Co	0.375	±	0.175
Fe	71.520	±	0.405
Mn	1.532	±	0.151
Cr	17.843	±	0.428
V	< LOD	:	0.147
Ti	< LOD	:	0.114

03/12/2024  
On behalf of Tecnimont

QC Welding Inspector

Sergio Morales



Date: 18-11-24

GABRIEL BOEUF-LAU  
WELDING & METALLURGICAL CONSULTANT  
ISO EN 9712 Certified Welder Level 2  
VTPT/IMR/TÜV-TOTO-PA  
(R)

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

## Certificate of PMI Reading

XL3t-32735

Reading No	711
Mode	ALLOY
Time	2024-09-07 13:33
Duration	7.08
Sequence	Final
Alloy1	304SS : 1.10
Alloy2	No Match : 1.73
Flags	
SAMPLE	
HEAT	
LOT	
BATCH	
MISC	
NOTE	

	%	±	Error
Sb	< LOD	:	0.049
Sn	< LOD	:	0.068
Pd	< LOD	:	0.050
Ag	< LOD	:	0.193
Al	< LOD	:	80.000
Mo	< LOD	:	0.012
Nb	< LOD	:	0.007
Zr	< LOD	:	0.005
Bi	< LOD	:	0.011
Pb	< LOD	:	0.024
Se	< LOD	:	0.012
W	< LOD	:	0.130
Zn	< LOD	:	0.040
Cu	< LOD	:	0.177
Ni	8.003	±	0.364
Co	< LOD	:	0.615
Fe	71.736	±	0.565
Mn	1.633	±	0.254
Cr	17.957	±	0.323
V	< LOD	:	0.175
Ti	< LOD	:	0.190

On behalf of Tecnimont  
QC Welding Inspector

03/12/2024

GABRIEL BOFFATO  
Welding Inspector  
ISO EN 9712 Certified  
VI/PT/MT/RT/UT-TOD-PA  
(R)

Sergio Morales

Date: 18-11-24



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

## Certificate of PMI Reading

XL3t-32735

Reading No	709
Mode	ALLOY
Time	2024-09-07 13:32
Duration	22.21
Sequence	Final
Alloy1	304SS : 0.82
Alloy2	No Match : *2.07
Flags	
SAMPLE	
HEAT	
LOT	
BATCH	
MISC	
NOTE	

	%	±	Error
Sb	< LOD	:	0.029
Sn	< LOD	:	0.037
Pd	< LOD	:	0.029
Ag	< LOD	:	0.155
Al	< LOD	:	80.000
Mo	< LOD	:	0.006
Nb	< LOD	:	0.005
Zr	< LOD	:	0.003
Bi	< LOD	:	0.006
Pb	< LOD	:	0.012
Se	< LOD	:	0.007
W	< LOD	:	0.069
Zn	< LOD	:	0.025
Cu	< LOD	:	0.110
Ni	8.125	±	0.303
Co	0.376	±	0.176
Fe	70.967	±	0.610
Mn	1.396	±	0.151
Cr	18.754	±	0.792
V	< LOD	:	0.323
Ti	< LOD	:	0.228

On behalf of Tecnimont  
QC Welding Inspector

03/12/2024

GABRIEL RODRIGUES  
ISO EN 9712 Certified Welder Level 2  
VTP-PTM/TUT-T-TOFD-PA  
(R)

Sergio Morales

Date: 18-11-24



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

## Certificate of PMI Reading

XL3t-32735

Reading No	704
Mode	ALLOY
Time	2024-09-07 13:31
Duration	8.68
Sequence	Final
Alloy1	304SS : 0.17
Alloy2	No Match : *2.10
Flags	
SAMPLE	
HEAT	
LOT	
BATCH	
MISC	
NOTE	

	%	±	Error
Sb	< LOD	:	0.043
Sn	< LOD	:	0.055
Pd	< LOD	:	0.043
Ag	< LOD	:	0.155
Al	< LOD	:	80.000
Mo	< LOD	:	0.008
Nb	< LOD	:	0.006
Zr	< LOD	:	0.006
Bi	< LOD	:	0.018
Pb	< LOD	:	0.022
Se	< LOD	:	0.007
W	< LOD	:	0.099
Zn	< LOD	:	0.033
Cu	< LOD	:	0.156
Ni	8.383	±	0.327
Co	< LOD	:	0.545
Fe	71.539	±	0.498
Mn	1.405	±	0.220
Cr	18.048	±	0.285
V	< LOD	:	0.145
Ti	< LOD	:	0.167

