



Tecnimont S.p.A.

4274_CONST

ALBA PROJECT-PP AND PEL PLANTS



MOD-ITP-XL_220		RELEASE OF SPOOLS FROM WORKSHOP	Report n° IP-WSR-P-310-000380_RFI5034_MOD-ITP-XL_220
Rev.1			RFI Nr.: Date :
Unit -			
Plant Area -			
Isometric Number			
Inspection Package Number	IP-WSR-P-310-000380_RFI5034 - IP Spool Release From Workshop		

Sheet 01/01

The Present Inspection Package contains the following Elements:

7111-IA00D01-4-SP19-00010;7111-IA00D01-4-SP17-00008;2211-VG62J02-1-SP03-00452;2211-VG62J02-1-SP01-00450;1126-LO36005-1-SP01-00848;1121-P40027-1-SP01-00207;1115-DMW64003-4-SP07-03085;7111-IA91F10-1-SP01-00041;7111-IA00D01-11-SP32-00033;7111-IA00D01-11-SP31-00032;1211-N81031-1-SP04-00960;1211-N81031-1-SP03-00959;1121-LS50049-4-SP01-00941;1115-DMW64003-4-SP08-03086;7111-IA00D01-9-SP29-00025;7111-IA00D01-9-SP27-00023;2121-LO40B02-1-SP03-00502;2121-LO40B02-1-SP01-00500;1211-N81031-1-SP01-00957;1211-N80024-1-SP01-00950;7111-IA00D01-9-SP26-00022;7111-IA00D01-4-SP18-0009;2211-VG62J02-1-SP04-00453;2121-IA91F63-3-SP07-00486;1211-N81031-1-SP06-00184;1126-LO36005-1-SP02-00849;7111-IA00D01-9-SP25-00021;7111-IA00D01-6-SP21-00018;2211-LS50A06-1-SP01-00387;2211-LO70A01-1-SP01-00371;1211-DMW64001-3-SP06-03055;1127-DMW63009-1-SP02-03075;7111-IA00D01-9-SP28-00024;7111-IA00D01-6-SP19-00016;7111-IA00D01-11-SP33-00034;2211-VG62J02-1-SP02-00451;2121-LO40B02-1-SP02-00501;1211-DMW64001-3-SP07-03056;1126-LO32003-1-SP03-00834;1115-DMW64003-4-SP06-03084;7111-IA91F10-1-SP02-00042;7111-IA00D01-11-SP30-00031;2211-VG62J02-1-SP05-00454;2121-IA19F63-3-SP06-00485;1211-N81031-1-SP05-00961;1211-N81031-1-SP02-00958;1121-LS50004-2-SP04-00188;1121-LS50004-2-SP03-00187;7111-IA00D01-6-SP22-00019;7111-IA00D01-6-SP20-00017;2211-LO70A01-1-SP02-00372;2121-LO40B05-1-SP01-01006;1211-DMW64001-3-SP05-03054;1127-DMW63009-1-SP01-03074

Spool No.	Ready for destination to: P: Painting (1) W: Wrapping	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)
	F: Field							

On behalf of Tecnimont / R
Piping Supervisor
Cristi Sandu
02.10.2024 C. Sandu

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	 C. B. 48977056
SUBCONTRACTOR	02-10-2024	Sergio Morales Collantes				
CONTRACTOR						
COMPANY						
(Free)						



Tecnimont S.p.A.

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NOTES (*) : 4274-XH-PQ-000000001

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

On behalf of Tecnimont / R
Piping Supervisor
Cristi Sandu
02.10.2024 C. Sandu

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	02-10-2024		Sergio Morales Collantes			
CONTRACTOR						
COMPANY						
(Free)						

 Tecnimont	<p style="text-align: center;">Punch List</p> <p style="text-align: center;">PUNCH LIST</p>	<p style="text-align: center;">IDENTIFICATION CODE</p>			
		<table border="1" style="width: 100%; text-align: center;"> <tr> <td>SHEET 1 / 1</td> <td>DOC.CLASS 1</td> <td>ISSUE 01</td> </tr> </table>	SHEET 1 / 1	DOC.CLASS 1	ISSUE 01
SHEET 1 / 1	DOC.CLASS 1	ISSUE 01			
 MECWIDE <small>Engineering Services</small>	<p>ISO ID: 2121-IA91F63-3</p>				

