



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° IP-WSR-P-310-000404_RFI5388_MOD-ITP-XL_220
Rev.1			RFI Nr.: Date :
Unit	-		
Plant Area	-		
Isometric Number			
Inspection Package Number	IP-WSR-P-310-000404_RFI5388 - IP Spool Release From Workshop		

Sheet 01/01

The Present Inspection Package contains the following Elements:

7112-DMW64001-1-SP01-03094;7112-DMW64001-1-SP02-03093;2211-PCW70B06-1-SP03-01103;2211-DMW91Q01-3-SP09-03092;2121-IA91F63-7-SP16-00497;2121-IA91F63-7-SP15-00496;2121-IA91F63-7-SP14-00495;2121-IA91F63-2-SP08-00484;2121-IA91F62-6-SP14-00504;2121-IA91F62-6-SP15-00476;2121-IA91F62-5-S
P12-00475;2121-IA91F62-5-SP11-00474;2121-IA91F62-5-SP10-00473;2121-IA91F62-4-SP03-00472;2121-IA91F62-4-SP02-00471;2121-IA91F62-4-SP01-00470;2121-IA91F62-2-SP09-00467;2121-IA91F62-1-SP13-00931;1211-PCW89017-1-SP03-00359;1211-PCW89017-1-SP02-00358;1211-PCW89017-1-SP01-00357;1211-PCW89012-2-SP03-01102;1211-PCW89012-2-SP02-01101;1211-PCW89009-1-SP01-00356;1211-LO89008-1-SP02-00343;1211-LO89008-1-SP01-00342;1211-DMW64001-2-SP03-03091;1127-LS50009-6-SP11-00807;1127-LS50009-6-SP10-00806;1126-LO32008-1-SP03-00841;1115-DMW64003-2-SP04-03090;1115-DMW64003-1-SP02-03071;1115-DMW63001-1-SP03-03076

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 *C. Sandu*
21.10.2024

LEGEND OF CHECK RESULT	<input checked="" type="checkbox"/> Checked & NOT Accepted	<input type="checkbox"/> Checked & Accepted	N.A.	Not Applicable	<input type="checkbox"/> Y / N	Punch List Produced
SUBCONTRACTOR	Date [DD-MMM-YYYY]	Name	Signature 			
CONTRACTOR	21-10-2024	Sergio Morales Collantes				
COMPANY						
(Free)						



Tecnímont 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 Tecnímont / R
Piping Supervisor
Cristi Sandu C. Sandu
21.10.2024

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			21-10-2024	Sergio Morales Collantes		
CONTRACTOR						
COMPANY						
(Free)						

 Tecnimont	<h3 style="text-align: center;">Punch List</h3> <h2 style="text-align: center;">PUNCH LIST</h2>	IDENTIFICATION CODE						
		<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="padding: 5px; text-align: center;">SHEET</td> <td style="padding: 5px; text-align: center;">DOC.CLASS</td> <td style="padding: 5px; text-align: center;">ISSUE</td> </tr> <tr> <td style="padding: 5px; text-align: center;">1 / 1</td> <td style="padding: 5px; text-align: center;">1</td> <td style="padding: 5px; text-align: center;">01</td> </tr> </table>	SHEET	DOC.CLASS	ISSUE	1 / 1	1	01
SHEET	DOC.CLASS	ISSUE						
1 / 1	1	01						
 MECWIDE <small>Engineering Consultancy</small>  <small>Arup</small> <small>Monitored Building</small>	ISO ID: 2121-IA91F62-4							

NOTES AND REMARKS

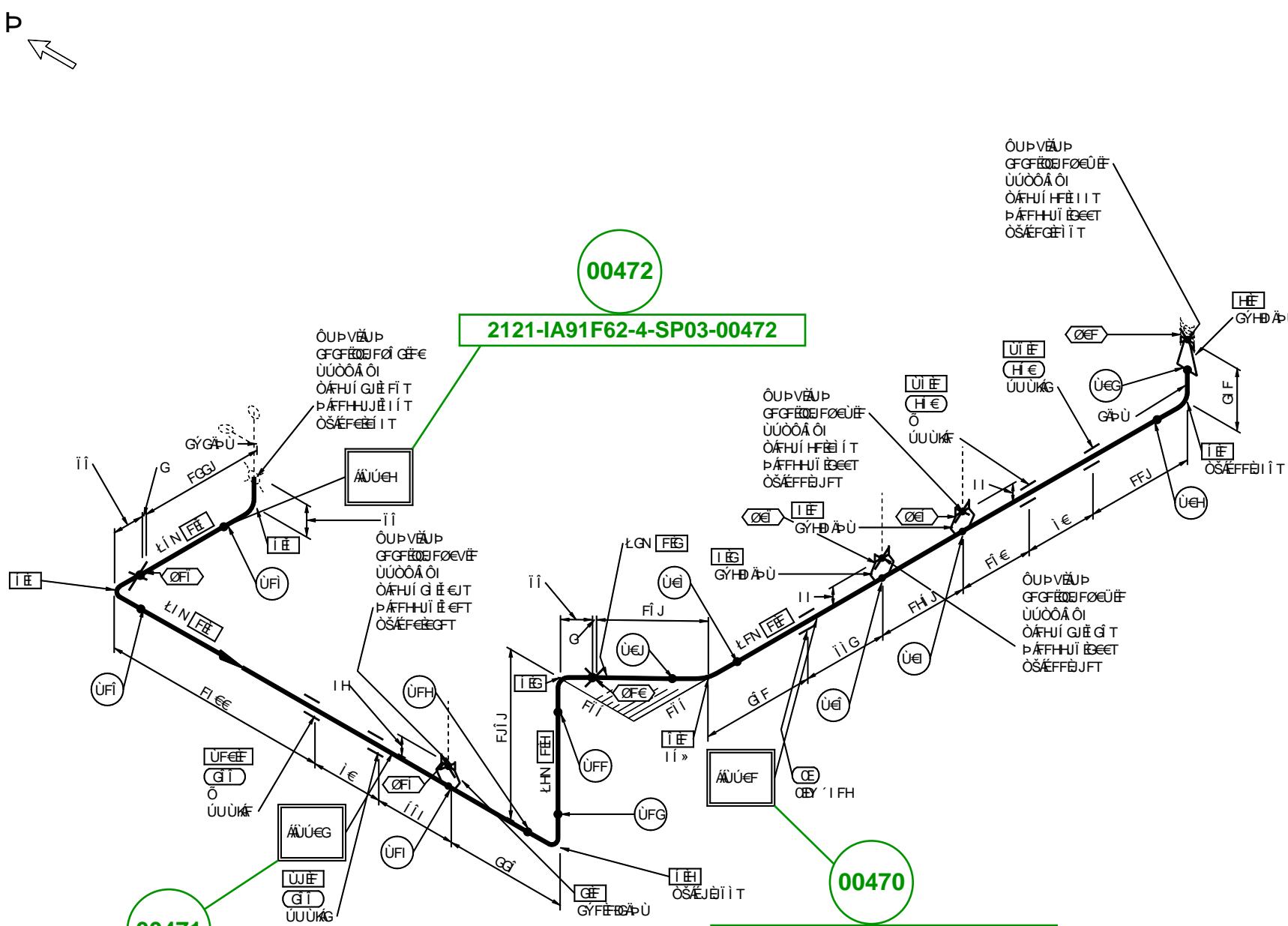
On behalf of Tecnimont / R
Piping Supervisor
Cristi Sandu
18.10.2024 *C. Sandu*

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

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-00000000004



The Repsol logo consists of a stylized orange and red swoosh above a white circle.



On behalf of Tecnimont / R
Piping Supervisor
Cristi Sandu
18.10.2024 *C. Sandu*

RECEIVED
14 / 12 / 2023

Date: 16-10-24

1

LEGENDS							
JOINT TYPE	HML TYPE OF JOINT						
BW	G	SW	S	LET	LET	SOB	
FW	S	SIB	B	LF	RF	SOF	

	TÖÖYÖÖ	h	VÖ	hk	#	Vk	ÜÖŠIGÉH	H	
õ	öö	o)	é	F	E	G	k	ee
)			o						
"	‡								
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-	-	-	-	-	-	-	-	-	
				‡	h	o			

2

1 DENOTES P

ARTS LIST NO PIPE A = RESTING SUPPORT G = GUIDE F = AXLE
SUPPORT WHERE A WITHOUT NUMBERING IS INDICATED THIS MEANS

MEANS THAT THERE IS A REST DIRECTLY ON STEEL STRUCTURE

PROJECT: ŠUY ÄŠP ÖÖSÄÄÖP ÜQYÄU ŠYÖVP ÇÖP ÖÄÜÖSDÄP ÖÄU ŠYÜÜU ÜYŠÖP ÖÄÜÜD
ØÜÄUÜRÖÖV ÄEÖSÄÄÜÜRÖÖV

ଫୁଲ ଓ ପାତାରେ କିମ୍ବା ପାତାରେ ଦେଇ କରିବାକୁ ଅନୁରୋଧ କରିଛି।

ΕΠΙΧΕΙΡΗΣΙΑΚΟ Ε

	<p>BILL OF MATERIAL</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th colspan="6">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>1.1</td> <td>2,646</td> <td>2"</td> <td>S-10s</td> <td>PIPE - A312-TP304/304L DUAL GR SMLS, BExBE</td> <td>I3364302</td> </tr> <tr> <td>1.2</td> <td>0,132</td> <td>2"</td> <td>S-10s</td> <td>PIPE - A312-TP304/304L DUAL GR SMLS, BExBE</td> <td>I3364302</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/PRESS.</th> <th>DESCRIPTION / MATÉRIEL</th> <th>ITEM CODE</th> </tr> </thead> <tbody> <tr> <td>3.1</td> <td>1</td> <td>2" X 3/4"</td> <td>S-10s X S40s</td> <td>CONCENTRIC SWAGE MSS SP-95 - A403-WP304/304L DG BE-PE SMLS</td> <td>I2495660</td> </tr> <tr> <td>5.1</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>6.1</td> <td>1</td> <td>2"</td> <td>S-10s</td> <td>45 LR ELBOW ASME B16.9 A403-WP304/304L DG BE SMLS</td> <td>I2259145</td> </tr> </tbody> </table> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th colspan="6">FORGINGS</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>4.1</td> <td>1</td> <td>2" x 3/4"</td> <td>3000#</td> <td>REDUCING SOCKOLET MSS-SP-97 A182-F304/304L DUAL GR BE SWE</td> <td>I2258338</td> </tr> <tr> <td>4.2</td> <td>1</td> <td>2" x 3/4"</td> <td>3000#</td> <td>REDUCING SOCKOLET MSS-SP-97 A182-F304/304L DUAL GR BE SWE</td> <td>I2258338</td> </tr> </tbody> </table>	PIPE						ITEM	LONGUEUR	DIAMÉTRE	SCH/mm	DESCRIPTION / MATÉRIEL	ITEM CODE	1.1	2,646	2"	S-10s	PIPE - A312-TP304/304L DUAL GR SMLS, BExBE	I3364302	1.2	0,132	2"	S-10s	PIPE - A312-TP304/304L DUAL GR SMLS, BExBE	I3364302	WELD FITTINGS						ITEM	QT	DIAMÉTRE	SCH/PRESS.	DESCRIPTION / MATÉRIEL	ITEM CODE	3.1	1	2" X 3/4"	S-10s X S40s	CONCENTRIC SWAGE MSS SP-95 - A403-WP304/304L DG BE-PE SMLS	I2495660	5.1	1	2"	S-10s	90 LR ELBOW ASME B16.9 A403-WP304/304L DG BE SMLS	I2259133	6.1	1	2"	S-10s	45 LR ELBOW ASME B16.9 A403-WP304/304L DG BE SMLS	I2259145	FORGINGS						ITEM	QT	DIAMÉTRE	SCH/PRESS.	DESCRIPTION / MATÉRIEL	ITEM CODE	4.1	1	2" x 3/4"	3000#	REDUCING SOCKOLET MSS-SP-97 A182-F304/304L DUAL GR BE SWE	I2258338	4.2	1	2" x 3/4"	3000#	REDUCING SOCKOLET MSS-SP-97 A182-F304/304L DUAL GR BE SWE	I2258338
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<p>On behalf of Tecnimont / R Piping Supervisor Cristi Sandu <i>C. Sandu</i> 18.10.2024</p> <table border="1" style="margin-left: auto; margin-right: auto; 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: 6C4-M</td> </tr> <tr> <td>00</td> <td>01/03/2024</td> <td>AOM</td> <td>MCM</td> <td>PCO</td> <td>Paint System: NA</td> </tr> </table> <p style="margin-top: 10px;">Sergio Morales Date: 16-10-24</p> <div style="display: flex; align-items: center; justify-content: center;">  </div>						Rev.	Date	DRW	Check 1	Check 2							Marking Color: GREEN						Weld Class: 6C4-M	00	01/03/2024	AOM	MCM	PCO	Paint System: NA																																																		
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<p>Construction Code: ASME B31.3 % RT - YES % UT - NO Hydro: NO ID Cleaning: YES Piece Mark Ref. Drawing Job # Spool # Project</p> <p>Acc Criteria: ASME B31.3 % PT - YES % FE - NO PWHT: NO OD Cleaning: YES</p> <p>Metal Tag: YES % MT - NO % PMI - YES BHN% - NO Tolerances: ASME B31.3</p>																																																																															
F324-302-0																																																																															