On behalf of Tecnimont  
QC Welding Inspector

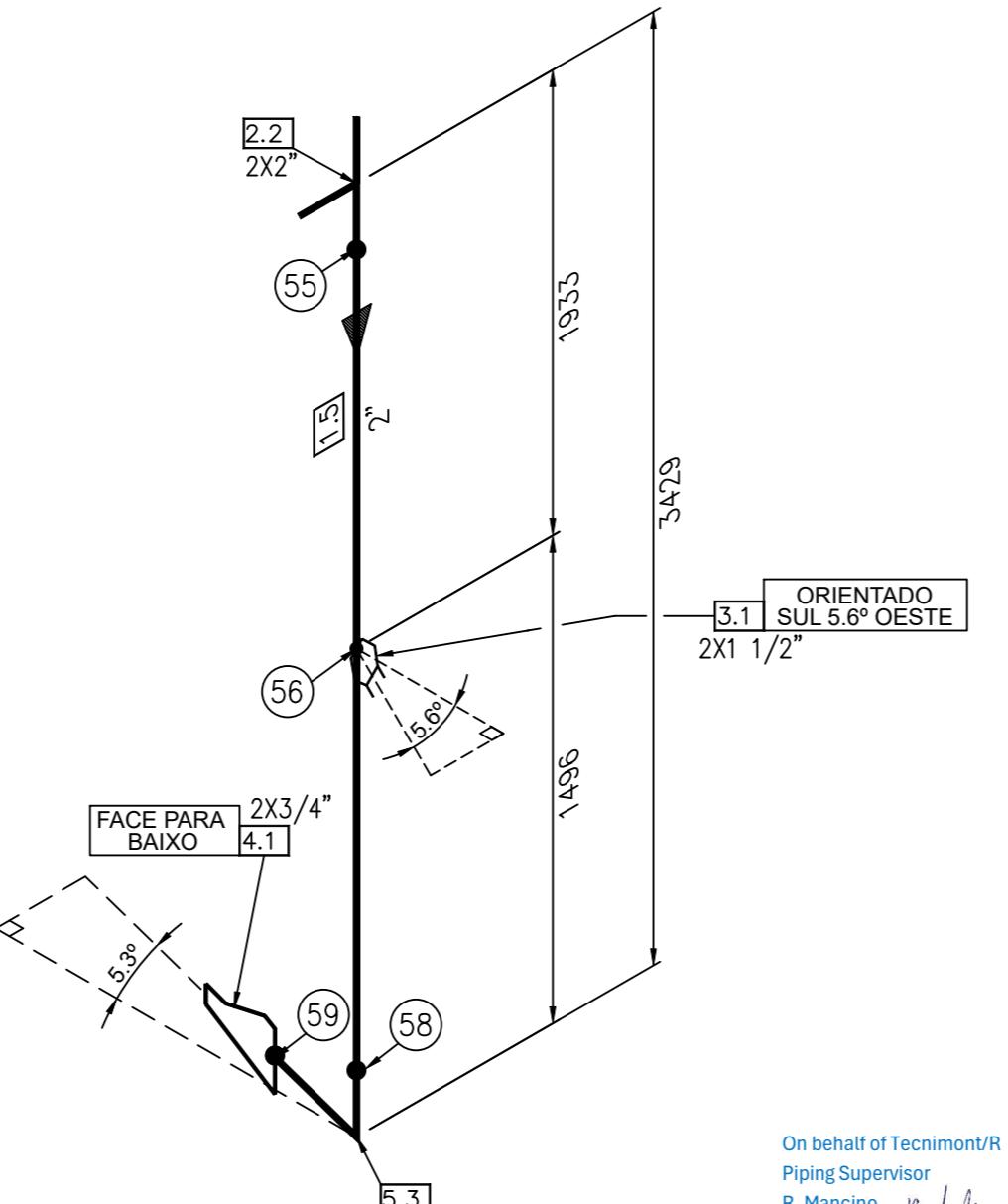
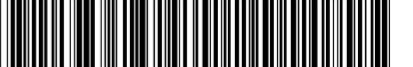
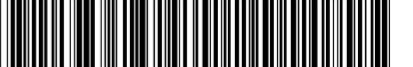
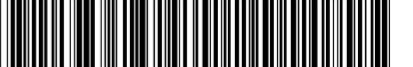
03/12/2024

Sergio Morales



Date: 18-11-24

GABRIEL BOCCARD (R)  
INTERNAUTIC PORTUGAL, LDA  
ISO EN 9712 certified level 2  
VT/P/T/MTR/UT-TOD-R2