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

N		BILL OF MATERIAL														
		PIPE					DESCRIPTION / MATÉRIEL					ITEM CODE				
		ITEM	LONGUEUR	DIAMÈTRE	SCH/mm		ITEM	LONGUEUR	DIAMÈTRE	SCH/mm	DESCRIPTION / MATÉRIEL	ITEM CODE				
		1.1	6,126	2"	S-10S		1.1	6,126	2"	S-10S	PIPE - A312-TP304/304L DUAL GR SMLS, BExBE	I3364302				
		1.2	1,982	2"	S-10S		1.2	1,982	2"	S-10S	PIPE - A312-TP304/304L DUAL GR SMLS, BExBE	I3364302				
		FLANGES										ITEM CODE				
		ITEM	QT	DIAMÈTRE	PRESSION	SCH/mm		ITEM	QT	DIAMÈTRE	PRESSION	DESCRIPTION / MATÉRIEL	ITEM CODE			
		4.1	1	2"	150#	S-10S		4.1	1	2"	150#	WN FLANGE ASME B16.5 150# A182-F304/304L DUAL GR RF BE 125-250 AARH	I2260686			
		WELD FITTINGS										ITEM CODE				
		ITEM	QT	DIAMÈTRE	SCH/PRESS.		ITEM	QT	DIAMÈTRE	SCH/PRESS.	DESCRIPTION / MATÉRIEL	ITEM CODE				
		3.1	1	2"	S-10S		3.1	1	2"	S-10S	45 LR ELBOW ASME B16.9 A403-WP304/304L DG BE SMLS	I2259145				
		FORGINGS										ITEM CODE				
		ITEM	QT	DIAMÈTRE	SCH/PRESS.		ITEM	QT	DIAMÈTRE	SCH/PRESS.	DESCRIPTION / MATÉRIEL	ITEM CODE				
		2.1	1	2" x 3/4"	3000#		2.1	1	2" x 3/4"	3000#	REDUCING SOCKOLET MSS-SP-97 A182-F304/304L DUAL GR BE SWE	I2258338				
P2308S 00485												 2121-IA91F63-3-SP06-00485				
Weld Map Sticker																
Sergio Morales  Date: 30-09-24														 Alliance for success Boccard Portugal, Lda.		
Rev.	Date	DRW	Check 1	Check 2	Marking Color: GREEN		Weld Class: 6C4-M		Piece Mark		Ref. Drawing		Job #	Spool #	Project	
00	01/03/2024	AOM	MCM	PCO	Paint System: NA		Hydro: NO		ID Cleaning: YES	2121-IA91F63-3-SP06-00485		2121-IA91F63-3		P2308S	00485	REPSOL PROJETO ALBA NERVION
Construction Code: ASME B31.3 % RT - YES % UT - NO PWHT: NO OD Cleaning: YES																
Acc Criteria: ASME B31.3 % PT - YES % FE - NO Tolerances: ASME B31.3																
Metal Tag: YES % MT - NO % PMI - YES BHN% - NO																
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 00485 2121-IA91F63-3-SP06-00485		2121-IA91F63-3		00			
1.1	6,126	2.0000 S10S	0.0000 NA	PIPE, SEAMLESS, A312-TP304L	S-23594 0357	3,93	24,08
40391							
1.2	1,982	2.0000 S10S	0.0000 NA	PIPE, SEAMLESS, A312-TP304L	S-23594 0357	3,93	7,79
40391							
4.1	1	2.0000 S10S	0.0000 NA	WN FLG, RAISED FACE, 150#, A182-F304L	N230210AT03 0146	2,72	2,72
37867							
3.1	1	2.0000 S10S	0.0000 NA	45 ELL, SEAMLESS, A403-WP304L	2K113-E002 0408	0,24	0,24
42790							
2.1	1	2.0000 NA	0.7500 NA	SOCKOLET, 3000#, A182-F304L	N220606AV04 0297	0,15	0,15
88696							

On behalf of Tecnimont / R
 Piping Supervisor
 Cristi Sandu
 01.10.2024 *C. Sandu*

Number of Items : 5

Total Weight : 34,98

Signature	QA	Client
	Date	Date
	 <i>[Signature]</i>	 Sergio Morales Date: 30-09-24

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

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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

Inspection Certificate(EN 10204-3.1)

Page: 12/21

Shanxi Baolongda Forging Co.,Ltd.

Customer : CHERO PIPING S.P.A.

Cont No:265/2023/OF

Certificate No : BLD-25-0525-012

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

Melting process :LF+LD

Date of report : 2023.05.25

Specifications compliance: ASTM A182/A182M-21

Work No : T230525

Material : A182F304/304L

Heat Batch No : ZJJ230502

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

Mark of Manufacturer:

Content of delivery:

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

Chemical Analysis: (%)

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

Mechanical Properties :

Heat No:N230210AT03

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

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

Visual inspection

Dimensional check

Surface crack inspection

Renew by zhangchen
PM&L obo Teckmone
2024.5.27

Without Complaint
Without Complaint
Without Complaint

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

Date:

2023/5/25

Manufacturer's Authorized Inspection Representative



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-3041/304L(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%
	0.020	1.26	0.45	0.003	0.023	18.51	8.21			
1	2K113-E002									
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



Zongnan Heavy Industries

江阴中南重工有限公司

Jiangyin Zhongnan Heavy Industries Co.,Ltd.