Spool Material List

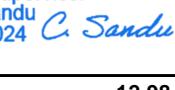
Contract : P2308

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
P2308S 00470	2121-IA91F62-4-SP01-00470		2121-IA91F62-4		00		
1.1	2,646	2.0000 S10S	0.0000 NA	PIPE, SEAMLESS, A312-TP304L	S-23594 0357	3,93	10,40
40391							
1.2	,132	2.0000 S10S	0.0000 NA	PIPE, SEAMLESS, A312-TP304L	S-23594 0357	3,93	0,52
40391							
6.1	1	2.0000 S10S	0.0000 NA	45 ELL, SEAMLESS, A403-WP304L	2K113-E002 0408	0,24	0,24
42790							
5.1	1	2.0000 S10S	0.0000 NA	90 LR ELL, SEAMLESS, A403-WP304L	NY230506AT08 0462	0,49	0,49
42965							
4.1	1	2.0000 NA	0.7500 NA	SOCKOLET, 3000#, A182-F304L	N220606AV04 0297	0,15	0,15
88696							
4.2	1	2.0000 NA	0.7500 NA	SOCKOLET, 3000#, A182-F304L	N220606AV04 0297	0,15	0,15
88696							
3.1	1	2.0000 S10S	0.7500 S40S	CONC SWAGE NIPPLE, LEB-SEP, A403-WP304L	N220606AV04 0510	1,02	1,02
135932							

On behalf of Tecnimon / R
Piping Supervisor
Cristi Sandu
18.10.2024 

Number of Items : 7

Total Weight : 12,98

Signature	QA	Client
	Date	Date
	 QA / QC	Sergio Morales Date: 16-10-24 

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

12

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

**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**

Customer: Commerciale Tubi Acciaio S.P.A.	T.C No : 680	Date: 26.03.2022
Product : Austenitic S.S Seamless Cold Finish,Solution Annealed,Pickled & Passivated Pipes.	P.O.No : OS-0000175	Date: 14.10.2021
	W.O.No : 2122/OEP400035	Date: 16.10.2021

Sr. No	Specification	Grade	Heat No.	Dimensions		Quantity			Hydro Test Pressure (Psi)
				NPS	SCH	Length Mtr	Pcs	Total Meter	
27	ASTM A-312 Ed.2019 SA-312 of ASME Sec.II Part "A" Ed.2019 ASME B36.19, EN 10216-5 TC1 NACE MR 0175/ISO 15156, NACE MR 0103	TP 304/304L 1.4301/ 1.4307	S-23594	2	10S	RL	171	1075.220	1400

Chemical Analysis %

Heat No.	Required	C	Mn	P	S	Si	Cr	Ni	Mo	N	Ti
	Min	--	--	--	--	--	18.00	8.00	--	--	--
	Max	0.030	2.00	0.040	0.015	1.00	19.50	10.00	--	0.100	--
S-23594	Heat Analysis	0.025	1.72	0.038	0.008	0.41	18.20	8.08	--	0.079	--

Mechanical Test

Heat No.	Required			Gauge Width	Flattening Test	Hardness Test	Impact Test			IGC Test				
	Tensile strength Mpa	Yield strength					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



Zhejiang Yuli Pipeline Industry Co Ltd

Mill Test Certificate

BAJA INDUSTRIAL ZONE SHACHEN TOWN, LONGWAN DISTRICT, WENZHOU, ZHEJIANG, CHINA

Certificate: EN10204/3.1

Certificate-No: MC-TYF-S-20080627003

Page 3 of 200

L/C NO.:32390CI003798/08

Customer: [REDACTED]	Marking:
Order No.: YL006	• Manufacture's Mark
Description: Seamless stainless steel BW fittings	• Dimension & Schedule
Specification: ANSI/ASTM B16.9, B16.25	• Material S(Seamless)orW(Welded)
Material: ASTM A403/ASME SA403-WPS-3041/3041(2005)	• Heat Number & Standard
Workmanship: Cold forming	
Heat Treatment: Solution annealing and quenched	

Extend of material delivery:

Item No.	Description	Dimension	Quantity	Heat No.	Base Cert.No.	Remarks
1	ELB 45L/R	2" SCH10S	70	2K113-E002	200805087276014	
2						
3						
4						
5						

Inspection Results (The requirements are fulfilled as listed in Annex):

A. Chemical Analysis:

Heat No.	C%	Mn%	Si%	S%	P%	Cr%	Ni%	Mo%	Cu%	Ti%
1	0.020	1.26	0.45	0.003	0.023	18.51	8.21			
2										
3										
4										
5										

B. Mechanical Properties & Tensile Inspection :

Heat No.	Yield Strength		Tensile Strength	Elongation	Hardness	Charpy Impact		
	0.2%	1%						
1	280		620	57	76			
2								
3								
4								
5								

C. Inspection and Related Data Verify:

Dimensional check	OK	Hydrostatic pressure test	/
Surface quality inspection	OK	Radiography Examination	/
Pencuntion examination	OK	IC to ASTM A262 "E"	OK
PMI	OK	HT to NACE MR-0175	OK

D. Remarks:

Work inspector:	
Date: 2008-04-27	

Customer:

TECNIMONT S.p.A.

Order: 7500118979 - 26.01.24 - Item n.: 67 - Project: 4274 - PP+PE Sines (Portugal) EPC - Our ref.: OCVEIT202400000474

Description:

CURVE 45° LR 2" SCH.10/S SEAMLESS
I2259145

Heat num. or Pcs. marking: 2K113-E002 - Qty:22,00

Protocol: CTCERC202400003104 * CERTIFIED TRUE COPY

* Issued 03-04-2024

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 ²)	TENSILE STRENGTH MPA(N/mm ²)	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





表号: ZNNH/QM400-34-1
修订号: 0

江阴中南重工有限公司
Jiangyin Zhongnan Heavy Industries Co.,Ltd.
产品质量证明书 Quality Certificate EN10204-3.1

用户(Purchaser): 意大利Techinmont

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

质量证明书编号(Certificate No.): 2024-01-43-56

生产批号 Batch No.	产品名称 Designation	规格型号 Dimension	单位 Unit	数量 Qty	炉号 Heat No.	化学成分 Chemical Composition (%)							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				
2024-01-43-130	ECCENTRIC SWAGE	SIZE:1.2 SCHED.1 S-10S SIZE:2.0-7.5 SCHED.2 S-40S	PCS	3	N220606AV04	0.021	0.38	1.34	0.003	0.032	18.29	8.11							57.9	265	57.5	-	-	160/162/158 Ident Code: D495783
2024-01-43-131	ECCENTRIC SWAGE	SIZE:1.4 SCHED.1 S-10S SIZE:2.1 SCHED.2 S-40S	PCS	1	N220606AV04	0.021	0.38	1.34	0.003	0.032	18.29	8.11							57.9	265	57.5	-	-	160/162/158 Ident Code: D495816
2024-01-43-132	ECCENTRIC SWAGE	SIZE:1.2 SCHED.1 S-40S SIZE:2.1 SCHED.2 S-80S	PCS	2	N220606AV04	0.021	0.38	1.34	0.003	0.032	18.29	8.11							57.9	265	57.5	-	-	160/162/158 Ident Code: D496327
2024-01-43-154	CONCENTRIC SWAGE	SIZE:1.2 SCHED.1 S-10S SIZE:2.0-7.5 SCHED.2 S-40S	PCS	7	N220606AV04	0.021	0.38	1.34	0.003	0.032	18.29	8.11							57.9	265	57.5	-	-	160/162/158 Ident Code: D495660
2024-01-43-160	CONCENTRIC SWAGE	SIZE:1.4 SCHED.1 S-10S SIZE:2.1 SCHED.2 S-40S	PCS	3	N220606AV04	0.021	0.38	1.34	0.003	0.032	18.29	8.11							57.9	265	57.5	-	-	160/162/158 Ident Code: D495688
2024-01-43-162	ECCENTRIC SWAGE	SIZE:1.2 SCHED.1 S-80S SIZE:2.1 SCHED.2 S-80S	PCS	3	N220606AV04	0.021	0.38	1.34	0.003	0.032	18.29	8.11							57.9	265	57.5	-	-	160/162/158 Ident Code: D256804
其他检测结果(Other examination and test)																						其他(others):		
尺寸检查 Dimension Inspection			外观检查 Visual Inspection		厚度 Hardness (HBW≤201)		磁粉 MT		着色 PT		超声波 UT		X射线 RT		晶间腐蚀 Intergranular Corrosion Test		备注 Remark		交货状态 Delivery condition					
合格 OK	合格 OK	合格 OK	-	合格 OK	-	-	-	合格 OK	-	合格 OK	-	合格 OK	-	合格 OK	PMI OK	固溶 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.

特许设备制造许可证编号(Manufacture License of Special Equipment): TS2732E11-2024

印
薛
凯

检验员(Inspector): 印
薛
凯 质保工程师(QA Engineer): 印
薛
凯 签发日期(Date of issue): 2024.04.22

地址: 江阴市高新技术产业开发区金山路788号
Add: 788 Jinshan Rd, High and New Technology Industrial Development, JiangYin City, JiangSu P.R. China

电话(Tel): 0510-86996009
传真(Fax): 0510-86996035



质量部(章)
Stamp of Quality Department



Contract : P2300

Drawing : 2121-IA91F62-4

Welding and QC Report Per Spool

Job : P2300S

Material : Stainless Steel 304, 316, 317

Client : NERVION

Revision : 00

Spool : 00470

Spec : 6C4-M

Project : ALBA

Piece Mark : 2121-IA91F62-4-SP01-00470

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	PWHT	Date PWHT	BHN	Date BHN	Ultra	Date UT	Xray	Date Xray	
0002	BW	2	S10S	MW.26_BW	BC	21-08-2024	4712055	BC	21-08-2024	4712055			001004	25-09-2024					001014	30-09-2024									
0003	BW	2	S10S	MW.26_BW	BC	21-08-2024	4712055	BC	21-08-2024	4712055			001004	25-09-2024					001014	30-09-2024									
0004	SOL	0,75	S10S	MW.26_SBR	BC	20-08-2024	4712055	BC	20-08-2024	4712055			001004	25-09-2024	000181	25-09-2024			001014	30-09-2024									
0006	SOL	0,75	S10S	MW.26_SBR	BC	19-08-2024	4712055	BC	19-08-2024	4712055			001004	25-09-2024	000181	25-09-2024			001014	30-09-2024									
0008	BW	2	S10S	MW.26_BW	BC	21-08-2024	4712055	BC	21-08-2024	4712055			001004	25-09-2024					001014	30-09-2024									
0009	BW	2	S10S	MW.26_BW	BC	21-08-2024	4712055	BC	21-08-2024	4712055			001004	25-09-2024					001014	30-09-2024									

On behalf of Tecnimont / R
Piping Supervisor
Cristi Sandu
18.10.2024 *C. Sandu*

Notes:

Signature	Boccard Portugal QC	Client
		Sergio Morales Date: 16-10-24
Date	02-10-2024 10:01:29	



Shop QC Inspection Report

P2308-001038

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

Job number: P2308S
 Spool N°: 00470
 Piece Mark: 2121-IA91F62-4-SP01-00470

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

Control Date: 25-09-2024

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

Comments:

Performed by: MATOS, MARCO (N2 VT/PT) Date: 25-09-2024 Signature 	QA/QC Inspection: RAIMUNDO, MARIANA Date: 02-10-2024 10:01:29 Signature 	Customer Inspection: Sergio Morales Date: 16-10-24 
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On behalf of Tecnimont / R
 Piping Supervisor
 Cristi Sandu
 18.10.2024 

Visual Examination Report (Welds)

P2308-001004

Contract : P2308

Job number: P2308S

Material: Stainless Steel 304, 316, 317

Client : NERVION

Spool Nº: 00470

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

Project : ALBA

Piece Mark: 2121-IA91F62-4-SP01-00470

Testing Date: 25-09-2024

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			Welder	Temp. (°F/°C)	Accepted	Rejected	Defect	Technique Used	Comments
Weld No.	Weld Desc.								
0002	2.0000 S10S BW-Buttweld Straight (MW.26_BW)		BC	20	X			Direct	
0003	2.0000 S10S BW-Buttweld Straight (MW.26_BW)		BC	20	X			Direct	
0004	0.7500 S10S SOL-Sockolet to Header Weld (MW.26_SBR)		BC	20	X			Direct	
0006	0.7500 S10S SOL-Sockolet to Header Weld (MW.26_SBR)		BC	20	X			Direct	
0008	2.0000 S10S BW-Buttweld Straight (MW.26_BW)		BC	20	X			Direct	
0009	2.0000 S10S BW-Buttweld Straight (MW.26_BW)		BC	20	X			Direct	

Sketch / Photo:

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

Test Performed by: MATOS, MARCO (N2 VT/PT)

Date: 25-09-2024

Signature



QA/QC Inspection: RAIMUNDO, MARIANA

Date: 02-10-2024 10:01:29

Signature



Customer Inspection:

Sergio Morales

Date: 16-10-24


On behalf of Tecnimont / R
Piping Supervisor
Cristi Sandu
18.10.2024 C. Sandu



Liquid Penetrant Examination Report

P2308-000181

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

Job number: P2308S

Material: Stainless Steel 304, 316, 317

Spool N°: 00470

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

Piece Mark: 2121-IA91F62-4-SP01-00470

Testing Date: 25-09-2024

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	Indication	Remarks
				Penetrant	Cleaner	Developer	Lighting				
0004	0.7500 S10S SOL-Sockolet to Header Weld (MW.26_SBR)	BC	20	20 m	-	10 m	-	-	X	<input type="checkbox"/>	
0006	0.7500 S10S SOL-Sockolet to Header Weld (MW.26_SBR)	BC	20	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: MARCO (N2 VT/PT), MATOS

QA/QC Inspection: RAIMUNDO, MARIANA

Customer Inspection:

Date: 25-09-2024

Date: 25-09-2024

Sergio Morales

Signature



Signature



Date: 16-10-24



On behalf of Tecnimont / R
 Piping Supervisor
 Cristi Sandu
 18.10.2024 C. Sandu



Positive Material Identification Report (PMI)

P2308-001014

Client : NERVION

Contract : P2308 / Project : ALBA

Remarks: The results refer to the controlled items

Job number: P2308S

Spool N°: 00470

Piece Mark: 2121-IA91F62-4-SP01-00470

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: 30-09-2024

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)	105	0	0	0	9	69	1	19	0	0	0	<input checked="" type="checkbox"/>		
0003	2.0000 S10S BW-Buttweld Straight (MW.26_BW)	106	0	0	0	9	68	1	19	0	0	0	<input checked="" type="checkbox"/>		
0004	0.7500 S10S SOL-Sockolet to Header Weld (MW.26_SBR)	107	0	0	0	9	68	1	19	0	0	0	<input checked="" type="checkbox"/>		
0006	0.7500 S10S SOL-Sockolet to Header Weld (MW.26_SBR)	108	0	0	0	9	69	1	19	0	0	0	<input checked="" type="checkbox"/>		
0008	2.0000 S10S BW-Buttweld Straight (MW.26_BW)	109	0	0	0	9	69	1	19	0	0	0	<input checked="" type="checkbox"/>		
0009	2.0000 S10S BW-Buttweld Straight (MW.26_BW)	110	0	0	0	9	69	1	19	0	0	0	<input checked="" type="checkbox"/>		
1.1	2.0000 S10S PIPE, SEAMLESS, A312-TP304L (S-23594)	100	0	0	0	8	71	1	17	0	0	0	<input checked="" type="checkbox"/>		
1.2	2.0000 S10S PIPE, SEAMLESS, A312-TP304L (S-23594)	98	0	0	0	8	71	1	17	0	0	0	<input checked="" type="checkbox"/>		
3.1	2.0000 S10S 0.7500 S40S CONC SWAGE NIPPLE, LEB-SEP, A403-WP304L (N220606AV04)	104	0	0	0	7	71	1	17	0	0	0	<input checked="" type="checkbox"/>		
4.1	2.0000 NA 0.7500 NA SOCKOLET, 3000#, A182-F304L (N220606AV04)	102	0	0	0	7	71	1	18	0	0	0	<input checked="" type="checkbox"/>		
4.2	2.0000 NA 0.7500 NA SOCKOLET, 3000#, A182-F304L (N220606AV04)	101	0	0	0	8	70	1	17	0	0	0	<input checked="" type="checkbox"/>		
5.1	2.0000 S10S 90 LR ELL, SEAMLESS, A403-WP304L (NY230506AT08)	103	0	0	0	8	71	1	17	0	0	0	<input checked="" type="checkbox"/>		
6.1	2.0000 S10S 45 ELL, SEAMLESS, A403-WP304L (2K113-E002)	99	0	0	0	8	70	2	17	0	0	0	<input checked="" type="checkbox"/>		

On behalf of Tecnimont / R
Piping Supervisor
Cristi Sandu *C. Sandu*
18.10.2024

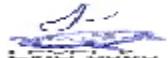
Test Performed by: GONCALVES(QA), J. (N2 PT/RT) QA/QC Inspection: RAIMUNDO, MARIANA

Customer Inspection:

Date: 30-09-2024

Date: Sergio Morales

Signature



Date: 02-10-2024 10:01:29

Signature



Date:

Signature Date: 16-10-24



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

Certificate of PMI Reading

XL3t-32735

Reading No	105
Mode	ALLOY
Time	2024-09-30 14:08
Duration	10.25
Sequence	Final
Alloy1	304SS : 0.06
Alloy2	No Match : *2.10
Flags	
SAMPLE	
HEAT	
LOT	
BATCH	
MISC	
NOTE	

	%	±	Error
Sb	< LOD	:	0.035
Sn	< LOD	:	0.050
Pd	< LOD	:	0.033
Ag	< LOD	:	0.166
Al	< LOD	:	80.000
Mo	0.042	±	0.007
Nb	< LOD	:	0.008
Zr	< LOD	:	0.003
Bi	< LOD	:	0.016
Pb	< LOD	:	0.016
Se	< LOD	:	0.008
W	< LOD	:	0.079
Zn	< LOD	:	0.035
Cu	< LOD	:	0.139
Ni	9.093	±	0.295
Co	< LOD	:	0.475
Fe	69.551	±	0.440
Mn	1.698	±	0.200
Cr	19.163	±	0.258
V	< LOD	:	0.128
Ti	< LOD	:	0.152

Sergio Morales
Date: 16-10-24



On behalf of Tecnimont / R
Piping Supervisor
Cristi Sandu
18.10.2024 C. Sandu

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

Certificate of PMI Reading

XL3t-32735

Reading No	106
Mode	ALLOY
Time	2024-09-30 14:08
Duration	9.45
Sequence	Final
Alloy1	304SS : 0.04
Alloy2	No Match : *2.09
Flags	
SAMPLE	
HEAT	
LOT	
BATCH	
MISC	
NOTE	

	%	±	Error
Sb	< LOD	:	0.040
Sn	< LOD	:	0.054
Pd	< LOD	:	0.039
Ag	< LOD	:	0.204
Al	< LOD	:	80.000
Mo	0.040	±	0.008
Nb	0.009	±	0.005
Zr	< LOD	:	0.004
Bi	< LOD	:	0.008
Pb	< LOD	:	0.019
Se	< LOD	:	0.010
W	< LOD	:	0.100
Zn	< LOD	:	0.033
Cu	< LOD	:	0.165
Ni	9.599	±	0.323
Co	< LOD	:	0.513
Fe	68.561	±	0.474
Mn	1.815	±	0.217
Cr	19.298	±	0.278
V	< LOD	:	0.135
Ti	< LOD	:	0.162

Sergio Morales

Date: 16-10-24



On behalf of Tecnimont / R
Piping Supervisor
Cristi Sandu
18.10.2024 C. Sandu

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

Certificate of PMI Reading

XL3t-32735

Reading No	107
Mode	ALLOY
Time	2024-09-30 14:09
Duration	12.50
Sequence	Final
Alloy1	304SS : 0.50
Alloy2	No Match : 1.77
Flags	
SAMPLE	
HEAT	
LOT	
BATCH	
MISC	
NOTE	

	%	±	Error
Sb	< LOD	:	0.031
Sn	< LOD	:	0.041
Pd	< LOD	:	0.033
Ag	< LOD	:	0.134
Al	< LOD	:	80.000
Mo	0.047	±	0.007
Nb	< LOD	:	0.007
Zr	< LOD	:	0.003
Bi	< LOD	:	0.011
Pb	< LOD	:	0.015
Se	< LOD	:	0.007
W	< LOD	:	0.070
Zn	< LOD	:	0.033
Cu	< LOD	:	0.132
Ni	9.564	±	0.268
Co	< LOD	:	0.424
Fe	68.709	±	0.395
Mn	1.802	±	0.181
Cr	19.404	±	0.232
V	< LOD	:	0.114
Ti	< LOD	:	0.143

Sergio Morales



Date: 16-10-24

On behalf of Tecnimont / R
Piping Supervisor
Cristi Sandu
18.10.2024 C. Sandu

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

Certificate of PMI Reading

XL3t-32735

Reading No	108
Mode	ALLOY
Time	2024-09-30 14:09
Duration	10.92
Sequence	Final
Alloy1	304SS : 0.00
Alloy2	No Match : *2.10
Flags	
SAMPLE	
HEAT	
LOT	
BATCH	
MISC	
NOTE	

	%	±	Error
Sb	< LOD	:	0.045
Sn	< LOD	:	0.051
Pd	< LOD	:	0.040
Ag	< LOD	:	0.127
Al	< LOD	:	80.000
Mo	0.049	±	0.008
Nb	< LOD	:	0.009
Zr	< LOD	:	0.004
Bi	< LOD	:	0.005
Pb	< LOD	:	0.026
Se	< LOD	:	0.013
W	< LOD	:	0.098
Zn	< LOD	:	0.042
Cu	< LOD	:	0.154
Ni	9.152	±	0.311
Co	< LOD	:	0.504
Fe	69.051	±	0.463
Mn	1.789	±	0.213
Cr	19.450	±	0.273
V	< LOD	:	0.125
Ti	< LOD	:	0.130

Sergio Morales



Date: 16-10-24

On behalf of Tecnimont / R
Piping Supervisor
Cristi Sandu
18.10.2024 C. Sandu

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

Certificate of PMI Reading

XL3t-32735

Reading No	109
Mode	ALLOY
Time	2024-09-30 14:10
Duration	10.00
Sequence	Final
Alloy1	304SS : 0.00
Alloy2	No Match : *2.10
Flags	
SAMPLE	
HEAT	
LOT	
BATCH	
MISC	
NOTE	

	%	±	Error
Sb	< LOD	:	0.038
Sn	< LOD	:	0.048
Pd	< LOD	:	0.033
Ag	< LOD	:	0.172
Al	< LOD	:	80.000
Mo	0.057	±	0.008
Nb	< LOD	:	0.008
Zr	< LOD	:	0.003
Bi	< LOD	:	0.013
Pb	< LOD	:	0.016
Se	< LOD	:	0.006
W	< LOD	:	0.081
Zn	< LOD	:	0.036
Cu	< LOD	:	0.156
Ni	9.036	±	0.295
Co	< LOD	:	0.475
Fe	69.626	±	0.441
Mn	1.671	±	0.201
Cr	19.148	±	0.259
V	< LOD	:	0.128
Ti	< LOD	:	0.142

Sergio Morales

Date: 16-10-24



On behalf of Tecnimont / R
Piping Supervisor
Cristi Sandu
18.10.2024 C. Sandu

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

Certificate of PMI Reading

XL3t-32735

Reading No	110
Mode	ALLOY
Time	2024-09-30 14:10
Duration	10.20
Sequence	Final
Alloy1	304SS : 0.32
Alloy2	No Match : *2.13
Flags	
SAMPLE	
HEAT	
LOT	
BATCH	
MISC	
NOTE	

	%	±	Error
Sb	< LOD	:	0.035
Sn	< LOD	:	0.050
Pd	< LOD	:	0.036
Ag	< LOD	:	0.192
Al	< LOD	:	80.000
Mo	0.067	±	0.009
Nb	< LOD	:	0.007
Zr	< LOD	:	0.003
Bi	< LOD	:	0.016
Pb	< LOD	:	0.008
Se	< LOD	:	0.010
W	< LOD	:	0.083
Zn	< LOD	:	0.029
Cu	< LOD	:	0.154
Ni	9.157	±	0.299
Co	< LOD	:	0.479
Fe	69.303	±	0.444
Mn	1.917	±	0.206
Cr	19.133	±	0.260
V	< LOD	:	0.125
Ti	< LOD	:	0.132

Sergio Morales



Date: 16-10-24

On behalf of Tecnimont / R
Piping Supervisor
Cristi Sandu
18.10.2024 C. Sandu

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

Certificate of PMI Reading

XL3t-32735

Reading No	100
Mode	ALLOY
Time	2024-09-30 14:07
Duration	10.33
Sequence	Final
Alloy1	304SS : 1.02
Alloy2	No Match : *2.11
Flags	
SAMPLE	
HEAT	
LOT	
BATCH	
MISC	
NOTE	

	%	±	Error
Sb	< LOD	:	0.037
Sn	< LOD	:	0.052
Pd	< LOD	:	0.039
Ag	< LOD	:	0.161
Al	< LOD	:	80.000
Mo	0.081	±	0.010
Nb	< LOD	:	0.007
Zr	< LOD	:	0.003
Bi	< LOD	:	0.014
Pb	< LOD	:	0.022
Se	< LOD	:	0.007
W	< LOD	:	0.088
Zn	< LOD	:	0.029
Cu	0.211	±	0.081
Ni	8.109	±	0.289
Co	< LOD	:	0.487
Fe	71.479	±	0.446
Mn	1.374	±	0.196
Cr	17.986	±	0.256
V	0.157	±	0.070
Ti	< LOD	:	0.157

Sergio Morales



Date: 16-10-24

On behalf of Tecnimont / R
Piping Supervisor
Cristi Sandu
18.10.2024 C. Sandu

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

Certificate of PMI Reading

XL3t-32735

Reading No	98
Mode	ALLOY
Time	2024-09-30 14:06
Duration	10.79
Sequence	Final
Alloy1	301SS : 1.74
Alloy2	321SS : 1.75
Flags	
SAMPLE	
HEAT	
LOT	
BATCH	
MISC	
NOTE	

	%	±	Error
Sb	< LOD	:	0.039
Sn	< LOD	:	0.048
Pd	< LOD	:	0.034
Ag	< LOD	:	0.179
Al	< LOD	:	80.000
Mo	0.191	±	0.014
Nb	< LOD	:	0.008
Zr	< LOD	:	0.004
Bi	< LOD	:	0.005
Pb	< LOD	:	0.018
Se	< LOD	:	0.007
W	< LOD	:	0.091
Zn	< LOD	:	0.033
Cu	0.314	±	0.084
Ni	8.029	±	0.282
Co	< LOD	:	0.476
Fe	71.427	±	0.435
Mn	1.654	±	0.196
Cr	17.661	±	0.248
V	< LOD	:	0.131
Ti	< LOD	:	0.159

Sergio Morales



Date: 16-10-24

On behalf of Tecnimont / R
Piping Supervisor
Cristi Sandu
18.10.2024 C. Sandu

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

Certificate of PMI Reading

XL3t-32735

Reading No	104
Mode	ALLOY
Time	2024-09-30 14:08
Duration	11.05
Sequence	Final
Alloy1	301SS : 1.60
Alloy2	304SS : 1.91
Flags	
SAMPLE	
HEAT	
LOT	
BATCH	
MISC	
NOTE	