	 <p style="text-align: center;">Sergio Morales Date: 18-11-24</p> <p style="text-align: right;">On behalf of Tecnimont/R Piping Supervisor R. Mancino 03.dec.2024</p> <p style="text-align: center;"></p>	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th colspan="6" style="text-align: center; background-color: #333; color: white;">BILL OF MATERIAL</th> </tr> </thead> <tbody> <tr> <td colspan="6" style="text-align: center;">PIPE</td> </tr> <tr> <th>ITEM</th><th>LENGTH</th><th>DIAMETER</th><th>SCH/mm</th><th>DESCRIPTION / MATERIAL</th><th>ITEM CODE</th></tr> <tr> <td>1.5</td><td>3,285</td><td>2"</td><td>S-10S</td><td>PIPE - A312-TP304/304L DUAL GR SMLS, BExBE</td><td>I3364302</td></tr> <tr> <td colspan="6" style="text-align: center;">WELD FITTINGS</td> </tr> <tr> <th>ITEM</th><th>QT</th><th>DIAMETER</th><th>SCH/mm</th><th>DESCRIPTION / MATERIAL</th><th>ITEM CODE</th></tr> <tr> <td>2.2</td><td>1</td><td>2" x 2"</td><td>S-10S</td><td>STRAIGHT TEE ASME B16.9 A403-WP304/304L DG BE SMLS</td><td>I2259149</td></tr> <tr> <td>4.1</td><td>1</td><td>2" x 3/4"</td><td>S-10S x S-40S</td><td>ECCENTRIC SWAGE MSS SP-95 - A403-WP304/304L DG BE PE SMLS</td><td>I2495783</td></tr> <tr> <td>5.3</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 colspan="6" style="text-align: center;">FORGINGS</td> </tr> <tr> <th>ITEM</th><th>QT</th><th>DIAMETER</th><th>SCH/PRESS.</th><th>DESCRIPTION / MATERIAL</th><th>ITEM CODE</th></tr> <tr> <td>3.1</td><td>1</td><td>2" x 1 1/2"</td><td>3000#</td><td>REDUCING SOCKOLET MSS-SP-97 3000# A182-F304/304L DUAL GR BE SWE</td><td>I2258341</td></tr> <tr> <td colspan="6" style="height: 150px;"></td> </tr> <tr> <td colspan="6" style="text-align: right; padding-top: 10px;"> <b>P2308S 00494</b>    <b>2121-IA91F63-6-SP11-00494</b> </td> </tr> <tr> <td colspan="6" style="text-align: right; padding-top: 10px;">  </td> </tr> </tbody> </table>	BILL OF MATERIAL						PIPE						ITEM	LENGTH	DIAMETER	SCH/mm	DESCRIPTION / MATERIAL	ITEM CODE	1.5	3,285	2"	S-10S	PIPE - A312-TP304/304L DUAL GR SMLS, BExBE	I3364302	WELD FITTINGS						ITEM	QT	DIAMETER	SCH/mm	DESCRIPTION / MATERIAL	ITEM CODE	2.2	1	2" x 2"	S-10S	STRAIGHT TEE ASME B16.9 A403-WP304/304L DG BE SMLS	I2259149	4.1	1	2" x 3/4"	S-10S x S-40S	ECCENTRIC SWAGE MSS SP-95 - A403-WP304/304L DG BE PE SMLS	I2495783	5.3	1	2"	S-10S	90 LR ELBOW ASME B16.9 A403-WP304/304L DG BE SMLS	I2259133	FORGINGS						ITEM	QT	DIAMETER	SCH/PRESS.	DESCRIPTION / MATERIAL	ITEM CODE	3.1	1	2" x 1 1/2"	3000#	REDUCING SOCKOLET MSS-SP-97 3000# A182-F304/304L DUAL GR BE SWE	I2258341							<b>P2308S 00494</b>  <b>2121-IA91F63-6-SP11-00494</b>											
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# 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
P2308S	00494	2121-IA91F63-6-SP11-00494		2121-IA91F63-6		01	
1.5	3,285	2.0000 S10S	0.0000 NA	PIPE, SEAMLESS, A312-TP304L	NY231216AS15 0391	3,93	12,91
40391							
5.3	1	2.0000 S10S	0.0000 NA	90 LR ELL, SEAMLESS, A403-WP304L	NY230506AT08 0462	0,49	0,49
42965							
2.2	1	2.0000 S10S	0.0000 NA	TEE, SEAMLESS, A403-WP304L	MN012-1 0430	0,78	0,78
44252							
3.1	1	2.0000 NA	1.5000 NA	SOCKOLET, 3000#, A182-F304L	N220606AV04 0503	0,45	0,45
85701							
4.1	1	2.0000 S10S	0.7500 S40S	ECC SWAGE NIPPLE, LEB-SEP, A403-WP304L	N220604DB01 0513	1,97	1,97
73272							

On behalf of Tecnimont/R  
 Piping Supervisor  
 R. Mancino  
 03.dec.2024 

Number of Items :	5	Total Weight :	16,60								
Signature	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="text-align: center; padding: 5px;">QA</td> <td style="text-align: center; padding: 5px;">Client</td> </tr> <tr> <td style="text-align: center; padding: 5px;"></td> <td style="text-align: center; padding: 5px;">Sergio Morales</td> </tr> <tr> <td style="text-align: center; padding: 5px;"></td> <td style="text-align: center; padding: 5px;">Date: 18-11-24</td> </tr> <tr> <td style="text-align: center; padding: 5px;">Date</td> <td style="text-align: center; padding: 5px;">2024-11-08 16:04:31</td> </tr> </table>	QA	Client		Sergio Morales		Date: 18-11-24	Date	2024-11-08 16:04:31		
QA	Client										
	Sergio Morales										
	Date: 18-11-24										
Date	2024-11-08 16:04:31										

 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.  
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## MATERIAL TEST CERTIFICATE

EN10204 3.1

MANUFACTURER: Yingkou Guangming Pipeline Industry Co.,Ltd

MATERIAL: ASTM A403 WP304/304L

DIMENSION: ASME B16.9

WORK NO: GMPPFCP2312363

DATE: April.10th,2024

PAGE NO: 20/29

CUSTOMER: Chero Piping S.p.A.

NO.	POS .No.	CHERO CODE	COMMESA COMMESA	PRODUCT & SIZE	QUANTITY	MFG NO. (HEAT NO.)	CHEMICAL COMPOSITION%					
							MIN	C	Si	Mn	P	S
						PCS	MAX	0.030	1.00	2.00	0.045	0.030
74	310	C90LRB1XB 0001.ZZW	OC/2023/90 3/1040	SIZE: 2 - SCHED.S-10S 90 LR ELBOW A403- WP304/304L DG BE SMLS ASME B16.9	58	NY230506AT08	0.015	0.39	1.34	0.036	0.009	8.02
75	320	C90LRB1XB 000N.ZZW	OC/2023/90 3/1060	SIZE: 3 - SCHED.S-10S 90 LR ELBOW A403- WP304/304L DG BE SMLS ASME B16.9	16	JSG2310019	0.027	0.54	1.22	0.026	0.015	8.11
76	330	C90LRB1XB 000P.ZZW	OC/2023/90 3/1080	SIZE: 4 - SCHED.S-10S 90 LR ELBOW A403- WP304/304L DG BE SMLS ASME B16.9	4	JSG2312020	0.028	0.44	1.23	0.027	0.010	8.28
77	340	C90LRB1XB 000R.ZZW	OC/2023/90 3/1090	SIZE: 6 - SCHED.S-10S 90 LR ELBOW A403- WP304/304L DG BE SMLS ASME B16.9	2	JSG2312024	0.027	0.47	1.24	0.028	0.013	8.26
PHYSICAL TEST												
NO.	POS .No.	CHERO CODE	COMMESA COMMESA	CHARGE NO	STANDARD	YIELD STRENGTH MPA(N/mm <sup>2</sup> )	TENSILE STRENGTH MPA(N/mm <sup>2</sup> )	ELONGATION %	HARDNESS HB	VISUAL INSPECTION	DIMENSION INSPECTION	PMI TESTING
					MIN	170	485	28	-			
					MAX				-			
74	310	C90LRB1XB 0001.ZZW	OC/2023/90 3/1040	NY230506AT08	299	611	51	-	GOOD	GOOD	GOOD	OK
75	320	C90LRB1XB 000N.ZZW	OC/2023/90 3/1060	JSG2310019	256	665	54	-	GOOD	GOOD	GOOD	OK
76	330	C90LRB1XB 000P.ZZW	OC/2023/90 3/1080	JSG2312020	279	680	66	-	GOOD	GOOD	GOOD	OK
77	340	C90LRB1XB 000R.ZZW	OC/2023/90 3/1090	JSG2312024	273	674	62	Yuan Yuan	GOOD	GOOD	GOOD	OK