产品品质证明书 Quality Certificate EN10204-3.1

用户(Purchaser): (印度)TECNIMONT S.P.A

订单号:PO 7500110919

质量证明书编号 (Certificate No.): 2023-03-225-71

表号: ZNHI/W400-34-1
修订号: 0

材质(Material): ASTM A182-2021 F304/304L DUL GR												化学成分 Chemical Composition (%)												机械性能 Mechanical Properties											
生产批号 Batch No.	品名 Designation	规格型号 Dimension	单位 Unit	数量 Qty	炉号 Heat No.	C	Si	Mn	P	Cr	Ni	T	Mo	V	Cu	Nb	Al	N	CE	R _{0.02} R _m (Mpa)	屈服强度 R _{0.2} (Mpa)	延伸率 A%	冲击强度 Z, °C (10*10 ⁵ mm)	硬度 HBW	PO item No.	备注 Remark									
2023-03-225-306	SOCKOLET SWE	SIZE:1.2 SIZE:2.0:0.5 2"0.5"**3000LB	件	5	N220606AV04	0.023	0.35	1.30	0.002	0.029	18.19	8.08							0.047	61.5	309	54.5	77	-	-	172/165/174	306	Ident Code: 2258337							
2023-03-225-307	SOCKOLET SWE	SIZE:1.2 SIZE:2.0:0.75 2"0.75"**3000LB	件	5	N220606AV04	0.023	0.35	1.30	0.002	0.029	18.19	8.08							0.047	61.5	309	54.5	77	-	-	172/165/174	307	Ident Code: 2258338							
2023-03-225-308	SOCKOLET SWE	SIZE:1.3 SIZE:2.0:0.75 3"0.75"**3000LB	件	10	N220606AV04	0.023	0.35	1.30	0.002	0.029	18.19	8.08							0.047	61.5	309	54.5	77	-	-	172/165/174	308	Ident Code: 2258415							
2023-03-225-309	SOCKOLET SWE	SIZE:1.3 SIZE:2.1 3"1"**3000LB	件	5	N220606AV04	0.023	0.35	1.30	0.002	0.029	18.19	8.08							0.047	61.5	309	54.5	77	-	-	172/165/174	309	Ident Code: 2258416							
2023-03-225-310	SOCKOLET SWE	SIZE:1.4 SIZE:2.0:0.75 4"0.75"**3000LB	件	5	N220606AV04	0.023	0.35	1.30	0.002	0.029	18.19	8.08							0.047	61.5	309	54.5	77	-	-	172/165/174	310	Ident Code: 2258477							
2023-03-225-311	SOCKOLET SWE	SIZE:1.6 SIZE:2.0:0.75 6"0.75"**3000LB	件	5	N220606AV04	0.023	0.35	1.30	0.002	0.029	18.19	8.08							0.047	61.5	309	54.5	77	-	-	172/165/174	311	Ident Code: 2258518							
其他检测结果(Other examination and test)																																			
尺寸检查 Dimension Inspection	外观检查 Visual Inspection	硬度 Hardness (H13W≤201)	无损检测(NDT) MT	磁粉 MT	着色 PT	超声波 UT	X射线 RT	晶间腐蚀 Intergranular Corrosion Test												交货状态 Delivery condition															
合格 OK	合格 OK	合格 OK	-	合格 OK	-	-	-	合格 OK	-	PMI OK	PMI OK	固溶 Solution Annealing																							

兹证明上述产品制造、检验和试验，符合上述标准规定及合同要求。
We hereby certify that the products described above have manufactured, inspected and tested in accordance with the specified standards and the contract requirements.

特种设备制造许可证号(Manufacture License of Special Equipment): TS2732E11-2024

1.1 Heat treatment, Solution Annealing 1050°C in the water cooling.

陈晓

质检工程师(QA Engineer):

电话(Tel): 0510-8696009
传真(Fax): 0510-8696035

质量监督专用章

Stamp of Quality Department



Contract : P2300

Drawing : 2121-IA91F63-3

Welding and QC Report Per Spool

Job : P2300S

Material : Stainless Steel 304, 316, 317

Client : NERVION

Revision : 00

Spool : 00485

Spec : 6C4-M

Project : ALBA

Piece Mark : 2121-IA91F63-3-SP06-00485

Weld data

Welding

Control

Weld No.	Type	Dia /Thk	Sch	Weld Proc.	1st Pass	1st MTR	Final Pass	Final MTR	Dim	Date DIM	Visual	Date Visual	PT	Date PT	MT	Date MT	PMI	Date PMI	Ferite	Date Ferrite	PWHT	Date PWHT	BHN	Date BHN	Ultra	Date UT	Xray	Date Xray	
0029	BW	2	S10S	MW.26_BW	BC	21-08-2024	4712055	BC	21-08-2024	4712055			000952	17-09-2024			000991	21-09-2024											
0030	SOL	0,75	S10S	MW.26_SBR	BC	21-08-2024	4712055	BC	21-08-2024	4712055			000952	17-09-2024	000173	17-09-2024			000991	21-09-2024									
0032	BW	2	S10S	MW.26_BW	BC	27-08-2024	4712055	BC	27-08-2024	4712055			000952	17-09-2024			000991	21-09-2024											
0033	BW	2	S10S	MW.26_BW	BC	22-08-2024	4712055	BC	22-08-2024	4712055			000952	17-09-2024			000991	21-09-2024											

On behalf of Tecnimont / R
Piping Supervisor
Cristi Sandu
01.10.2024 *C. Sandu*

Notes:

Signature	Boccard Portugal QC	Client
	Sergio Morales  Date: 30-09-24	
Date	24-09-2024 15:19:38	



Shop QC Inspection Report

P2308-000987

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

Job number: P2308S
 Spool N°: 00485
 Piece Mark: 2121-IA91F63-3-SP06-00485

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

Control Date: 17-09-2024

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: 17-09-2024 Signature 	QA/QC Inspection: RAIMUNDO, MARIANA Date: 24-09-2024 15:19:38 Signature 	Customer Inspection: Sergio Morales Date: 30-09-24 
--	---	--