	%	±	Error
Sb	< LOD	:	0.041
Sn	< LOD	:	0.048
Pd	< LOD	:	0.037
Ag	< LOD	:	0.175
Al	< LOD	:	80.000
Mo	0.075	±	0.009
Nb	0.012	±	0.005
Zr	< LOD	:	0.004
Bi	< LOD	:	0.011
Pb	< LOD	:	0.015
Se	< LOD	:	0.007
W	< LOD	:	0.092
Zn	< LOD	:	0.027
Cu	0.190	±	0.078
Ni	7.925	±	0.280
Co	< LOD	:	0.478
Fe	71.867	±	0.435
Mn	1.336	±	0.191
Cr	17.923	±	0.249
V	< LOD	:	0.122
Ti	< LOD	:	0.139

Sergio Morales



Date: 16-10-24

On behalf of Tecnimont / R
Piping Supervisor
Cristi Sandu
18.10.2024 C. Sandu

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

Certificate of PMI Reading

XL3t-32735

Reading No	102
Mode	ALLOY
Time	2024-09-30 14:07
Duration	11.53
Sequence	Final
Alloy1	304SS : 1.73
Alloy2	No Match : *2.15
Flags	
SAMPLE	
HEAT	
LOT	
BATCH	
MISC	
NOTE	

	%	±	Error
Sb	< LOD	:	0.035
Sn	< LOD	:	0.046
Pd	< LOD	:	0.033
Ag	< LOD	:	0.154
Al	< LOD	:	80.000
Mo	0.047	±	0.007
Nb	< LOD	:	0.006
Zr	< LOD	:	0.002
Bi	< LOD	:	0.013
Pb	< LOD	:	0.010
Se	< LOD	:	0.007
W	< LOD	:	0.075
Zn	< LOD	:	0.034
Cu	0.155	±	0.072
Ni	7.791	±	0.267
Co	< LOD	:	0.459
Fe	71.213	±	0.418
Mn	1.452	±	0.187
Cr	18.696	±	0.244
V	< LOD	:	0.126
Ti	< LOD	:	0.139

Sergio Morales



Date: 16-10-24

On behalf of Tecnimont / R
Piping Supervisor
Cristi Sandu
18.10.2024 C. Sandu

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

Certificate of PMI Reading

XL3t-32735

Reading No	101
Mode	ALLOY
Time	2024-09-30 14:07
Duration	11.02
Sequence	Final
Alloy1	321SS : 1.90
Alloy2	304SS : 2.10
Flags	
SAMPLE	
HEAT	
LOT	
BATCH	
MISC	
NOTE	

	%	±	Error
Sb	< LOD	:	0.044
Sn	< LOD	:	0.054
Pd	< LOD	:	0.043
Ag	< LOD	:	0.153
Al	< LOD	:	80.000
Mo	0.041	±	0.008
Nb	< LOD	:	0.006
Zr	< LOD	:	0.006
Bi	< LOD	:	0.010
Pb	< LOD	:	0.016
Se	< LOD	:	0.009
W	< LOD	:	0.105
Zn	< LOD	:	0.037
Cu	< LOD	:	0.167
Ni	8.874	±	0.322
Co	< LOD	:	0.527
Fe	70.805	±	0.483
Mn	1.414	±	0.211
Cr	17.845	±	0.274
V	0.165	±	0.077
Ti	< LOD	:	0.179

Sergio Morales

Date: 16-10-24



On behalf of Tecnimont / R
Piping Supervisor
Cristi Sandu
18.10.2024 C. Sandu

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

Certificate of PMI Reading

XL3t-32735

Reading No	103
Mode	ALLOY
Time	2024-09-30 14:08
Duration	10.04
Sequence	Final
Alloy1	321SS : 1.86
Alloy2	No Match : *2.06
Flags	
SAMPLE	
HEAT	
LOT	
BATCH	
MISC	
NOTE	

	%	±	Error
Sb	< LOD	:	0.039
Sn	< LOD	:	0.051
Pd	< LOD	:	0.037
Ag	< LOD	:	0.121
Al	< LOD	:	80.000
Mo	< LOD	:	0.009
Nb	< LOD	:	0.005
Zr	< LOD	:	0.004
Bi	< LOD	:	0.002
Pb	< LOD	:	0.013
Se	< LOD	:	0.008
W	< LOD	:	0.077
Zn	< LOD	:	0.024
Cu	< LOD	:	0.151
Ni	8.114	±	0.296
Co	< LOD	:	0.500
Fe	71.883	±	0.455
Mn	1.468	±	0.201
Cr	17.606	±	0.258
V	0.155	±	0.071
Ti	< LOD	:	0.166

Sergio Morales

Date: 16-10-24



On behalf of Tecnimont / R
Piping Supervisor
Cristi Sandu
18.10.2024 C. Sandu

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

Certificate of PMI Reading

XL3t-32735

Reading No	99
Mode	ALLOY
Time	2024-09-30 14:06
Duration	9.24
Sequence	Final
Alloy1	301SS : *2.60
Alloy2	304SS : *2.63
Flags	
SAMPLE	
HEAT	
LOT	
BATCH	
MISC	
NOTE	

	%	±	Error
Sb	< LOD	:	0.038
Sn	< LOD	:	0.049
Pd	< LOD	:	0.039
Ag	< LOD	:	0.165
Al	< LOD	:	80.000
Mo	0.075	±	0.010
Nb	< LOD	:	0.005
Zr	< LOD	:	0.004
Bi	< LOD	:	0.013
Pb	< LOD	:	0.018
Se	< LOD	:	0.008
W	< LOD	:	0.099
Zn	< LOD	:	0.038
Cu	0.175	±	0.083
Ni	8.606	±	0.306
Co	< LOD	:	0.505
Fe	70.635	±	0.461
Mn	2.139	±	0.215
Cr	17.676	±	0.262
V	0.199	±	0.075
Ti	< LOD	:	0.138

Sergio Morales

Date: 16-10-24



On behalf of Tecnimont / R
Piping Supervisor
Cristi Sandu
18.10.2024 C. Sandu

	<p>BILL OF MATERIAL</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th colspan="6">PIPE</th> </tr> <tr> <th>ITEM</th> <th>LONGUEUR</th> <th>DIAMÉTRE</th> <th>SCH/mm</th> <th>DESCRIPTION / MATERIEL</th> <th>ITEM CODE</th> </tr> </thead> <tbody> <tr> <td>1.3</td> <td>1,813</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>2,114</td> <td>2"</td> <td>S-10s</td> <td>PIPE - A312-TP304/304L DUAL GR SMLS, BExBE</td> <td>I3364302</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/PRESS.</th> <th>DESCRIPTION / MATERIEL</th> <th>ITEM CODE</th> </tr> </thead> <tbody> <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> <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>5.4</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> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th colspan="6">FORGINGS</th> </tr> <tr> <th>ITEM</th> <th>QT</th> <th>DIAMÉTRE</th> <th>SCH/PRESS.</th> <th>DESCRIPTION / MATERIEL</th> <th>ITEM CODE</th> </tr> </thead> <tbody> <tr> <td>2.1</td> <td>1</td> <td>2" x 1 1/2"</td> <td>3000#</td> <td>REDUCING SOCKOLET MSS-SP-97 A182-F304/304L DUAL GR BE SWE</td> <td>I2258341</td> </tr> </tbody> </table>	PIPE						ITEM	LONGUEUR	DIAMÉTRE	SCH/mm	DESCRIPTION / MATERIEL	ITEM CODE	1.3	1,813	2"	S-10s	PIPE - A312-TP304/304L DUAL GR SMLS, BExBE	I3364302	1.4	2,114	2"	S-10s	PIPE - A312-TP304/304L DUAL GR SMLS, BExBE	I3364302	WELD FITTINGS						ITEM	QT	DIAMÉTRE	SCH/PRESS.	DESCRIPTION / MATERIEL	ITEM CODE	5.2	1	2"	S-10s	90 LR ELBOW ASME B16.9 A403-WP304/304L DG BE SMLS	I2259133	5.3	1	2"	S-10s	90 LR ELBOW ASME B16.9 A403-WP304/304L DG BE SMLS	I2259133	5.4	1	2"	S-10s	90 LR ELBOW ASME B16.9 A403-WP304/304L DG BE SMLS	I2259133	FORGINGS						ITEM	QT	DIAMÉTRE	SCH/PRESS.	DESCRIPTION / MATERIEL	ITEM CODE	2.1	1	2" x 1 1/2"	3000#	REDUCING SOCKOLET MSS-SP-97 A182-F304/304L DUAL GR BE SWE	I2258341
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<p>On behalf of Tecnimont / R Piping Supervisor Cristi Sandu 18.10.2024 <i>C. Sandu</i></p> <table border="1" style="margin-left: auto; margin-right: auto; 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: 6C4-M</td> </tr> <tr> <td>00</td> <td>01/03/2024</td> <td>AOM</td> <td>MCM</td> <td>PCO</td> <td>Paint System: NA</td> </tr> </table> <p style="margin-top: 10px;">Sergio Morales  Date: 16-10-24</p>						Rev.	Date	DRW	Check 1	Check 2							Marking Color: GREEN						Weld Class: 6C4-M	00	01/03/2024	AOM	MCM	PCO	Paint System: NA																																												
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00	01/03/2024	AOM	MCM	PCO	Paint System: NA																																																																				
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td>Construction Code: ASME B31.3</td> <td>% RT - YES</td> <td>% UT - NO</td> <td>Hydro: NO</td> <td>ID Cleaning: YES</td> <td>Piece Mark</td> <td>Ref. Drawing</td> <td>Job #</td> <td>Spool #</td> <td>Project</td> </tr> <tr> <td>Acc Criteria: ASME B31.3</td> <td>% PT - YES</td> <td>% FE - NO</td> <td>PWHT: NO</td> <td>OD Cleaning: YES</td> <td rowspan="2" style="vertical-align: middle; text-align: center;">2121-IA91F62-4-SP02-00471</td> <td rowspan="2" style="vertical-align: middle; text-align: center;">2121-IA91F62-4</td> <td rowspan="2" style="vertical-align: middle; text-align: center;">P2308S</td> <td rowspan="2" style="vertical-align: middle; text-align: center;">00471</td> <td rowspan="2" style="vertical-align: middle; text-align: center;">REPSOL PROJETO ALBA NERVION</td> </tr> <tr> <td>Metal Tag: YES</td> <td>% MT - NO</td> <td>% PMI - YES</td> <td>BHN% - NO</td> <td>Tolerances: ASME B31.3</td> </tr> </table>						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-IA91F62-4-SP02-00471	2121-IA91F62-4	P2308S	00471	REPSOL PROJETO ALBA NERVION	Metal Tag: YES	% MT - NO	% PMI - YES	BHN% - NO	Tolerances: ASME B31.3																																											
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-IA91F62-4-SP02-00471	2121-IA91F62-4	P2308S	00471	REPSOL PROJETO ALBA NERVION																																																																
Metal Tag: YES	% MT - NO	% PMI - YES	BHN% - NO	Tolerances: ASME B31.3																																																																					
F324-302-0																																																																									

Spool Material List

Contract : P2308

Client NERVION

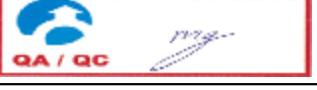
Job : P2308S

Project ALBA

Job	Spool	Piece Mark	Drawing	Rev						
Item No	Qty	Size1	Sch1	Size2	Sch2	Description	Heat No	Unit	Weight	Kgs
Tag No							MTR No			
ID No							Folder No			
P2308S	00471	2121-IA91F62-4-SP02-00471	2121-IA91F62-4	00						
1.4	2,114	2.0000	S10S	0.0000	NA	PIPE, SEAMLESS, A312-TP304L	S-23594 0357	3,93	8,31	
40391										
1.3	1,813	2.0000	S10S	0.0000	NA	PIPE, SEAMLESS, A312-TP304L	S-23594 0357	3,93	7,13	
40391										
5.3	1	2.0000	S10S	0.0000	NA	90 LR ELL, SEAMLESS, A403-WP304L	M220696 0410	0,49	0,49	
42965										
5.2	1	2.0000	S10S	0.0000	NA	90 LR ELL, SEAMLESS, A403-WP304L	M220696 0410	0,49	0,49	
42965										
5.4	1	2.0000	S10S	0.0000	NA	90 LR ELL, SEAMLESS, A403-WP304L	M220696 0410	0,49	0,49	
42965										
2.1	1	2.0000	NA	1.5000	NA	SOCKOLET, 3000#, A182-F304L	514786 0301	0,45	0,45	
85701										

On behalf of Tecnimont / R
 Piping Supervisor
 Cristi Sandu
 18.10.2024 *C. Sandu*

Number of Items : 6 Total Weight : 17,35

Signature	QA	Client
		Sergio Morales Date: 16-10-24
Date	2024-09-18 10:46:30	

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

12

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

**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**

Customer: Commerciale Tubi Acciaio S.P.A.	T.C No : 680	Date: 26.03.2022
Product : Austenitic S.S Seamless Cold Finish,Solution Annealed,Pickled & Passivated Pipes.	P.O.No : OS-0000175	Date: 14.10.2021
	W.O.No : 2122/OEP400035	Date: 16.10.2021

Sr. No	Specification	Grade	Heat No.	Dimensions		Quantity			Hydro Test Pressure (Psi)
				NPS	SCH	Length Mtr	Pcs	Total Meter	
27	ASTM A-312 Ed.2019 SA-312 of ASME Sec.II Part "A" Ed.2019 ASME B36.19, EN 10216-5 TC1 NACE MR 0175/ISO 15156, NACE MR 0103	TP 304/304L 1.4301/ 1.4307	S-23594	2	10S	RL	171	1075.220	1400

Chemical Analysis %

Heat No.	Required	C	Mn	P	S	Si	Cr	Ni	Mo	N	Ti
	Min	--	--	--	--	--	18.00	8.00	--	--	--
	Max	0.030	2.00	0.040	0.015	1.00	19.50	10.00	--	0.100	--
S-23594	Heat Analysis	0.025	1.72	0.038	0.008	0.41	18.20	8.08	--	0.079	--

Mechanical Test

Heat No.	Required			Gauge Width	Flattening Test	Hardness Test	Impact Test		IGC Test					
	Tensile strength Mpa	Yield strength					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 SIZECFD 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.