NOTE:

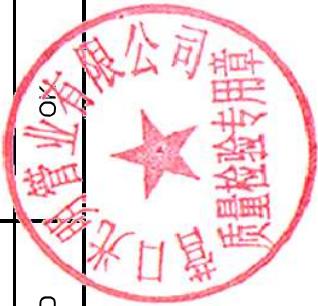
1. HEAT TREATMENT: SOLUTION ANNEALED TEMPERATURE 1050°C X 0.5HR, COOLING IN WATER.

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

CHIEF OF INSPECTION DEPARTMENT

Prime 4 030 TCN

2024.4.7







江阴中南重工有限公司 Jiangyin Zhongnan Heavy Industries  
产品质量说明书 Quality Certificate EN10

买家(Purchaser): 意大利Technimont

材质(Material): ASTM A182-2001 F304(304) AISI

质量证明书编号(Certificate No.): 2024-01-435-47

表号: ZNHI/QM400-34-1  
修订号: 0



江阴中南重工有限公司  
Jiangyin Zhongnan Heavy Industries Co.,Ltd.

产品品质证明书 Quality Certificate EN10204-3.1

用户(Purchaser): 意大利Techmimont

客户订单号:PO 7500110919

质量证明书编号 (Certificate No.): 2023-06-283-67

批号: ZNH1/QM400-34-1  
修订号: 0

材质(Material): ASTM A403-2022 WP304/304L DG

生产批号 Batch No.	产品名称 Designation	规格型号 Dimension	数量 Qty	单位 Unit	炉号 Heat No:	化学成分 Chemical Composition (%)									产品执行标准(Product standards): MSS SP-95-2018						机械性能 Mechanical Properties	硬度 HBW	备注 Remark				
						C	Si	Mn	S	P	Cr	Ni	Ti	Mo	V	Cu	Nb	Al	N	CE	R <sub>m</sub> (MPa)	R <sub>p0.2</sub> (MPa)	抗拉强度 屈服强度 R <sub>m</sub> (MPa)	延伸率 Z %	断面收缩率 A %	冲击试验(J) 0°C (10*10*5mm)	
2023-06-283-484	ICCENTRIC SWAGG	SIZE1.2 SCHED.1 S-40S SIZE2.1 SCHED.2 S-40S	件	11	N220604DB01	0.023	0.35	1.42	0.004	0.030	18.15	8.06								633	328	52	-	-	-	177/173/178	Ident Code:12250666 Commodity Code:R22PQL2F/Z04
2023-06-283-485	ICCENTRIC SWAGG	SIZE1.2 SCHED.1 S-40S SIZE2.1.5 SC-AED.2 S-40S	件	6	N220604DB01	0.023	0.35	1.42	0.004	0.030	18.15	8.06								633	328	52	-	-	-	177/173/178	Ident Code:12250668 Commodity Code:R22PQL2F/Z04
2023-06-283-486	ICCENTRIC SWAGG	SIZE1.3 SCHED.1 S-40S SIZE2.1.5 SCHE1.2 S-40S	件	18	N220604DB01	0.023	0.35	1.42	0.004	0.030	18.15	8.06								633	328	52	-	-	-	177/173/178	Ident Code:12250685 Commodity Code:R22PQL2F/Z04
2023-06-283-487	ICCENTRIC SWAGG	SIZE1.2 SCHED.1 S-10S SIZE2.0.75 SCHED.2 S-40S	件	1	N220604DB01	0.023	0.35	1.42	0.004	0.030	18.15	8.06								633	328	52	-	-	-	177/173/178	Ident Code:12495783 Commodity Code:R22PQL2F/Z10
2023-06-283-488	ICCENTRIC SWAGG	SIZE1.2 SCHED.1 S-40S SIZE2.1.5 SCHE1.2 S-40S	件	3	N220604DB01	0.023	0.35	1.42	0.004	0.030	18.15	8.06								633	328	52	-	-	-	177/173/178	Ident Code:12495785 Commodity Code:R22PQL2F/Z20
2023-06-283-489	ICCENTRIC SWAGG	SIZE1.3 SCHED.1 S-40S SIZE2.1.5 SCHE1.2 S-40S	件	5	N220604DB01	0.023	0.35	1.42	0.004	0.030	18.15	8.06								633	328	52	-	-	-	177/173/178	Ident Code:12495786 Commodity Code:R22PQL2F/Z20

其他检测结果(Other examination and test) 其他(others):

尺寸检查 Dimensions	外观检查 Visual Inspection	硬度 (HBW≤201)	无损检测(NDT)			备注 Remark	交货状态 Delivery condition
			磁粉 MT	着色 PT	超声波 UT		
合格 OK	合格 OK		合格 OK	-	-	合格 OK	PMI OK Solution Annealing

兹证明上述产品的制造、检验和试验, 符合上述标准规定及合同要求。

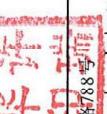
We hereby certify that the products described above have manufactured, inspected and tested in accordance with the specified standards and the contract requirements.