On behalf of Tecnimont / R
 Piping Supervisor
 Cristi Sandu
 01.10.2024 

Visual Examination Report (Welds)

P2308-000952

Contract : P2308

Job number: P2308S

Material: Stainless Steel 304, 316, 317

Client : NERVION

Spool Nº: 00485

Procedure & Instructions: 4274-LZ-VD-FW31010370QAC04 - Rev: 1

Project : ALBA

Piece Mark: 2121-IA91F63-3-SP06-00485

Testing Date: 17-09-2024

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

Weld No.	Weld Desc.	Welder	Temp. (°F/°C)	Accepted	Rejected	Defect	Technique Used	Comments
0029	2.0000 S10S BW-Buttweld Straight (MW.26_BW)	BC	27	X			Direct	
0030	0.7500 S10S SOL-Sockolet to Header Weld (MW.26_SBR)	BC	27	X			Direct	
0032	2.0000 S10S BW-Buttweld Straight (MW.26_BW)	BC	27	X			Direct	
0033	2.0000 S10S BW-Buttweld Straight (MW.26_BW)	BC	27	X			Direct	

Sketch / Photo:

Defects

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

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

QA/QC Inspection: RAIMUNDO, MARIANA

Customer Inspection:

Date: 17-09-2024

Date: 24-09-2024 15:19:38

Sergio Morales

Signature



Signature



Date: 30-09-24


 On behalf of Tecnímont / R
Piping Supervisor
Cristi Sandu
01.10.2024 C. Sandu



Liquid Penetrant Examination Report

P2308-000173

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

Job number: P2308S

Spool N°: 00485

Piece Mark: 2121-IA91F63-3-SP06-00485

Material: Stainless Steel 304, 316, 317

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

Testing Date: 17-09-2024

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				
0030	0.7500 S10S SOL-Socket to Header Weld (MW.26_SBR)	BC	30	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: 17-09-2024

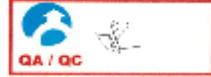
Date: 17-09-2024

Sergio Morales

Signature



Signature



Date: 30-09-24



On behalf of Tecnimont / R
 Piping Supervisor
 Cristi Sandu
 01.10.2024 C. Sandu



Positive Material Identification Report (PMI)

P2308-000991

Client : NERVION

Contract : P2308 / Project : ALBA

Remarks: The results refer to the controlled items

Job number: P2308S

Spool N°: 00485

Piece Mark: 2121-IA91F63-3-SP06-00485

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: 21-09-2024

Weld / Item No	Description	Reading Number	Chemical Elements										Accepted	Rejected	Comments
			%Ti	%Mo	%Cu	%Ni	%Fe	%Mn	%Cr	%Nb	%Al	%V			
0029	2.0000 S10S BW-Buttweld Straight (MW.26_BW)	118	0	0	0	8	70	1	18	0	0	0	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
0030	0.7500 S10S SOL-Sockolet to Header Weld (MW.26_SBR)	116	0	0	0	9	68	1	19	0	0	0	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
0032	2.0000 S10S BW-Buttweld Straight (MW.26_BW)	114	0	0	0	8	70	1	18	0	0	0	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
0033	2.0000 S10S BW-Buttweld Straight (MW.26_BW)	111	0	0	0	9	69	1	19	0	0	0	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
1.1	2.0000 S10S PIPE, SEAMLESS, A312-TP304L (S-23594)	115	0	0	0	8	70	1	19	0	0	0	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
1.2	2.0000 S10S PIPE, SEAMLESS, A312-TP304L (S-23594)	103	0	0	0	9	69	1	19	0	0	0	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
2.1	2.0000 NA 0.7500 NA SOCKOLET, 3000#, A182-F304L (N220606AV04)	117	0	0	0	7	71	1	18	0	0	0	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
3.1	2.0000 S10S 45 ELL, SEAMLESS, A403-WP304L (2K113-E002)	110	0	0	0	8	71	1	18	0	0	0	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
4.1	2.0000 S10S WN FLG, RAISED FACE, 150#, A182-F304L (N230210AT03)	119	0	0	0	8	71	1	18	0	0	0	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

On behalf of Tecnimont / R
 Piping Supervisor
 Cristi Sandu
 01.10.2024 C. Sandu

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

Customer Inspection:

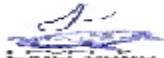
Sergio Morales

Date: 21-09-2024

Date: 24-09-2024 15:19:38

Date:

Signature



Signature



Signature

Date: 30-09-24



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

Certificate of PMI Reading

XL3t-32735

Reading No	118
Mode	ALLOY
Time	2024-09-21 08:17
Duration	8.44
Sequence	Final
Alloy1	304SS : 0.15
Alloy2	No Match : *2.10
Flags	
SAMPLE	
HEAT	
LOT	
BATCH	
MISC	
NOTE	