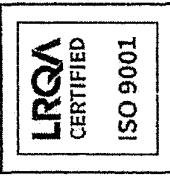
QUALITY CONTROL DEPARTMENT

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
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

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 * Hardness acc. to NACE MR0175 / ISO 15156-3: 2015, MRO103-2015

INTERGRANULAR CORROSION TEST (ASTM A262(E) - OR, PMI CHECK GOOD, ISO 9001 / EN 10204-3.1 PED 2014/68/EU ANNEX I SECTION 4.3
HEAT TREATMENT 1050 DEGREE CELCIUS QUENCHED IN WATER WITHIN 1 MINUTES TO BELOW 40°C.
MATERIAL WAS MANUFACTURED, SAMPLED, TESTED AND INSPECTED IN ACCORDANCE WITH INDICATED SPECIFICATIONS AND WAS FOUND TO MEET THE REQUIREMENTS.

We herewith certify that the above products meet the requirements of the relevant standard and of the customer order.
WELD REPAIR WAS PERFORMED AND ALL ITEMS SUPPLIED ARE FREE OF WELD REPAIR.
MATERIAL IS FREE OF MERCURY CONTAMINATION AND RADIOACTIVITY.

Head of QA/QC Dept.

We herewith certify that the above products meet the requirements of the relevant standard and of the customer order.

TEST CERTIFICATE ACCORDING TO EN 10204 3.1 - EXTENT OF MATERIAL DELIVERY

POS.	TEST No.	HEAT CODE	HEAT NUMBER	Q.TY	DESCRIPTION / MAT. REQUISIT. - TAG N. - ITEM CODE - COMPUTER CODE - UB / ENCLOSURE - NOTES
314	1	59056	E-LJ	521831	5,00 SOCKOLET SW Si/3000 A182F3/16/316L 3/4"X4" / C/C: 12250468 - CR: MR ITEM NO.9 XF/0222 - CC: R13DNL1M/107
315	1	55354	I20N	281487	5,00 SOCKOLET SW Si/3000 A182F3/16/316L 11/12"X4" / C/C: 12250549 - CR: MR ITEM NO.10 XF/0222 - CC: R13DNL1M/107
316	1	57876	I020	280455	5,00 SOCKOLET SW Si/3000 A182F3/304L 11/12"X4" / C/C: 12256337 - CR: MR ITEM NO.11 XF/0222 - CC: R13DNL2A/107
317	1	58474		515098	20,00 SOCKOLET SW Si/3000 A182F3/304/304L 3/4"X2" / C/C: 12256338 - CR: MR ITEM NO.12 XF/0222 - CC: R13DNL2A/107
318	1	59959	E-OE	174037	15,00 SOCKOLET SW Si/3000 A182F3/304/304L 11"X2" / C/C: 12256339 - CR: MR ITEM NO.13 XF/0222 - CC: R13DNL2A/107
319	1	588609	I160	514786	10,00 SOCKOLET SW Si/3000 A182F3/304/304L 11/12"X2" / C/C: 12258341 - CR: MR ITEM NO.14 XF/0222 - CC: R13DNL2A/107
320	1	57876	I020	280455	1,00 SOCKOLET SW Si/3000 A182F3/304/304L 11/12"X3" / C/C: 12258414 - CR: MR ITEM NO.15 XF/0222 - CC: R13DNL2A/107
321	1	59054	E-LZ	515098	25,00 SOCKOLET SW Si/3000 A182F3/304/304L 3/4"X3" / C/C: 12258415 - CR: MR ITEM NO.16 XF/0222 - CC: R13DNL2A/107
322	1	59859	E-OE	174037	5,00 SOCKOLET SW Si/3000 A182F3/304/304L 11"X3" / C/C: 12258416 - CR: MR ITEM NO.17 XF/0222 - CC: R13DNL2A/107
323	1	58609	I160	514786	5,00 SOCKOLET SW Si/3000 A182F3/304/304L 11/12"X3" / C/C: 12258418 - CR: MR ITEM NO.18 XF/0222 - CC: R13DNL2A/107
324	1	59054	E-LZ	515098	20,00 SOCKOLET SW Si/3000 A182F3/304/304L 3/4"X4" / C/C: 12258477 - CR: MR ITEM NO.20 XF/0222 - CC: R13DNL2A/107
325	1	588602	I210	573084	15,00 SOCKOLET SW Si/3000 A182F3/304/304L 11/12"X4" / C/C: 12258480 - CR: MR ITEM NO.21 XF/0222 - CC: R13DNL2A/107
326	1	59412	E-MJ	526509	1,00 SOCKOLET SW Si/3000 A182F3/304/304L 11/12"X6" / C/C: 12258517 - CR: MR ITEM NO.22 XF/0222 - CC: R13DNL2A/107
327	1	58474		515098	5,00 SOCKOLET SW Si/3000 A182F3/304/304L 3/4"X6" / C/C: 12258518 - CR: MR ITEM NO.23 XF/0222 - CC: R13DNL2A/107
328	1	58449	OJPC		5,00 SOCKOLET SW Si/3000 A182F3/304/304L 11"X6" / C/C: 12258519 - CR: MR ITEM NO.24 XF/0222 - CC: R13DNL2A/107
329	1	58474		515098	10,00 SOCKOLET SW Si/3000 A182F3/304/304L 3/4"X8" / C/C: 12258538 - CR: MR ITEM NO.25 XF/0222 - CC: R13DNL2A/107
330	1	58449	OJPC		1,00 SOCKOLET SW Si/3000 A182F3/304/304L 11"X8" / C/C: 12258539 - CR: MR ITEM NO.26 XF/0222 - CC: R13DNL2A/107
331	1	54285		481150	1,00 SOCKOLET SW Si/3000 A182F3/304/304L 11"X12" / C/C: 12258291 - CR: MR ITEM NO.27 XF/0222 - CC: R13DNL2A/107
332	1	52765		468165	4,00 SOCKOLET SW Si/3000 A182F3/304/304L 3/4"X16" / C/C: 12258314 - CR: MR ITEM NO.28 XF/0222 - CC: R13DNL2A/107
333	1	59412	E-MJ	526509	5,00 SOCKOLET SW Si/3000 A182F3/304/304L 11/12"X20" / C/C: 12258364 - CR: MR ITEM NO.29 XF/0222 - CC: R13DNL2A/107
334	1	52765		468165	6,00 SOCKOLET SW Si/3000 A182F3/304/304L 3/4"X20" / C/C: 12258355 - CR: MR ITEM NO.30 XF/0222 - CC: R13DNL2A/107
335	1	54285		481150	1,00 SOCKOLET SW Si/3000 A182F3/304/304L 11"X20" / C/C: 12258356 - CR: MR ITEM NO.31 XF/0222 - CC: R13DNL2A/107

NOTES

THIS IS TO CERTIFY THAT MATERIAL IS IN FULL COMPLIANCE TO PURCHASE ORDER AND APPLICABLE SPECIFICATIONS.
 FITTING SUPPLIED ARE ACC. TO ASME B16.11, MSS SP-97, MSS SP-83 AS APPLICABLE AND MARKED ACCORDING TO MSS SP-25, ALL STANDARDS ARE IN LATEST EDITION.
 MATERIAL ACC. TO ASTM IN L.I.E. AND ASME II ED.2021, MATERIAL ACC. TO NACE MR 01.75 ED.2015 AND PED 2014/68/UE ANNEX 1.
 VISUAL, DIMENSIONAL AND MARKING CHECK HAVE BEEN CARRIED OUT WITH SATISFACTORY RESULTS.
 STAINLESS STEEL FITTINGS ARE PICKLED AND PASSIVATED IN ACCORDANCE WITH ASTM A380.

CUSTOMER INSPECTOR

THIRD PARTS

QUALITY CONTROL

Laura Paganuzzi

J. Foggnini

CHERO PIPING S.P.A.

BUREAU VERITAS	2 nd PARTY INSPECTION ON BEHALF OF
TCT	WITNESSED NOTED REVIEWED
SURVEYOR: S. NEGRINI	
DATE 11 - 15 DEC 2022	

TEST CERTIFICATE ACCORDING TO EN 10204 3.1 - EXTENT OF MATERIAL DELIVERY

Materials Heat Number Summary

TEST No.	MATERIAL SPECIFICATION AND GRADE	HEAT NUMBER	BASE MATERIAL CERTIFICATE REF.	STEEL WORKS
39020	ASTM A182-22 F304/F304L	365767	181/334	OLARRA
46280	ASTM A182-22 F304/F304L	406025	261114	OLARRA
52765	ASTM A182-22 F304/F304L	468165	371065	OLARRA
54228	ASTM A182-22 F304/F304L	W31TE	2019/015552	ROLDAN
54285	ASTM A182-22 F304/F304L	481150	395730	OLARRA
55556	ASTM A182-22 F304/F304L	279394	MEST/52750/02020	ACCIARIE VALBRUNA
56611	ASTM A182-22 F304/F304L	072541	030226	COGNE ACCIAI SPECIALI
57429	ASTM A182-22 F304/F304L	072996	20210/0433	COGNE ACCIAI SPECIALI
57876	ASTM A182-22 F304/F304L	280455	MEST/548926/2020	ACCIARIE VALBRUNA
58313	ASTM A182-22 F304/F304L	172917	20210/23605	COGNE ACCIAI SPECIALI
58416	ASTM A182-22 F304/F304L	514059	449964	OLARRA
58449	ASTM A182-22 F304/F304L	OJPC	2021/069174	ROLDAN S.A.
58474	ASTM A182-22 F304/F304L	515098	452941	OLARRA
58602	ASTM A182-22 F304/F304L	573084	2015/061497	COGNE ACCIAI SPECIALI
58609	ASTM A182-22 F304/F304L	514786	452546	OLARRA
59054	ASTM A182-22 F304/F304L	515098	452941	OLARRA
59202	ASTM A182-22 F304/F304L	17369	20210/56230	COGNE
59269	ASTM A182-22 F304/F304L	OTNH	2021/012547	ROLDAN S.A.
59345	ASTM A182-22 F304/F304L	286338	MEST/863/112/2022	ACCIARIE VALBRUNA
59346	ASTM A182-22 F304/F304L	287142	MEST/863/113/2022	ACCIARIE VALBRUNA
59412	ASTM A182-22 F304/F304L	526509	472548	OLARRA
59538	ASTM A182-22 F304/F304L	174577	2022/066080	COGNE
59586	ASTM A182-22 F304/F304L	174578	2022/002830	COGNE
59752	ASTM A182-22 F304/F304L	174248	2021/057503	COGNE
59790	ASTM A182-22 F304/F304L	287723	MEST/883/375/2022	ACCIARIE VALBRUNA
59881	ASTM A182-22 F304/F304L	272546	2020/166559	COGNE
59959	ASTM A182-22 F304/F304L	174037	2021/048041	COGNE
60059	ASTM A182-22 F304/F304L	1VZB	2022/005/128	ROLDAN S.A.
60212	ASTM A182-22 F304/F304L	538845	492348	OLARRA
60858	ASTM A182-22 F304/F304L	1RWL	2022/012165	ROLDAN S.A.
48676	ASTM A182-22 F316/F316L	273641	MEST/095863/2017	ACCIARIE VALBRUNA
55354	ASTM A182-22 F316/F316L	281487	MEST/50234/1/2019	ACCIARIE VALBRUNA
56932	ASTM A182-22 F316/F316L	072865	043593	COGNE ACCIAI SPECIALI
58450	ASTM A182-22 F316/F316L	284568	MEST/7765246/2021	ACCIARIE VALBRUNA

NOTES

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 MATERIAL ACC. TO ASTM IN L.E. AND ASME II ED.2021. MATERIAL ACC. TO NACE MR 01.75 ED.2015 AND PED 2014/68/UE ANNEX 1.
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CUSTOMER INSPECTOR

THIRD PARTS

QUALITY CONTROL

Laura Paganuzzi

J. Fogorudi

CHERO PIPING S.p.A.

BUREAU VERITAS	ITALY
2 nd PARTY INSPECTION ON BEHALF OF	
WITNESSED	NOTED
SURVEYOR: S. NEGRINI	
DATE	15 DEC 2022



**CERTIFICATE NR.
CE/2022/1606 - Rev.
INTERNAL ORDER NR.
OC/2022/1021**

CUSTOMER ORDER REF.
7500107587 - 25/10/2022

CUSTOMER
TECNIMONT S.P.A.

SHEET 8/25

TEST CERTIFICATE ACCORDING TO EN 18204 3-1 - EXTENT OF MATERIAL DELIVERY

BUREAU VERITAS	NOTED	REVIEWED
ITALY		
2 nd PARTY INSPECTION		
ON BEHALF OF		
<i>TCL</i>		
WITNESSED		
SURVEYOR: S. NEGRINI		
DATE: 15 DEC 2022		

NOTES

CUSTOMER INSPECTOR	THIRD PARTS	QUALITY CONTROL
		Laura Paganuzzi

CHERO PIPING S.P.A.