特种设备制造许可证(Manufacture License of Special Equipment): 1S2732E1-2024

检验员(Inspector):	华 HUA	质保工程师(QA Engineer):	东 DONG	试验日期(Date of issue):	2023/08/22
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试验日期(Date of issue): 2023/08/22

地址:江阴市高新技术产业开发区金山路78号	电话(Tel): 0510-86996009
Ac: 788 Jinshan Rd,High and New Technology Industrial Development,JiangYin City, JiangSu P.R.China	传真(Fax): 0510-86996035



质量专用章

试验专用章

检验专用章



Contract : P2300

Drawing : 2121-IA91F63-6

## Welding and QC Report Per Spool

Job : P2300S

Material : Stainless Steel 304, 316, 317

Client : NERVION

Revision : 01

Project : ALBA

Piece Mark : 2121-IA91F63-6-SP11-00494

Spec : 6C4-M

Weld No.	Type	Dia	Sch	Weld 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	Control											
																					PWHT	Date PWHT	BHN	Date BHN	Ultra	Date UT	Xray	Date Xray				
0055	BW	2	S10S	MW.26_BW	BC	23-09-2024	4712055	BC	23-09-2024	4712055			001171	21-10-2024			001251	08-11-2024														
0056	SOL	1,5	S10S	MW.26_SBR	BC	20-09-2024	4712055	BC	20-09-2024	4712055			001171	21-10-2024	000229	21-10-2024			001251	08-11-2024												
0058	BW	2	S10S	MW.26_BW	BC	24-09-2024	4712055	BC	24-09-2024	4712055			001171	21-10-2024			001251	08-11-2024														
0059	BW	2	S10S	MW.26_BW	BC	24-09-2024	4712055	BC	24-09-2024	4712055			001171	21-10-2024			001251	08-11-2024														

On behalf of Tecnimont  
QC Welding Inspector

GABRIEL BOCARD  
INTEGRITY'S FOUNDER  
ISO EN 9712 Certified Inspector Level 2  
VITRIMETRATO-TOPD-PA  
(R)

03/12/2024

Notes:

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Signature

Date

Boccard Portugal QC	Client
	Sergio Morales Date: 18-11-24
08-11-2024 16:04:31	



# Shop QC Inspection Report

P2308-001215

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

Job number: P2308S  
 Spool N°: 00494  
 Piece Mark: 2121-IA91F63-6-SP11-00494

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

Control Date: 21-10-2024

Remarks: The results refer to the controlled items

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

Comments:

Performed by: RODRIGUES(ST), VITOR (N2 VT/PT) Date: 21-10-2024 Signature 	QA/QC Inspection: RAIMUNDO, MARIANA Date: 08-11-2024 16:04:31 Signature 	Customer Inspection: <b>Sergio Morales</b> Date: 18-11-24 
--	---	--

On behalf of Tecnimont  
 QC Welding Inspector  
 03/12/2024

GABRIEL BONETE  
 INTENSA S. COLOMBIA  
 ISO EN 9712 certificado  
 VIFT/MTA/UTTO-D-PA  
 (R)

# Visual Examination Report (Welds)

P2308-001171

Contract : P2308

Job number: P2308S

Material: Stainless Steel 304, 316, 317

Client : NERVION

Spool N°: 00494

Procedure &amp; Instructions: 4274-LZ-VF31010370QAC04 - Rev: 1

Project : ALBA

Piece Mark: 2121-IA91F63-6-SP11-00494

Testing Date: 21-10-2024

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

Weld No.	Weld Desc.	Welder	Temp. (°F/°C)	Technique Used			Comments
				Accepted	Rejected	Defect	
0055	2.0000 S10S BW-Buttweld Straight (MW.26_BW)	BC	22	X			Direct
0056	1.5000 S10S SOL-Sockolet to Header Weld (MW.26_SBR)	BC	22	X			Direct
0058	2.0000 S10S BW-Buttweld Straight (MW.26_BW)	BC	22	X			Direct
0059	2.0000 S10S BW-Buttweld Straight (MW.26_BW)	BC	22	X			Direct

Sketch / Photo:

Defects							
Clustered Porosity	CP	Porosity	P	Cap	C	Lack of Cleanup	LC
Unibmly Porosity	UP	Slag	S	Undercut	UC	Crack	CR

Test Performed by: RODRIGUES(ST), VITOR (N2 VT/PT)

QA/QC Inspection: RAIMUNDO, MARIANA

Customer Inspection:

Date: 21-10-2024

Date: 08-11-2024 16:04:31

Sergio Morales

Signature



Signature



Date: 18-11-24


On behalf of Technimont 03/12/2024  
QC Welding Inspector

GABRIEL BOFFAROL  
ISO EN 9712 certified technician Level  
VT/PT/MT/UT/TUD-PA  
(R)



# Liquid Penetrant Examination Report

P2308-000229

Client : NERVION  
 Contract : P2308 / Project : ALBA  
 Remarks: The results refer to the controlled items

Job number: P2308S

Spool Nº: 00494

Piece Mark: 2121-IA91F63-6-SP11-00494

Material: Stainless Steel 304, 316, 317

Procedure / Instruction reference: 4274-LZ-VD-FW31010370QAC03

Testing Date: 21-10-2024

Steps	Penetrant	Cleaner	Developer	Lighting Equipment
Brand	Mr Chemie (MR68-NF)	Mr Chemie (MR85)	Mr Chemie (MR70)	Artificial > 500 lux
Type	II	C	e	-
Batch/Serial Number	*080323 (03/2026)	*150124 (01/2027)	*300124 (01/2027)	-