	%	±	Error
Sb	< LOD	:	0.043
Sn	< LOD	:	0.054
Pd	< LOD	:	0.041
Ag	< LOD	:	0.140
Al	< LOD	:	80.000
Mo	0.082	±	0.011
Nb	< LOD	:	0.009
Zr	< LOD	:	0.004
Bi	< LOD	:	0.018
Pb	< LOD	:	0.014
Se	< LOD	:	0.008
W	< LOD	:	0.096
Zn	< LOD	:	0.041
Cu	< LOD	:	0.175
Ni	8.857	±	0.337
Co	< LOD	:	0.551
Fe	70.033	±	0.505
Mn	1.714	±	0.229
Cr	18.607	±	0.293
V	< LOD	:	0.151
Ti	< LOD	:	0.162

Sergio Morales

Date: 30-09-24



On behalf of Tecnimont / R
Piping Supervisor
Cristi Sandu
01.10.2024 C. Sandu

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

Certificate of PMI Reading

XL3t-32735

Reading No	116
Mode	ALLOY
Time	2024-09-21 08:16
Duration	19.19
Sequence	Final
Alloy1	304SS : 1.08
Alloy2	No Match : 1.70
Flags	
SAMPLE	
HEAT	
LOT	
BATCH	
MISC	
NOTE	

	%	±	Error
Sb	< LOD	:	0.029
Sn	< LOD	:	0.035
Pd	< LOD	:	0.025
Ag	< LOD	:	0.115
Al	< LOD	:	80.000
Mo	0.052	±	0.006
Nb	0.006	±	0.003
Zr	< LOD	:	0.002
Bi	< LOD	:	0.008
Pb	< LOD	:	0.009
Se	< LOD	:	0.003
W	< LOD	:	0.066
Zn	< LOD	:	0.025
Cu	< LOD	:	0.109
Ni	9.302	±	0.215
Co	< LOD	:	0.343
Fe	68.957	±	0.319
Mn	1.677	±	0.145
Cr	19.475	±	0.188
V	< LOD	:	0.093
Ti	< LOD	:	0.119

Sergio Morales

Date: 30-09-24



On behalf of Tecnimont / R
Piping Supervisor
Cristi Sandu
01.10.2024 C. Sandu

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Certificate of PMI Reading

XL3t-32735

Reading No	114
Mode	ALLOY
Time	2024-09-21 08:15
Duration	8.92
Sequence	Final
Alloy1	304SS : 0.40
Alloy2	No Match : 1.76
Flags	
SAMPLE	
HEAT	
LOT	
BATCH	
MISC	
NOTE	

	%	±	Error
Sb	< LOD	:	0.043
Sn	< LOD	:	0.053
Pd	< LOD	:	0.042
Ag	< LOD	:	0.099
Al	< LOD	:	80.000
Mo	0.079	±	0.011
Nb	< LOD	:	0.008
Zr	< LOD	:	0.004
Bi	< LOD	:	0.014
Pb	< LOD	:	0.004
Se	< LOD	:	0.012
W	< LOD	:	0.107
Zn	< LOD	:	0.031
Cu	< LOD	:	0.164
Ni	8.979	±	0.328
Co	< LOD	:	0.520
Fe	70.286	±	0.491
Mn	1.411	±	0.218
Cr	18.893	±	0.286
V	< LOD	:	0.143
Ti	< LOD	:	0.176

Sergio Morales

Date: 30-09-24



On behalf of Tecnimont / R
Piping Supervisor
Cristi Sandu
01.10.2024 C. Sandu

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Constância, Portugal 2250-999

Certificate of PMI Reading

XL3t-32735

Reading No	111
Mode	ALLOY
Time	2024-09-21 08:14
Duration	8.20
Sequence	Final
Alloy1	304SS : 0.00
Alloy2	No Match : *2.09
Flags	
SAMPLE	
HEAT	
LOT	
BATCH	
MISC	
NOTE	

	%	±	Error
Sb	< LOD	:	0.045
Sn	< LOD	:	0.060
Pd	< LOD	:	0.044
Ag	< LOD	:	0.178
Al	< LOD	:	80.000
Mo	0.067	±	0.011
Nb	< LOD	:	0.008
Zr	< LOD	:	0.005
Bi	< LOD	:	0.017
Pb	< LOD	:	0.013
Se	< LOD	:	0.013
W	< LOD	:	0.115
Zn	< LOD	:	0.038
Cu	0.297	±	0.102
Ni	9.202	±	0.350
Co	< LOD	:	0.553
Fe	69.531	±	0.518
Mn	1.469	±	0.233
Cr	19.152	±	0.304
V	< LOD	:	0.144
Ti	< LOD	:	0.167

Sergio Morales

Date: 30-09-24



On behalf of Tecnimont / R
Piping Supervisor
Cristi Sandu
01.10.2024 C. Sandu

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

Certificate of PMI Reading

XL3t-32735

Reading No	115
Mode	ALLOY
Time	2024-09-21 08:15
Duration	22.18
Sequence	Final
Alloy1	304SS : 0.08
Alloy2	No Match : *2.10
Flags	
SAMPLE	
HEAT	
LOT	
BATCH	
MISC	
NOTE	