CUSTOMER ORDER REF. 7500107587 - 25/10/2022 SHEET 21/25

CERTIFICATE NR.	CE/2022/1606	Rev. 0	DATE 13/12/2022	CUSTOMER ORDER REF. 7500107587 - 25/10/2022
INTERNAL ORDER NR.	OC/2022/1024		DATE 26/10/2022	CUSTOMER TECNIMONT SPA

TEST CERTIFICATE ACCORDING TO EN 10204 3.1 - EXTENT OF MATERIAL TEST

Material Spec. and Grade ASTM A182-22 F304L		Heat Number 515098	Procedure Number CERHO-C4A-PMI-8	Applicable Standard ASTM E572	Instrument NITON XLT-2-SN 95371
Serial Number		515098-0001		515098-0002	
Mn %		1.423		1.455	
Cr %		18.068		18.000	
Ni %		8.068		8.000	

PMI Test - Position 318: SOCKOLET SW S/3000 A182F304/304L 1"x2"

Material Spec. and Grade	Heat Number	Procedure Number	Applicable Standard	Quantity Inspected	Instrument
ASTM A182-22 F304/F304L	174037	CHERO-QA-PMI-8	ASTM E572	10	NITON XL-2N 95371

N	%	8436	8.000
---	---	------	-------

Material Spec. and Grade	Heat Number	Procedure Number	Applicable Standard	Quantity Inspected %	Instrument
Test - Position 319: STOCKLESS STAINLESS STEEL 304L 11/2 x 2"					

BMI Test Position 320: SOCK1 ET SW S/3000 A182E3M/301 1/2" x 3"

<i>Material Spec. and Grade</i>	<i>Heat Number</i>	<i>Procedure Number</i>	<i>Applicable Standard</i>	<i>Quantity Inspected %</i>	<i>Instrument</i>
ASTM A182-22 F304/F304L	280455	CHERO-QA-PMI-B	ASTM E572	10	NITON XL-2-SN 35371

PMI Test - Position 321: SOCKOLET SW S/3000 A182F304/304L 3/4"x3"

Material Spec. and Grade ASTM A182-222 F304(F304L)		Heat Number 515098	Procedure Number CERRO-QA-PML-8	Applicable Standard ASTM E572
Serial Number	515098-0001		515098-0002	515098-0003
Mn %	1.439		1.526	1.484
Cr %	18.249		18.778	18.460
Ni %	8.000		8.000	8.000

DWI Test - Decision 222: STOCKER ET SW 6/2000 A18252004/2004 411-21

BUREAU VERITAS	NOTED	REVIEWED
ITALY		
2 nd PARTY INSPECTION		
ON BEHALF OF		
TC II		
WITNESSED		
SURVEYOR: S. NEGRINI		
D. I.T.E.		
		15 DEC 2022

NOTES	CUSTOMER INSPECTOR	THIRD PARTS	QUALITY CONTROL
	Laura Paganuzzi <i>J. Fagnani</i>		CHERO PIPING S.P.

CERTIFICATE NR.
CE/2022/1606 - Rev. 0
INTERNAL ORDER NR.
OC/2022/1021

DATE
13/12/2022
DATE
26/10/2022

CUSTOMER ORDER REF.
7500107587 - 25/10/2022
CUSTOMER
TECNIMONT S.P.A.

SHEET
22/25

TEST CERTIFICATE ACCORDING TO EN 10204 3.1 - EXTENT OF MATERIAL DELIVERY

<i>Material Spec. and Grade</i>	<i>Heat Number</i>	<i>Procedure Number</i>	<i>Applicable Standard</i>	<i>Instrument</i>
ASTM A182-22 F304/F304L	174037	CHERO-QA-PMI-8	ASTM E572	NITON XL2-SN:95371
Serial Number	174037-0001			
Mn %	1.352			
Cr %	18.968			
Ni %	8.325			

PMI Test - Position 323: SOCKOLET SW S/3000 A182F304/304L 11/2"x3"

<i>Material Spec. and Grade</i>	<i>Heat Number</i>	<i>Procedure Number</i>	<i>Applicable Standard</i>	<i>Instrument</i>
ASTM A182-22 F304/F304L	514786	CHERO-QA-PMI-8	ASTM E572	NITON XL2-SN:95371
Serial Number	514786-0001			
Mn %	1.505			
Cr %	18.000			
Ni %	8.157			

PMI Test - Position 324: SOCKOLET SW S/3000 A182F304/304L 3/4"x4"

<i>Material Spec. and Grade</i>	<i>Heat Number</i>	<i>Procedure Number</i>	<i>Applicable Standard</i>	<i>Instrument</i>
ASTM A182-22 F304/F304L	515058	CHERO-QA-PMI-8	ASTM E572	NITON XL2-SN:95371
Serial Number	515058-0001			
Mn %	1.470			
Cr %	18.000			
Ni %	8.000			

PMI Test - Position 325: SOCKOLET SW S/3000 A182F304/304L 11/2"x4"

<i>Material Spec. and Grade</i>	<i>Heat Number</i>	<i>Procedure Number</i>	<i>Applicable Standard</i>	<i>Instrument</i>
ASTM A182-22 F304/F304L	573034	CHERO-QA-PMI-8	ASTM E572	NITON XL2-SN:95371
Serial Number	573034-0001			
Mn %	1.313			
Cr %	18.761			
Ni %	8.153			

PMI Test - Position 326: SOCKOLET SW S/3000 A182F304/304L 1/2"x6"

<i>Material Spec. and Grade</i>	<i>Heat Number</i>	<i>Procedure Number</i>	<i>Applicable Standard</i>	<i>Instrument</i>
ASTM A182-22 F304/F304L	5226509	CHERO-QA-PMI-8	ASTM E572	NITON XL2-SN:95371
Serial Number	5226509-0001			
Mn %	1.470			
Cr %	18.000			
Ni %	8.000			

PMI Test - Position 327: SOCKOLET SW S/3000 A182F304/304L 3/4"x6"

<i>Material Spec. and Grade</i>	<i>Heat Number</i>	<i>Procedure Number</i>	<i>Applicable Standard</i>	<i>Instrument</i>
ASTM A182-22 F304/F304L				
Serial Number				
Mn %				
Cr %				
Ni %				

BUREAU VERITAS	2nd PARTY INSPECTION ON BEHALF OF
<i>TCL</i>	
WITNESSED	NOTED
REVIEWED	
SURVEYOR: S. NEGRINI	
D.ITE	
15 DEC 2022	

NOTES	CUSTOMER INSPECTOR	THIRD PARTS	QUALITY CONTROL
			Laura Paganuzzi <i>J. Fogassi</i> CHERO PIPING S.P.A.



Contract : P2300

Drawing : 2121-IA91F62-4

Welding and QC Report Per Spool

Job : P2300S

Material : Stainless Steel 304, 316, 317

Client : NERVION

Revision : 00

Spool : 00471

Spec : 6C4-M

Project : ALBA

Piece Mark : 2121-IA91F62-4-SP02-00471

Weld data

Welding

Control

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	PWHT	Date PWHT	BHN	Date BHN	Ultra	Date UT	Xray	Date Xray
0011	BW	2	S10S	MW.26_BW	CA	29-08-2024	4712055	CA	29-08-2024	4712055			000941	13-09-2024				000926	14-09-2024									
0012	BW	2	S10S	MW.26_BW	CA	29-08-2024	4712055	CA	29-08-2024	4712055			000941	13-09-2024				000926	14-09-2024									
0013	BW	2	S10S	MW.26_BW	CA	29-08-2024	4712055	CA	29-08-2024	4712055			000941	13-09-2024				000926	14-09-2024									
0014	SOL	1,5	S10S	MW.26_SBR	BC	29-08-2024	4712055	BC	29-08-2024	4712055			000941	13-09-2024	000166	13-09-2024		000926	14-09-2024									
0016	BW	2	S10S	MW.26_BW	CA	30-08-2024	4712055	CA	30-08-2024	4712055			000941	13-09-2024				000926	14-09-2024									

On behalf of Tecnimont / R
Piping Supervisor
Cristi Sandu
18.10.2024 C. Sandu

Notes:

Boccard Portugal QC	Client
 	Sergio Morales Date: 16-10-24
18-09-2024 10:46:30	



Shop QC Inspection Report

P2308-000976

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

Job number: P2308S
 Spool N°: 00471
 Piece Mark: 2121-IA91F62-4-SP02-00471

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

Control Date: 13-09-2024

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: MATOS, MARCO (N2 VT/PT) Date: 13-09-2024 Signature 	QA/QC Inspection: GIL, MIGUEL Date: 18-09-2024 10:46:30 Signature 	Customer Inspection: Sergio Morales Date: 16-10-24 
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On behalf of Tecnimon / R
 Piping Supervisor
 Cristi Sandu
 18.10.2024 

Visual Examination Report (Welds)

P2308-000941

Contract : P2308

Job number: P2308S

Material: Stainless Steel 304, 316, 317

Client : NERVION

Spool Nº: 00471

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

Project : ALBA

Piece Mark: 2121-IA91F62-4-SP02-00471

Testing Date: 13-09-2024

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			Welder	Temp. (°F/°C)	Accepted	Rejected	Defect	Technique Used	Comments
Weld No.	Weld Desc.								
0011	2.0000 S10S BW-Buttweld Straight (MW.26_BW)		CA	26	X			Direct	
0012	2.0000 S10S BW-Buttweld Straight (MW.26_BW)		CA	26	X			Direct	
0013	2.0000 S10S BW-Buttweld Straight (MW.26_BW)		CA	26	X			Direct	
0016	2.0000 S10S BW-Buttweld Straight (MW.26_BW)		CA	26	X			Direct	
0014	1.5000 S10S SOL-Sockolet to Header Weld (MW.26_SBR)		BC	26	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: 13-09-2024

Date: 18-09-2024 10:46:30

Sergio Morales

Signature



Signature



Date: 16-10-24


On behalf of Tecnimont / R
Piping Supervisor
Cristi Sandu
18.10.2024 C. Sandu



Liquid Penetrant Examination Report

P2308-000166

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

Job number: P2308S

Material: Stainless Steel 304, 316, 317

Spool N°: 00471

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

Piece Mark: 2121-IA91F62-4-SP02-00471

Testing Date: 13-09-2024

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				
0014	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: MARCO (N2 VT/PT), MATOS

QA/QC Inspection: GIL, MIGUEL

Customer Inspection:

Date: 13-09-2024

Date: 13-09-2024

Sergio Morales

Signature



Signature



Date: 16-10-24



On behalf of Tecnimont / R
 Piping Supervisor
 Cristi Sandu
 18.10.2024 C. Sandu



Positive Material Identification Report (PMI)

P2308-000926

Client : NERVION

Contract : P2308 / Project : ALBA

Remarks: The results refer to the controlled items

Job number: P2308S

Spool N°: 00471

Piece Mark: 2121-IA91F62-4-SP02-00471

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			
0011	2.0000 S10S BW-Buttweld Straight (MW.26_BW)	317	0	0	0	8	69	1	19	0	0	0	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
0012	2.0000 S10S BW-Buttweld Straight (MW.26_BW)	313	0	0	0	9	69	1	19	0	0	0	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
0013	2.0000 S10S BW-Buttweld Straight (MW.26_BW)	311	0	0	0	9	69	1	18	0	0	0	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
0014	1.5000 S10S SOL-Sockolet to Header Weld (MW.26_SBR)	315	0	0	0	9	69	1	19	0	0	0	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
0016	2.0000 S10S BW-Buttweld Straight (MW.26_BW)	309	0	0	0	9	69	1	19	0	0	0	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1.3	2.0000 S10S PIPE, SEAMLESS, A312-TP304L (S-23594)	314	0	0	0	8	71	1	18	0	0	0	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1.4	2.0000 S10S PIPE, SEAMLESS, A312-TP304L (S-23594)	310	0	0	0	8	71	1	17	0	0	0	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.1	2.0000 NA 1.5000 NA SOCKOLET, 3000#, A182-F304L (514786)	316	0	0	0	8	71	1	18	0	0	0	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5.2	2.0000 S10S 90 LR ELL, SEAMLESS, A403-WP304L (M220696)	318	0	0	0	8	71	1	18	0	0	0	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5.3	2.0000 S10S 90 LR ELL, SEAMLESS, A403-WP304L (M220696)	312	0	0	0	8	71	1	17	0	0	0	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5.4	2.0000 S10S 90 LR ELL, SEAMLESS, A403-WP304L (M220696)	308	0	0	0	8	71	1	17	0	0	0	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

On behalf of Tecnimont / R
Piping Supervisor
Cristi Sandu
18.10.2024 C. Sandu

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

Customer Inspection:

Date: 14-09-2024

Date: 18-09-2024 10:46:30

Sergio Morales

Signature



Signature



Date: 16-10-24



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

Certificate of PMI Reading

XL3t-32735

Reading No	317
Mode	ALLOY
Time	2024-09-14 09:24
Duration	9.20
Sequence	Final
Alloy1	304SS : 0.02
Alloy2	No Match : *2.09
Flags	
SAMPLE	
HEAT	
LOT	
BATCH	
MISC	
NOTE	