Weld / Item No.	Identification Description	Welder	Tem (°F/C)	Dwell Time (min)				Examin Time	Accepted yes	No Indication	Remarks
				Penetrant	Cleaner	Developer	Lighting				
0056	1.5000 S10S SOL-Socket to Header Weld (MW.26_SBR)	BC	22	20 m	-	10 m	-	-	X	<input type="checkbox"/>	

Sketch / Photo:

Defects											
Clustered Porosity	CP	Cap	C	Undercut	UC	Surface	SU			Crack	CR
Porosity	P	Slag	S	Lack of Cleanup	LC	Crater Crack	CC				
Test Performed by: VITOR (N2 VT/PT), RODRIGUES(ST) QA/QC Inspection: RAIMUNDO, MARIANA Customer Inspection:											
Date: 21-10-2024		Date: 21-10-2024						Sergio Morales			
Signature		Signature		Date: 18-11-24							

03/12/2024

On behalf of Tecnimont  
 QC Welding Inspector

GABRIEL BOZZETTU  
 INTENSIVE INSPECTION LEVEL 2  
 ISO EN 9712 certification level 2  
 VIP/IMT/TIT/TOTD PA  
 (R)



# Positive Material Identification Report (PMI)

P2308-001251

Client : NERVION

Contract : P2308 / Project : ALBA

Remarks: The results refer to the controlled items

Job number: P2308S

Spool N°: 00494

Piece Mark: 2121-IA91F63-6-SP11-00494

Material: Stainless Steel 304, 316, 317

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

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

Equipment Deviation : + - 5%

Testing Date: 08-11-2024

Weld / Item No	Description	Reading Number	Chemical Elements										Accepted	Rejected	Comments
			%Ti	%Mo	%Cu	%Ni	%Fe	%Mn	%Cr	%Nb	%Al	%V			
0055	2.0000 S10S BW-Buttweld Straight (MW.26_BW)	242	0	0	0	9	68	1	19	0	0	0	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
0056	1.5000 S10S SOL-Sockolet to Header Weld (MW.26_SBR)	241	0	0	0	8	70	1	18	0	0	0	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
0058	2.0000 S10S BW-Buttweld Straight (MW.26_BW)	240	0	0	0	8	69	1	18	0	0	0	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
0059	2.0000 S10S BW-Buttweld Straight (MW.26_BW)	239	0	0	0	8	71	1	17	0	0	0	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
1.5	2.0000 S10S PIPE, SEAMLESS, A312-TP304L (NY231216AS15)	235	0	0	0	8	71	1	18	0	0	0	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
2.2	2.0000 S10S TEE, SEAMLESS, A403-WP304L (MN012-1)	234	0	0	0	8	72	1	17	0	0	0	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
3.1	2.0000 NA 1.5000 NA SOCKOLET, 3000#, A182-F304L (N220606AV04)	236	0	0	0	7	71	1	18	0	0	0	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
4.1	2.0000 S10S 0.7500 S40S ECC SWAGE NIPPLE, LEB-SEP, A403-WP304L (N220604DB01)	238	0	0	0	8	71	1	17	0	0	0	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
5.3	2.0000 S10S 90 LR ELL, SEAMLESS, A403-WP304L (NY230506AT08)	237	0	0	0	7	72	1	17	0	0	0	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

On behalf of Tecnimont  
QC Welding Inspector

GABRIEL BONA  
WELDING INSPECTOR  
ISO EN 9712 certification Level 2  
VT/PT/MT/RT/UT-TODD-PA

(R)

03/12/2024

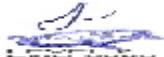
Test Performed by: GONCALVES(QA), J. (N2 PT/RT) QA/QC Inspection: RAIMUNDO, MARIANA

Customer Inspection:

Date: 08-11-2024

Sergio Morales

Signature



Date: 08-11-2024 16:04:31

Signature



Date:

Date: 18-11-24



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

## Certificate of PMI Reading

XL3t-32735

Reading No	242
Mode	ALLOY
Time	2024-11-08 12:01
Duration	13.44
Sequence	Final
Alloy1	304SS : 0.34
Alloy2	No Match : *2.14
Flags	
SAMPLE	
HEAT	
LOT	
BATCH	
MISC	
NOTE	

	%	±	Error
Sb	< LOD	:	0.037
Sn	< LOD	:	0.045
Pd	< LOD	:	0.033
Ag	< LOD	:	0.175
Al	< LOD	:	80.000
Mo	0.046	±	0.007
Nb	< LOD	:	0.007
Zr	< LOD	:	0.003
Bi	< LOD	:	0.010
Pb	< LOD	:	0.019
Se	< LOD	:	0.008
W	< LOD	:	0.087
Zn	< LOD	:	0.023
Cu	< LOD	:	0.131
Ni	9.036	±	0.263
Co	< LOD	:	0.429
Fe	68.905	±	0.395
Mn	1.930	±	0.182
Cr	19.354	±	0.232
V	< LOD	:	0.112
Ti	< LOD	:	0.135

On behalf of Tecnimont  
03/12/2024 QC Welding Inspector

Sergio Morales

Date: 18-11-24



GABRIEL HOFERMAN  
WT & IN's R&D Director  
ISO EN 9712 certification holder  
VT/PT/MT/RT/UT-OFD - PA  
(R)