	%	±	Error
Sb	< LOD	:	0.032
Sn	< LOD	:	0.038
Pd	< LOD	:	0.029
Ag	< LOD	:	0.174
Al	< LOD	:	80.000
Mo	0.199	±	0.012
Nb	0.008	±	0.003
Zr	< LOD	:	0.004
Bi	< LOD	:	0.008
Pb	< LOD	:	0.012
Se	< LOD	:	0.008
W	< LOD	:	0.074
Zn	< LOD	:	0.026
Cu	0.311	±	0.064
Ni	8.018	±	0.297
Co	0.378	±	0.175
Fe	70.241	±	0.596
Mn	1.499	±	0.152
Cr	19.065	±	0.793
V	< LOD	:	0.277
Ti	< LOD	:	0.157

Sergio Morales

Date: 30-09-24



On behalf of Tecnimont / R
Piping Supervisor
Cristi Sandu
01.10.2024 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	2024-09-21 08:09
Duration	7.47
Sequence	Final
Alloy1	304SS : 0.01
Alloy2	No Match : *2.09
Flags	
SAMPLE	
HEAT	
LOT	
BATCH	
MISC	
NOTE	

	%	±	Error
Sb	< LOD	:	0.042
Sn	0.066	±	0.031
Pd	< LOD	:	0.043
Ag	< LOD	:	0.174
Al	< LOD	:	80.000
Mo	0.049	±	0.009
Nb	< LOD	:	0.010
Zr	< LOD	:	0.003
Bi	< LOD	:	0.016
Pb	< LOD	:	0.020
Se	< LOD	:	0.010
W	< LOD	:	0.096
Zn	< LOD	:	0.025
Cu	< LOD	:	0.182
Ni	9.524	±	0.355
Co	< LOD	:	0.564
Fe	69.079	±	0.525
Mn	1.680	±	0.237
Cr	19.099	±	0.305
V	< LOD	:	0.142
Ti	< LOD	:	0.176

Sergio Morales

Date: 30-09-24



On behalf of Tecnimont / R
Piping Supervisor
Cristi Sandu
01.10.2024 C. Sandu

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

Certificate of PMI Reading

XL3t-32735

Reading No	117
Mode	ALLOY
Time	2024-09-21 08:16
Duration	11.31
Sequence	Final
Alloy1	304SS : 1.17
Alloy2	No Match : 2.19
Flags	
SAMPLE	
HEAT	
LOT	
BATCH	
MISC	
NOTE	

	%	±	Error
Sb	< LOD	:	0.040
Sn	< LOD	:	0.049
Pd	< LOD	:	0.036
Ag	< LOD	:	0.147
Al	< LOD	:	80.000
Mo	0.042	±	0.008
Nb	< LOD	:	0.007
Zr	< LOD	:	0.004
Bi	< LOD	:	0.015
Pb	< LOD	:	0.002
Se	< LOD	:	0.008
W	< LOD	:	0.088
Zn	< LOD	:	0.028
Cu	0.246	±	0.081
Ni	7.953	±	0.282
Co	< LOD	:	0.477
Fe	71.415	±	0.438
Mn	1.608	±	0.197
Cr	18.118	±	0.252
V	0.220	±	0.073
Ti	< LOD	:	0.146

Sergio Morales

Date: 30-09-24



On behalf of Tecnimont / R
Piping Supervisor
Cristi Sandu
01.10.2024 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	2024-09-21 08:13
Duration	8.65
Sequence	Final
Alloy1	304SS : 0.75
Alloy2	No Match : *2.23
Flags	
SAMPLE	
HEAT	
LOT	
BATCH	
MISC	
NOTE	

	%	±	Error
Sb	< LOD	:	0.043
Sn	< LOD	:	0.058
Pd	< LOD	:	0.044
Ag	< LOD	:	0.174
Al	< LOD	:	80.000
Mo	0.128	±	0.014
Nb	< LOD	:	0.006
Zr	< LOD	:	0.003
Bi	< LOD	:	0.002
Pb	< LOD	:	0.022
Se	< LOD	:	0.011
W	< LOD	:	0.104
Zn	< LOD	:	0.047
Cu	0.501	±	0.108
Ni	8.295	±	0.328
Co	< LOD	:	0.546
Fe	71.046	±	0.500
Mn	1.246	±	0.218
Cr	18.100	±	0.287
V	< LOD	:	0.147
Ti	< LOD	:	0.173

Sergio Morales

Date: 30-09-24



On behalf of Tecnimont / R
Piping Supervisor
Cristi Sandu
01.10.2024 C. Sandu

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

Certificate of PMI Reading

XL3t-32735

Reading No	119
Mode	ALLOY
Time	2024-09-21 08:17
Duration	8.75
Sequence	Final
Alloy1	304SS : 0.68
Alloy2	No Match : 2.41
Flags	
SAMPLE	
HEAT	
LOT	
BATCH	
MISC	
NOTE	

	%	±	Error
Sb	< LOD	:	0.044
Sn	< LOD	:	0.053
Pd	< LOD	:	0.041
Ag	< LOD	:	0.134
Al	< LOD	:	80.000
Mo	0.051	±	0.009
Nb	< LOD	:	0.005
Zr	< LOD	:	0.006
Bi	< LOD	:	0.015
Pb	< LOD	:	0.020
Se	< LOD	:	0.008
W	< LOD	:	0.097
Zn	< LOD	:	0.038
Cu	< LOD	:	0.164
Ni	8.009	±	0.315
Co	< LOD	:	0.537
Fe	71.425	±	0.487
Mn	1.505	±	0.217
Cr	18.173	±	0.280
V	< LOD	:	0.146
Ti	< LOD	:	0.159