	%	±	Error
Sb	< LOD	:	0.042
Sn	< LOD	:	0.053
Pd	< LOD	:	0.039
Ag	< LOD	:	0.160
Al	< LOD	:	80.000
Mo	0.043	±	0.008
Nb	< LOD	:	0.008
Zr	< LOD	:	0.006
Bi	< LOD	:	0.006
Pb	< LOD	:	0.019
Se	< LOD	:	0.008
W	< LOD	:	0.093
Zn	< LOD	:	0.030
Cu	< LOD	:	0.159
Ni	8.921	±	0.318
Co	< LOD	:	0.518
Fe	69.666	±	0.480
Mn	1.634	±	0.216
Cr	19.112	±	0.279
V	< LOD	:	0.137
Ti	< LOD	:	0.159

Sergio Morales

Date: 16-10-24



On behalf of Tecnimont / R
Piping Supervisor
Cristi Sandu
18.10.2024 *C. Sandu*

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

Certificate of PMI Reading

XL3t-32735

Reading No	313
Mode	ALLOY
Time	2024-09-14 09:23
Duration	7.11
Sequence	Final
Alloy1	304SS : 0.05
Alloy2	No Match : *2.09
Flags	
SAMPLE	
HEAT	
LOT	
BATCH	
MISC	
NOTE	

	%	±	Error
Sb	< LOD	:	0.048
Sn	< LOD	:	0.061
Pd	< LOD	:	0.045
Ag	< LOD	:	0.109
Al	< LOD	:	80.000
Mo	0.046	±	0.010
Nb	< LOD	:	0.011
Zr	< LOD	:	0.005
Bi	< LOD	:	0.018
Pb	< LOD	:	0.025
Se	< LOD	:	0.009
W	< LOD	:	0.087
Zn	< LOD	:	0.050
Cu	< LOD	:	0.188
Ni	9.177	±	0.372
Co	< LOD	:	0.602
Fe	69.452	±	0.552
Mn	1.726	±	0.252
Cr	19.094	±	0.323
V	< LOD	:	0.137
Ti	< LOD	:	0.171

Sergio Morales

Date: 16-10-24



On behalf of Tecnimont / R
Piping Supervisor
Cristi Sandu
18.10.2024 C. Sandu

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

Certificate of PMI Reading

XL3t-32735

Reading No	311
Mode	ALLOY
Time	2024-09-14 09:22
Duration	8.10
Sequence	Final
Alloy1	304SS : 0.24
Alloy2	No Match : *2.10
Flags	
SAMPLE	
HEAT	
LOT	
BATCH	
MISC	
NOTE	

	%	±	Error
Sb	< LOD	:	0.046
Sn	< LOD	:	0.058
Pd	< LOD	:	0.043
Ag	< LOD	:	0.187
Al	< LOD	:	80.000
Mo	0.071	±	0.011
Nb	0.011	±	0.005
Zr	< LOD	:	0.004
Bi	< LOD	:	0.014
Pb	< LOD	:	0.018
Se	< LOD	:	0.008
W	< LOD	:	0.106
Zn	< LOD	:	0.039
Cu	< LOD	:	0.172
Ni	9.184	±	0.347
Co	< LOD	:	0.560
Fe	69.604	±	0.515
Mn	1.863	±	0.236
Cr	18.572	±	0.297
V	< LOD	:	0.143
Ti	< LOD	:	0.178

Sergio Morales

Date: 16-10-24



On behalf of Tecnimont / R
Piping Supervisor
Cristi Sandu
18.10.2024 *C. Sandu*

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

Certificate of PMI Reading

XL3t-32735

Reading No	315
Mode	ALLOY
Time	2024-09-14 09:23
Duration	7.32
Sequence	Final
Alloy1	304SS : 0.12
Alloy2	No Match : *2.08
Flags	
SAMPLE	
HEAT	
LOT	
BATCH	
MISC	
NOTE	

	%	±	Error
Sb	< LOD	:	0.056
Sn	< LOD	:	0.070
Pd	< LOD	:	0.054
Ag	< LOD	:	0.171
Al	< LOD	:	80.000
Mo	0.073	±	0.013
Nb	< LOD	:	0.011
Zr	< LOD	:	0.005
Bi	< LOD	:	0.005
Pb	< LOD	:	0.025
Se	< LOD	:	0.011
W	< LOD	:	0.143
Zn	< LOD	:	0.041
Cu	< LOD	:	0.195
Ni	9.046	±	0.401
Co	< LOD	:	0.641
Fe	69.335	±	0.601
Mn	1.823	±	0.277
Cr	19.350	±	0.354
V	< LOD	:	0.177
Ti	< LOD	:	0.198

Sergio Morales

Date: 16-10-24



On behalf of Tecnimont / R
Piping Supervisor
Cristi Sandu
18.10.2024 C. Sandu

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Constância, Portugal 2250-999

Certificate of PMI Reading

XL3t-32735

Reading No	309
Mode	ALLOY
Time	2024-09-14 09:22
Duration	8.67
Sequence	Final
Alloy1	304SS : 0.05
Alloy2	No Match : *2.09
Flags	
SAMPLE	
HEAT	
LOT	
BATCH	
MISC	
NOTE	

	%	±	Error
Sb	< LOD	:	0.046
Sn	< LOD	:	0.054
Pd	< LOD	:	0.038
Ag	< LOD	:	0.157
Al	< LOD	:	80.000
Mo	0.052	±	0.009
Nb	< LOD	:	0.005
Zr	< LOD	:	0.004
Bi	< LOD	:	0.009
Pb	< LOD	:	0.010
Se	< LOD	:	0.008
W	< LOD	:	0.096
Zn	< LOD	:	0.027
Cu	< LOD	:	0.166
Ni	9.171	±	0.332
Co	< LOD	:	0.529
Fe	69.740	±	0.492
Mn	1.648	±	0.223
Cr	19.024	±	0.288
V	< LOD	:	0.144
Ti	< LOD	:	0.169

Sergio Morales

Date: 16-10-24



On behalf of Tecnimont / R
Piping Supervisor
Cristi Sandu
18.10.2024 C. Sandu

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

Certificate of PMI Reading

XL3t-32735

Reading No	314
Mode	ALLOY
Time	2024-09-14 09:23
Duration	5.71
Sequence	Final
Alloy1	304SS : 0.49
Alloy2	No Match : *2.12
Flags	
SAMPLE	
HEAT	
LOT	
BATCH	
MISC	
NOTE	

	%	±	Error
Sb	< LOD	:	0.061
Sn	< LOD	:	0.070
Pd	< LOD	:	0.053
Ag	< LOD	:	0.162
Al	< LOD	:	80.000
Mo	< LOD	:	0.013
Nb	< LOD	:	0.010
Zr	< LOD	:	0.006
Bi	< LOD	:	0.024
Pb	< LOD	:	0.034
Se	< LOD	:	0.006
W	< LOD	:	0.082
Zn	< LOD	:	0.051
Cu	< LOD	:	0.186
Ni	8.268	±	0.413
Co	< LOD	:	0.691
Fe	71.609	±	0.630
Mn	1.398	±	0.281
Cr	18.220	±	0.363
V	< LOD	:	0.175
Ti	< LOD	:	0.198

Sergio Morales

Date: 16-10-24



On behalf of Tecnimont / R
Piping Supervisor
Cristi Sandu
18.10.2024 C. Sandu

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

Certificate of PMI Reading

XL3t-32735

Reading No	310
Mode	ALLOY
Time	2024-09-14 09:22
Duration	7.87
Sequence	Final
Alloy1	304SS : 1.77
Alloy2	No Match : *2.02
Flags	
SAMPLE	
HEAT	
LOT	
BATCH	
MISC	
NOTE	

	%	±	Error
Sb	< LOD	:	0.046
Sn	< LOD	:	0.055
Pd	< LOD	:	0.042
Ag	< LOD	:	0.166
Al	< LOD	:	80.000
Mo	0.047	±	0.009
Nb	< LOD	:	0.008
Zr	< LOD	:	0.004
Bi	< LOD	:	0.014
Pb	< LOD	:	0.035
Se	< LOD	:	0.008
W	< LOD	:	0.104
Zn	< LOD	:	0.039
Cu	0.228	±	0.095
Ni	8.131	±	0.335
Co	< LOD	:	0.568
Fe	71.493	±	0.515
Mn	1.444	±	0.228
Cr	17.871	±	0.294
V	< LOD	:	0.153
Ti	< LOD	:	0.166

Sergio Morales

Date: 16-10-24



On behalf of Tecnimont / R
Piping Supervisor
Cristi Sandu
18.10.2024 C. Sandu

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

Certificate of PMI Reading

XL3t-32735

Reading No	316
Mode	ALLOY
Time	2024-09-14 09:23
Duration	6.85
Sequence	Final
Alloy1	304SS : 0.42
Alloy2	No Match : *1.80
Flags	
SAMPLE	
HEAT	
LOT	
BATCH	
MISC	
NOTE	

	%	±	Error
Sb	< LOD	:	0.050
Sn	< LOD	:	0.064
Pd	< LOD	:	0.045
Ag	< LOD	:	0.138
Al	< LOD	:	80.000
Mo	0.296	±	0.022
Nb	0.032	±	0.008
Zr	< LOD	:	0.005
Bi	< LOD	:	0.018
Pb	< LOD	:	0.010
Se	< LOD	:	0.009
W	< LOD	:	0.123
Zn	< LOD	:	0.041
Cu	0.413	±	0.113
Ni	8.219	±	0.357
Co	< LOD	:	0.588
Fe	71.010	±	0.546
Mn	1.565	±	0.247
Cr	18.054	±	0.315
V	< LOD	:	0.170
Ti	< LOD	:	0.194

Sergio Morales

Date: 16-10-24



On behalf of Tecnimont / R
Piping Supervisor
Cristi Sandu
18.10.2024 C. Sandu

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

Certificate of PMI Reading

XL3t-32735

Reading No	318
Mode	ALLOY
Time	2024-09-14 09:24
Duration	7.40
Sequence	Final
Alloy1	304SS : 0.03
Alloy2	No Match : 2.00
Flags	
SAMPLE	
HEAT	
LOT	
BATCH	
MISC	
NOTE	

	%	±	Error
Sb	< LOD	:	0.050
Sn	< LOD	:	0.061
Pd	< LOD	:	0.047
Ag	< LOD	:	0.143
Al	< LOD	:	80.000
Mo	0.061	±	0.011
Nb	< LOD	:	0.007
Zr	< LOD	:	0.004
Bi	< LOD	:	0.007
Pb	< LOD	:	0.019
Se	< LOD	:	0.009
W	< LOD	:	0.116
Zn	< LOD	:	0.049
Cu	0.278	±	0.103
Ni	8.003	±	0.351
Co	< LOD	:	0.590
Fe	71.576	±	0.543
Mn	1.480	±	0.243
Cr	18.060	±	0.312
V	0.231	±	0.091
Ti	< LOD	:	0.153

Sergio Morales

Date: 16-10-24



On behalf of Tecnimont / R
Piping Supervisor
Cristi Sandu
18.10.2024 C. Sandu

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

Certificate of PMI Reading

XL3t-32735

Reading No	312
Mode	ALLOY
Time	2024-09-14 09:23
Duration	16.54
Sequence	Final
Alloy1	304SS : 1.58
Alloy2	No Match : *1.98
Flags	
SAMPLE	
HEAT	
LOT	
BATCH	
MISC	
NOTE	

	%	±	Error
Sb	< LOD	:	0.031
Sn	< LOD	:	0.039
Pd	< LOD	:	0.031
Ag	< LOD	:	0.145
Al	< LOD	:	80.000
Mo	0.109	±	0.009
Nb	< LOD	:	0.006
Zr	< LOD	:	0.003
Bi	< LOD	:	0.006
Pb	< LOD	:	0.020
Se	< LOD	:	0.006
W	< LOD	:	0.080
Zn	< LOD	:	0.025
Cu	0.324	±	0.069
Ni	8.069	±	0.230
Co	< LOD	:	0.384
Fe	71.582	±	0.353
Mn	1.515	±	0.157
Cr	17.891	±	0.202
V	< LOD	:	0.100
Ti	< LOD	:	0.122

Sergio Morales

Date: 16-10-24



On behalf of Tecnimont / R
Piping Supervisor
Cristi Sandu
18.10.2024 C. Sandu

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

Certificate of PMI Reading

XL3t-32735

Reading No	308
Mode	ALLOY
Time	2024-09-14 09:22
Duration	7.07
Sequence	Final
Alloy1	304SS : 1.37
Alloy2	No Match : *1.91
Flags	
SAMPLE	
HEAT	
LOT	
BATCH	
MISC	
NOTE	

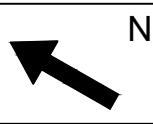
	%	±	Error
Sb	< LOD	:	0.052
Sn	< LOD	:	0.060
Pd	< LOD	:	0.056
Ag	< LOD	:	0.127
Al	< LOD	:	80.000
Mo	0.103	±	0.015
Nb	< LOD	:	0.010
Zr	< LOD	:	0.005
Bi	< LOD	:	0.016
Pb	< LOD	:	0.020
Se	< LOD	:	0.016
W	< LOD	:	0.135
Zn	< LOD	:	0.040
Cu	0.369	±	0.119
Ni	8.258	±	0.384
Co	< LOD	:	0.642
Fe	71.296	±	0.587
Mn	1.539	±	0.262
Cr	17.908	±	0.335
V	< LOD	:	0.163
Ti	< LOD	:	0.177