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

## Certificate of PMI Reading

XL3t-32735

Reading No	241
Mode	ALLOY
Time	2024-11-08 12:01
Duration	11.54
Sequence	Final
Alloy1	304SS : 0.00
Alloy2	No Match : *2.10
Flags	
SAMPLE	
HEAT	
LOT	
BATCH	
MISC	
NOTE	

	%	±	Error
Sb	< LOD	:	0.044
Sn	< LOD	:	0.052
Pd	< LOD	:	0.041
Ag	< LOD	:	0.171
Al	< LOD	:	80.000
Mo	0.030	±	0.007
Nb	< LOD	:	0.008
Zr	< LOD	:	0.008
Bi	< LOD	:	0.017
Pb	< LOD	:	0.023
Se	< LOD	:	0.007
W	< LOD	:	0.090
Zn	< LOD	:	0.029
Cu	< LOD	:	0.150
Ni	8.745	±	0.300
Co	< LOD	:	0.490
Fe	70.424	±	0.451
Mn	1.700	±	0.204
Cr	18.522	±	0.261
V	< LOD	:	0.130
Ti	< LOD	:	0.140

03/12/2024  
On behalf of Tecnimont  
QC Welding Inspector

Sergio Morales

Date: 18-11-24



GABRIEL BOCCARD  
ISO EN 9712 certified  
WPS & WPS & ROBOTIC  
VT/P/T/M/T/R/T/C-T-QFD-PA  
(R)

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

## Certificate of PMI Reading

XL3t-32735

Reading No	240
Mode	ALLOY
Time	2024-11-08 12:01
Duration	10.93
Sequence	Final
Alloy1	304SS : 0.95
Alloy2	No Match : *2.34
Flags	
SAMPLE	
HEAT	
LOT	
BATCH	
MISC	
NOTE	

	%	±	Error
Sb	< LOD	:	0.040
Sn	< LOD	:	0.046
Pd	< LOD	:	0.034
Ag	< LOD	:	0.125
Al	< LOD	:	80.000
Mo	0.021	±	0.006
Nb	< LOD	:	0.007
Zr	< LOD	:	0.006
Bi	< LOD	:	0.002
Pb	< LOD	:	0.020
Se	< LOD	:	0.005
W	< LOD	:	0.085
Zn	< LOD	:	0.032
Cu	< LOD	:	0.141
Ni	8.653	±	0.285
Co	0.510	±	0.238
Fe	69.880	±	0.431
Mn	1.809	±	0.197
Cr	18.795	±	0.251
V	0.133	±	0.065
Ti	< LOD	:	0.124

On behalf of Tecnimont  
QC Welding Inspector (R)

Sergio Morales



Date: 18-11-24

GABRIEL BONFILAU  
WTS/WWS Project Manager  
ISO EN 9712 Certified Inspector Level 2  
VTPT/IMVR/TUT/TOFD - PA

03/12/2024

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

## Certificate of PMI Reading

XL3t-32735

Reading No	239
Mode	ALLOY
Time	2024-11-08 12:00
Duration	11.51
Sequence	Final
Alloy1	304SS : 1.56
Alloy2	No Match : *2.16
Flags	
SAMPLE	
HEAT	
LOT	
BATCH	
MISC	
NOTE	

	%	±	Error
Sb	< LOD	:	0.035
Sn	< LOD	:	0.045
Pd	< LOD	:	0.034
Ag	< LOD	:	0.172
Al	< LOD	:	80.000
Mo	< LOD	:	0.006
Nb	< LOD	:	0.007
Zr	< LOD	:	0.006
Bi	< LOD	:	0.013
Pb	< LOD	:	0.015
Se	< LOD	:	0.007
W	< LOD	:	0.082
Zn	< LOD	:	0.033
Cu	< LOD	:	0.131
Ni	8.102	±	0.273
Co	0.486	±	0.232
Fe	71.743	±	0.419
Mn	1.445	±	0.186
Cr	17.927	±	0.240
V	0.126	±	0.062
Ti	< LOD	:	0.120

03/12/2024 On behalf of Tecnimont  
QC Welding Inspector

Sergio Morales



Date: 18-11-24

GABRIEL BONELLO  
Welding Inspector  
ISO EN 972 certification Level 2  
VTP/TMTR/TOT/OFD-PA (R)

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

## Certificate of PMI Reading

XL3t-32735

Reading No	235
Mode	ALLOY
Time	2024-11-08 11:59
Duration	12.61
Sequence	Final
Alloy1	304SS : 0.06
Alloy2	No Match : 1.99
Flags	
SAMPLE	
HEAT	
LOT	
BATCH	
MISC	
NOTE	

	%	±	Error
Sb	< LOD	:	0.037
Sn	< LOD	:	0.047
Pd	< LOD	:	0.031
Ag	< LOD	:	0.186
Al	< LOD	:	80.000
Mo	0.021	±	0.006
Nb	< LOD	:	0.004
Zr	< LOD	:	0.003
Bi	< LOD	:	0.013
Pb	< LOD	:	0.017
Se	< LOD	:	0.008
W	< LOD	:	0.089
Zn	< LOD	:	0.033
Cu	< LOD	:	0.130
Ni	8.031	±	0.261
Co	< LOD	:	0.440
Fe	71.889	±	0.402
Mn	1.292	±	0.176
Cr	18.008	±	0.231
V	< LOD	:	0.119
Ti	< LOD	:	0.132

03/12/2024  
On behalf of Tecnimont  
QC Welding Inspector

Sergio Morales



Date: 18-11-24

GABRIEL BOCCARD  
JN78/WL-9000  
ISO EN 9712 certification Level 2  
VTP/TMTR/TUT-T-TOFD-PA  
(R)