Sergio Morales

Date: 30-09-24



On behalf of Tecnimont / R
Piping Supervisor
Cristi Sandu
01.10.2024 C. Sandu

 	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th colspan="6">BILL OF MATERIAL</th> </tr> </thead> <tbody> <tr> <td colspan="6">PIPE</td> </tr> <tr> <th>ITEM</th><th>LONGUEUR</th><th>DIAMÉTRE</th><th>SCH/mm</th><th>DESCRIPTION / MATÉRIEL</th><th>ITEM CODE</th></tr> <tr> <td>1.3</td><td>0,326</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>3,212</td><td>2"</td><td>S-10S</td><td>PIPE - A312-TP304/304L DUAL GR SMLS, BExBE</td><td>I3364302</td></tr> <tr> <td colspan="6">WELD FITTINGS</td> </tr> <tr> <th>ITEM</th><th>QT</th><th>DIAMÉTRE</th><th>SCH/PRESS.</th><th>DESCRIPTION / MATÉRIEL</th><th>ITEM CODE</th></tr> <tr> <td>3.2</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> <tr> <td colspan="6">FORGINGS</td> </tr> <tr> <th>ITEM</th><th>QT</th><th>DIAMÉTRE</th><th>SCH/PRESS.</th><th>DESCRIPTION / MATÉRIEL</th><th>ITEM CODE</th></tr> <tr> <td>2.2</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> <tr> <td colspan="6">P2308S 00486</td> </tr> <tr> <td colspan="6">  2121-IA91F63-3-SP07-00486 </td> </tr> <tr> <td colspan="6" style="text-align: center;">  </td> </tr> <tr> <td colspan="6" style="text-align: right;">  </td> </tr> </tbody> </table>	BILL OF MATERIAL						PIPE						ITEM	LONGUEUR	DIAMÉTRE	SCH/mm	DESCRIPTION / MATÉRIEL	ITEM CODE	1.3	0,326	2"	S-10S	PIPE - A312-TP304/304L DUAL GR SMLS, BExBE	I3364302	1.4	3,212	2"	S-10S	PIPE - A312-TP304/304L DUAL GR SMLS, BExBE	I3364302	WELD FITTINGS						ITEM	QT	DIAMÉTRE	SCH/PRESS.	DESCRIPTION / MATÉRIEL	ITEM CODE	3.2	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	2.2	1	2" x 3/4"	3000#	REDUCING SOCKOLET MSS-SP-97 A182-F304/304L DUAL GR BE SWE	I2258338	P2308S 00486						 2121-IA91F63-3-SP07-00486																	
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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	00486	2121-IA91F63-3-SP07-00486	2121-IA91F63-3	00						
1.3	,326 2.0000 S10S	0.0000 NA		PIPE, SEAMLESS, A312-TP304L			S-23594	3,93	1,28	
40391							0357			
1.4	3,212 2.0000 S10S	0.0000 NA		PIPE, SEAMLESS, A312-TP304L			S-23594	3,93	12,62	
40391							0357			
3.2	1 2.0000 S10S	0.0000 NA		45 ELL, SEAMLESS, A403-WP304L			2K113-E002	0,24	0,24	
42790							0408			
2.2	1 2.0000 NA	0.7500 NA		SOCKOLET, 3000#, A182-F304L			N220606AV04	0,15	0,15	
88696							0297			

On behalf of Tecnimont / R
 Piping Supervisor
 Cristi Sandu
 01.10.2024 C. Sandu

Number of Items : 4 Total Weight : 14,30

Signature	QA	Client
		Sergio Morales Date: 30-09-24
Date	2024-09-18 10:57:00	

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%
	0.020	1.26	0.45	0.003	0.023	18.51	8.21			
1	2K113-E002									
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



Zongnan Heavy Industries

江阴中南重工有限公司

Jiangyin Zhongnan Heavy Industries Co.,Ltd.