Sergio Morales

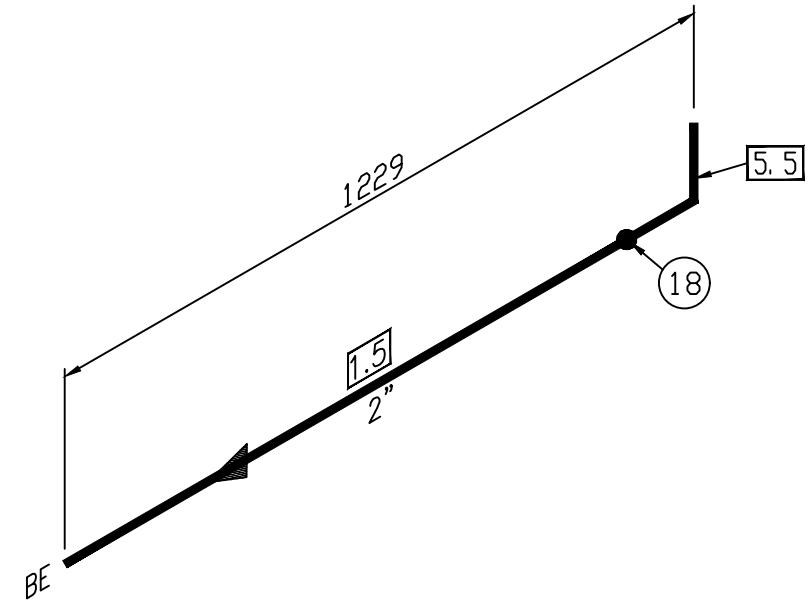
Date: 16-10-24



On behalf of Tecnimont / R
Piping Supervisor
Cristi Sandu
18.10.2024 C. Sandu



N



On behalf of Tecnimont / R
Piping Supervisor
Cristi Sandu
18.10.2024 C. Sandu

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

Sergio Morales

Date: 16-10-24

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-IA91F62-4-SP03-00472	2121-IA91F62-4	P2308S	00472	REPSOL PROJETO ALBA NERVION
Metal Tag:	YES	% MT -	NO	% PMI -	YES	BHN% -	NO	Tolerances:	ASME B31.3					

Weld Map Sticker

P2308S 00472



2121-IA91F62-4-SP03-00472



Spool Material List

Contract : P2308

Client NERVION

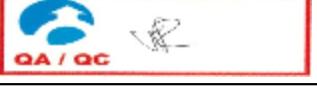
Job : P2308S

Project ALBA

Job	Spool	Piece Mark	Drawing	Rev					
Item No	Qty	Size1	Sch1	Size2	Sch2	Description	Heat No	Unit	Weight
Tag No							MTR No		Kgs
ID No							Folder No		
P2308S	00472	2121-IA91F62-4-SP03-00472	2121-IA91F62-4	00					
1.5	1,151	2.0000	S10S	0.0000	NA	PIPE, SEAMLESS, A312-TP304L	S-23594	3,93	4,52
							0357		
40391									
5.5	1	2.0000	S10S	0.0000	NA	90 LR ELL, SEAMLESS, A403-WP304L	M220696	0,49	0,49
							0410		
42965									

On behalf of Tecnimont / R
 Piping Supervisor
 Cristi Sandu
 18.10.2024 *C. Sandu*

Number of Items : 2 Total Weight : 5,01

Signature	QA	Client
		Sergio Morales Date: 16-10-24
Date	2024-09-11 16:03:56	

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

12

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



F / QA / 24

REV. NO. 10

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

INSPECTION CERTIFICATE

In Accordance with EN 10204/3.1

Customer: Commerciale Tubi Acciaio S.P.A.	T.C No : 680	Date: 26.03.2022
Product : Austenitic S.S Seamless Cold Finish,Solution Annealed,Pickled & Passivated Pipes.	P.O.No : OS-0000175	Date: 14.10.2021
	W.O.No : 2122/OEP400035	Date: 16.10.2021

Sr. No	Specification	Grade	Heat No.	Dimensions		Quantity			Hydro Test Pressure (Psi)
				NPS	SCH	Length Mtr	Pcs	Total Meter	
27	ASTM A-312 Ed.2019 SA-312 of ASME Sec.II Part "A" Ed.2019 ASME B36.19, EN 10216-5 TC1 NACE MR 0175/ISO 15156, NACE MR 0103	TP 304/304L 1.4301/ 1.4307	S-23594	2	10S	RL	171	1075.220	1400

Chemical Analysis %

Heat No.	Required	C	Mn	P	S	Si	Cr	Ni	Mo	N	Ti
	Min	--	--	--	--	--	18.00	8.00	--	--	--
	Max	0.030	2.00	0.040	0.015	1.00	19.50	10.00	--	0.100	--
S-23594	Heat Analysis	0.025	1.72	0.038	0.008	0.41	18.20	8.08	--	0.079	--

Mechanical Test

Heat No.	Required			Gauge Width	Flattening Test	Hardness Test	Impact Test		IGC Test					
	Tensile strength Mpa	Yield strength					Max-90 HRB	100 Joule Min.(AVG)	ASTM A-262 Practice"E" & ISO 3651-2 Method "A"					
		Rp0.2% Mpa	Rp1 % Mpa						N/A					
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.

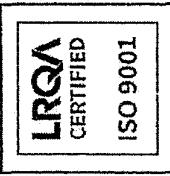
QUALITY CONTROL DEPARTMENT

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
PCO Cert No:0343/P/2014/10/007/3

INSPECTION CERTIFICATE



RACCORDI TUBI S.P.A.

TECNIMONT 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 MR0175 / ISO 15156-3:2015 MR0103:2015

INTERGRAN® II AR CORROSION TEST (ASTM A262(E)) - OK, PMI CHECKS GOOD ISO 9001/EN 10204-3.1 PIED2014/08/EU ANNEX 1 SECTION 4.3

IN LENGTH AND CONCENTRATION 1000 U.S.P. UNITS OF THE SAMPLES IN SECTION 42 ARE TREATED WITH 1050 DEGREE CELCIUS QUENCHED IN WATER WITHIN 1 MINUTES TO BELOW 40°C.

THE MATERIAL IS MANUFACTURED AND INSPECTED IN ACCORDANCE WITH INDICATED SPECIFICATIONS AND WAS FURNISHED TO THE CONTRACTOR BY THE MANUFACTURER.

WELD REPAIR WAS PERFORMED AND ALL ITEMS SUPPLIED ARE FREE OF WELD REPAIR.
MATERIAL WAS MANUFACTURED AND INSPECTED IN CONFORMANCE WITH INDICATED SPECIFICATION.

WELLER, KIRKWOOD AND COOK, INC., BIRMINGHAM, ALABAMA
MATERIAL IS FREE OF MERCURY CONTAMINATION AND RADIOACTIVITY

THIS EDITION IS FREE OF MERCURY, CONTAMINATION AND RADIONUCLIDES.

We herewith certify that the above products meet the requirements of the relevant standard and of the customer order.

(上記の製品は、当該規格及び、で注文の要件が間に適合するなどを証明します。)

Head of QA/QC Dept

Head of QA/QC Dept



Contract : P2300

Drawing : 2121-IA91F62-4

Welding and QC Report Per Spool

Job : P2300S

Material : Stainless Steel 304, 316, 317

Client : NERVION

Revision : 00

Spool : 00472

Spec : 6C4-M

Project : ALBA

Piece Mark : 2121-IA91F62-4-SP03-00472

Weld data

Welding

Control

Weld No.	Type	Dia	Sch	Weld /Thk	1st Proc.	Pass	1st MTR	Final Pass	Final Pass	Final MTR	Dim	Date DIM	Visual	Date Visual	PT	Date PT	MT	Date MT	PMI	Date PMI	Ferite	Date Ferrite	PWHT	Date PWHT	BHN	Date BHN	Ultra	Date UT	Xray	Date Xray		
0018	BW	2	S10S	MW.26_BW	AH	04-07-2024	4712055	AH	04-07-2024	4712055			000851	28-08-2024				000871	07-09-2024													

On behalf of Tecnimont / R
Piping Supervisor
Cristi Sandu
18.10.2024 *C. Sandu*

Notes:

Boccard Portugal QC	Client
 Sergio Morales	Date: 16-10-24
11-09-2024 16:03:56	



Shop QC Inspection Report

P2308-000883

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

Job number: P2308S
Spool N°: 00472
Piece Mark: 2121-IA91F62-4-SP03-00472

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	<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: 28-08-2024 Signature 	QA/QC Inspection: RAIMUNDO, MARIANA Date: 11-09-2024 16:03:56 Signature 	Customer Inspection: Sergio Morales Date: 16-10-24 
--	--	--

On behalf of Tecnimon / R
Piping Supervisor
Cristi Sandu
18.10.2024 C. Sandu

Visual Examination Report (Welds)

P2308-000851

Contract : P2308

Job number: P2308S

Material: Stainless Steel 304, 316, 317

Client : NERVION

Spool Nº: 00472

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

Project : ALBA

Piece Mark: 2121-IA91F62-4-SP03-00472

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
0018	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)

Date: 28-08-2024

Signature



QA/QC Inspection: RAIMUNDO, MARIANA

Date: 11-09-2024 16:03:56

Signature



Customer Inspection:

Sergio Morales

Date: 16-10-24


On behalf of Tecnimont / R
Piping Supervisor
Cristi Sandu
18.10.2024 C. Sandu



Positive Material Identification Report (PMI)

P2308-000871

Client : NERVION

Contract : P2308 / Project : ALBA

Remarks: The results refer to the controlled items

Job number: P2308S

Spool N°: 00472

Piece Mark: 2121-IA91F62-4-SP03-00472

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			
0018	2.0000 S10S BW-Buttweld Straight (MW.26_BW)	59	0	0	0	8	69	1	19	0	0	0	X		
1.5	2.0000 S10S PIPE, SEAMLESS, A312-TP304L (S-23594)	58	0	0	0	7	71	1	18	0	0	0	X		
5.5	2.0000 S10S 90 LR ELL, SEAMLESS, A403-WP304L (M220696)	60	0	0	0	8	71	1	18	0	0	0	X		

On behalf of Tecnimont / R
Piping Supervisor
Cristi Sandu
18.10.2024 C. Sandu

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

Customer Inspection:

Date: 07-09-2024

Date: 11-09-2024 16:03:56

Date: Sergio Morales

Signature



Signature



Signature

Date: 16-10-24



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

Certificate of PMI Reading

XL3t-32735

Reading No	59
Mode	ALLOY
Time	2024-09-07 06:07
Duration	9.17
Sequence	Final
Alloy1	304SS : 0.35
Alloy2	No Match : *2.10
Flags	
SAMPLE	
HEAT	
LOT	
BATCH	
MISC	
NOTE	

	%	±	Error
Sb	< LOD	:	0.039
Sn	< LOD	:	0.050
Pd	< LOD	:	0.039
Ag	< LOD	:	0.178
Al	< LOD	:	80.000
Mo	0.042	±	0.008
Nb	< LOD	:	0.009
Zr	< LOD	:	0.004
Bi	< LOD	:	0.016
Pb	< LOD	:	0.015
Se	< LOD	:	0.009
W	< LOD	:	0.104
Zn	< LOD	:	0.034
Cu	< LOD	:	0.166
Ni	8.540	±	0.308
Co	< LOD	:	0.513
Fe	69.779	±	0.469
Mn	1.700	±	0.214
Cr	19.034	±	0.275
V	< LOD	:	0.143
Ti	< LOD	:	0.167

Sergio Morales

Date: 16-10-24



On behalf of Tecnicont / R
Piping Supervisor
Cristi Sandu
18.10.2024 C. Sandu

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

Certificate of PMI Reading

XL3t-32735

Reading No	58
Mode	ALLOY
Time	2024-09-07 06:07
Duration	12.14
Sequence	Final
Alloy1	304SS : 1.47
Alloy2	No Match : 2.02
Flags	
SAMPLE	
HEAT	
LOT	
BATCH	
MISC	
NOTE	

	%	±	Error
Sb	< LOD	:	0.036
Sn	< LOD	:	0.045
Pd	< LOD	:	0.035
Ag	< LOD	:	0.161
Al	< LOD	:	80.000
Mo	0.041	±	0.007
Nb	< LOD	:	0.005
Zr	< LOD	:	0.003
Bi	< LOD	:	0.012
Pb	< LOD	:	0.027
Se	< LOD	:	0.007
W	< LOD	:	0.068
Zn	< LOD	:	0.030
Cu	0.183	±	0.072
Ni	7.936	±	0.262
Co	0.461	±	0.224
Fe	71.529	±	0.407
Mn	1.470	±	0.181
Cr	18.034	±	0.234
V	< LOD	:	0.116
Ti	< LOD	:	0.147

Sergio Morales

Date: 16-10-24



On behalf of Tecnimont / R
Piping Supervisor
Cristi Sandu
18.10.2024 C. Sandu

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

Certificate of PMI Reading

XL3t-32735

Reading No	60
Mode	ALLOY
Time	2024-09-07 06:09
Duration	7.66
Sequence	Final
Alloy1	304SS : 0.08
Alloy2	No Match : 2.16
Flags	
SAMPLE	
HEAT	
LOT	
BATCH	
MISC	
NOTE	

	%	±	Error
Sb	< LOD	:	0.051
Sn	< LOD	:	0.059
Pd	< LOD	:	0.043
Ag	< LOD	:	0.120
Al	< LOD	:	80.000
Mo	< LOD	:	0.009
Nb	< LOD	:	0.006
Zr	< LOD	:	0.004
Bi	< LOD	:	0.002
Pb	< LOD	:	0.019
Se	< LOD	:	0.012
W	< LOD	:	0.104
Zn	< LOD	:	0.037
Cu	< LOD	:	0.175
Ni	8.056	±	0.342
Co	< LOD	:	0.577
Fe	71.723	±	0.527
Mn	1.534	±	0.237
Cr	18.087	±	0.303
V	< LOD	:	0.163
Ti	< LOD	:	0.137

Sergio Morales

Date: 16-10-24



On behalf of Tecnimont / R
Piping Supervisor
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18.10.2024 C. Sandu