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

## Certificate of PMI Reading

XL3t-32735

Reading No	234
Mode	ALLOY
Time	2024-11-08 11:59
Duration	12.12
Sequence	Final
Alloy1	304SS : 1.68
Alloy2	No Match : *1.93
Flags	
SAMPLE	
HEAT	
LOT	
BATCH	
MISC	
NOTE	

	%	±	Error
Sb	< LOD	:	0.040
Sn	< LOD	:	0.048
Pd	< LOD	:	0.037
Ag	< LOD	:	0.126
Al	< LOD	:	80.000
Mo	< LOD	:	0.007
Nb	< LOD	:	0.005
Zr	< LOD	:	0.003
Bi	< LOD	:	0.003
Pb	< LOD	:	0.013
Se	< LOD	:	0.006
W	< LOD	:	0.093
Zn	< LOD	:	0.025
Cu	< LOD	:	0.136
Ni	8.095	±	0.274
Co	< LOD	:	0.460
Fe	72.012	±	0.420
Mn	1.436	±	0.186
Cr	17.837	±	0.240
V	0.129	±	0.063
Ti	< LOD	:	0.126

03/12/2024

On behalf of Tecnimont  
QC Welding Inspector

Sergio Morales



Date: 18-11-24

GABRIEL BOFFELATO  
INTERNAIS - QC  
ISO EN 9712 certification Level 2  
VIP/TMTRUT-TGFD-PA  
(R)

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

## Certificate of PMI Reading

XL3t-32735

Reading No	236
Mode	ALLOY
Time	2024-11-08 12:00
Duration	16.38
Sequence	Final
Alloy1	304SS : 1.74
Alloy2	301SS : 2.09
Flags	SAMPLE
	HEAT
LOT	
BATCH	
MISC	
NOTE	

	%	±	Error
Sb	< LOD	:	0.030
Sn	< LOD	:	0.038
Pd	< LOD	:	0.028
Ag	< LOD	:	0.184
Al	< LOD	:	80.000
Mo	0.017	±	0.004
Nb	< LOD	:	0.003
Zr	< LOD	:	0.003
Bi	< LOD	:	0.011
Pb	< LOD	:	0.016
Se	< LOD	:	0.005
W	< LOD	:	0.072
Zn	< LOD	:	0.025
Cu	< LOD	:	0.111
Ni	7.849	±	0.216
Co	< LOD	:	0.369
Fe	71.965	±	0.337
Mn	1.105	±	0.146
Cr	18.135	±	0.195
V	0.210	±	0.056
Ti	< LOD	:	0.118

On behalf of Tecnimont  
QC Welding Inspector

03/12/2024

GABRIEL BOCCARD  
Welding & Process  
VT/PT/MT/RT/UT-TOFD-PA  
ISO EN 9609-1  
Level 2  
(R)

Sergio Morales

Date: 18-11-24



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

## Certificate of PMI Reading

XL3t-32735

Reading No	238
Mode	ALLOY
Time	2024-11-08 12:00
Duration	13.39
Sequence	Final
Alloy1	304SS : 1.36
Alloy2	No Match : 1.96
Flags	
SAMPLE	
HEAT	
LOT	
BATCH	
MISC	
NOTE	

	%	±	Error
Sb	< LOD	:	0.034
Sn	< LOD	:	0.044
Pd	< LOD	:	0.033
Ag	< LOD	:	0.140
Al	< LOD	:	80.000
Mo	< LOD	:	0.007
Nb	< LOD	:	0.004
Zr	< LOD	:	0.005
Bi	< LOD	:	0.010
Pb	< LOD	:	0.015
Se	< LOD	:	0.006
W	< LOD	:	0.089
Zn	< LOD	:	0.025
Cu	< LOD	:	0.126
Ni	8.001	±	0.262
Co	0.477	±	0.223
Fe	71.657	±	0.405
Mn	1.548	±	0.181
Cr	17.960	±	0.232
V	0.199	±	0.066
Ti	< LOD	:	0.128

On behalf of Tecnimont  
QC Welding Inspector

03/12/2024 *Gabriel Boccardo*

(R)

Sergio Morales



Date: 18-11-24

ISO EN 9712 Certified Laboratory  
VTP/TM/TUT-TOFD PA  
Level 2

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

## Certificate of PMI Reading

XL3t-32735

Reading No	237
Mode	ALLOY
Time	2024-11-08 12:00
Duration	11.93
Sequence	Final
Alloy1	301SS : 1.65
Alloy2	No Match : *2.29
Flags	
SAMPLE	
HEAT	
LOT	
BATCH	
MISC	
NOTE	

	%	±	Error
Sb	< LOD	:	0.034
Sn	< LOD	:	0.045
Pd	< LOD	:	0.034
Ag	< LOD	:	0.154
Al	< LOD	:	80.000
Mo	0.021	±	0.006
Nb	< LOD	:	0.004
Zr	< LOD	:	0.003
Bi	< LOD	:	0.009
Pb	< LOD	:	0.022
Se	< LOD	:	0.006
W	< LOD	:	0.097
Zn	< LOD	:	0.032
Cu	< LOD	:	0.131
Ni	7.968	±	0.263
Co	< LOD	:	0.445
Fe	72.339	±	0.406
Mn	1.387	±	0.179
Cr	17.562	±	0.231
V	0.169	±	0.064
Ti	< LOD	:	0.133

03/12/2024

On behalf of Tecnimont  
QC Welding Inspector

Sergio Morales



Date: 18-11-24

GMBH  
INTERNAZIONALE  
ISO EN 9712 certification Level 2  
VTP/TM/TOT-TOFD-PA  
(R)