产品品质证明书 Quality Certificate EN10204-3.1

用户(Purchaser): (印度)TECNIMONT S.P.A

订单号:PO 7500110919

质量证明书编号 (Certificate No.): 2023-03-225-71

表号: ZNHI/W400-34-1
修订号: 0

材质(Material): ASTM A182-2021 F304/304L DUL GR												化学成分 Chemical Composition (%)												机械性能 Mechanical Properties											
生产批号 Batch No.	品名 Designation	规格型号 Dimension	单位 Unit	数量 Qty	炉号 Heat No.	C	Si	Mn	P	Cr	Ni	T	Mo	V	Cu	Nb	Al	N	CE	R _{0.02} R _m (Mpa)	屈服强度 R _{0.2} (Mpa)	延伸率 A%	冲击强度 Z, °C (10*10 ⁵ mm)	硬度 HBW	PO item No.	备注 Remark									
2023-03-225-306	SOCKOLET SWE	SIZE:1.2 SIZE:2.0:0.5 2"0.5"**3000LB	件	5	N220606AV04	0.023	0.35	1.30	0.002	0.029	18.19	8.08							0.047	61.5	309	54.5	77	-	-	172/165/174	306	Ident Code: 2258337							
2023-03-225-307	SOCKOLET SWE	SIZE:1.2 SIZE:2.0:0.75 2"0.75"**3000LB	件	5	N220606AV04	0.023	0.35	1.30	0.002	0.029	18.19	8.08							0.047	61.5	309	54.5	77	-	-	172/165/174	307	Ident Code: 2258338							
2023-03-225-308	SOCKOLET SWE	SIZE:1.3 SIZE:2.0:0.75 3"0.75"**3000LB	件	10	N220606AV04	0.023	0.35	1.30	0.002	0.029	18.19	8.08							0.047	61.5	309	54.5	77	-	-	172/165/174	308	Ident Code: 2258415							
2023-03-225-309	SOCKOLET SWE	SIZE:1.3 SIZE:2.1 3"1"**3000LB	件	5	N220606AV04	0.023	0.35	1.30	0.002	0.029	18.19	8.08							0.047	61.5	309	54.5	77	-	-	172/165/174	309	Ident Code: 2258416							
2023-03-225-310	SOCKOLET SWE	SIZE:1.4 SIZE:2.0:0.75 4"0.75"**3000LB	件	5	N220606AV04	0.023	0.35	1.30	0.002	0.029	18.19	8.08							0.047	61.5	309	54.5	77	-	-	172/165/174	310	Ident Code: 2258477							
2023-03-225-311	SOCKOLET SWE	SIZE:1.6 SIZE:2.0:0.75 6"0.75"**3000LB	件	5	N220606AV04	0.023	0.35	1.30	0.002	0.029	18.19	8.08							0.047	61.5	309	54.5	77	-	-	172/165/174	311	Ident Code: 2258518							
其他检测结果(Other examination and test)																																			
尺寸检查 Dimension Inspection	外观检查 Visual Inspection	硬度 Hardness (H13W≤201)	无损检测(NDT) MT	磁粉 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																其他(others): 1.1 Heat treatment: Solution Annealing 1050°C in the water cooling.										
合格 OK	合格 OK	合格 OK	-	合格 OK	-	-	合格 OK	PMI OK	固溶 Solution Annealing																										
兹证明上述产品制造、检验和试验，符合上述标准规定及合同要求。 We hereby certify that the products described above have manufactured, inspected and tested in accordance with the specified standards and the contract requirements.																																			
特种设备制造许可证号(Manufacture License of Special Equipment): TS2732E11-2024													检验员(Inspector): 华洋 质检工程师(QA Engineer): 陈晓 签发日期(Date of issue): 2023.05.29													电话(Tel): 0510-8696009 传真(Fax): 0510-8696035									



质量监督专用章



Contract : P2300

Drawing : 2121-IA91F63-3

Welding and QC Report Per Spool

Job : P2300S

Material : Stainless Steel 304, 316, 317

Client : NERVION

Revision : 00

Spool :

00486 Spec : 6C4-M

Project : ALBA

Piece Mark : 2121-IA91F63-3-SP07-00486

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
0035	BW	2	S10S	MW.26_BW	BC	26-08-2024	4712055	BC	26-08-2024	4712055			000876	30-08-2024			000975	14-09-2024										
0036	BW	2	S10S	MW.26_BW	BC	26-08-2024	4712055	BC	26-08-2024	4712055			000876	30-08-2024			000975	14-09-2024										
0037	SOL	0,75	S10S	MW.26_SBR	BC	21-08-2024	4712055	BC	21-08-2024	4712055			000876	30-08-2024	000153	30-08-2024	000975	14-09-2024										

On behalf of Tecnimont / R
Piping Supervisor
Cristi Sandu
01.10.2024 C. Sandu

Notes:

Signature	Boccard Portugal QC	Client
	 	Sergio Morales Date: 30-09-24
Date	18-09-2024 10:57:00	



Shop QC Inspection Report

P2308-000908

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

Job number: P2308S
Spool N°: 00486
Piece Mark: 2121-IA91F63-3-SP07-00486

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

Control Date: 30-08-2024

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	X	<input type="checkbox"/>	X
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: 30-08-2024 Signature 	QA/QC Inspection: GIL, MIGUEL Date: 18-09-2024 10:57:00 Signature 	Customer Inspection: Sergio Morales Date: 30-09-24 
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On behalf of Tecnimont / R
Piping Supervisor
Cristi Sandu
01.10.2024 

Visual Examination Report (Welds)

P2308-000876

Contract : P2308

Job number: P2308S

Material: Stainless Steel 304, 316, 317

Client : NERVION

Spool Nº: 00486

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

Project : ALBA

Piece Mark: 2121-IA91F63-3-SP07-00486

Testing Date: 30-08-2024

Remarks: The results refer to the controlled items

Unacceptable indications for welding

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

Weld No.	Weld Desc.	Welder	Temp. (°F/°C)	Technique Used			Comments
				Accepted	Rejected	Defect	
0035	2.0000 S10S BW-Buttweld Straight (MW.26_BW)	BC	20	X			Direct
0036	2.0000 S10S BW-Buttweld Straight (MW.26_BW)	BC	20	X			Direct
0037	0.7500 S10S SOL-Sockolet to Header Weld (MW.26_SBR)	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)

QA/QC Inspection: GIL, MIGUEL

Customer Inspection:

Date: 30-08-2024

Date: 18-09-2024 10:57:00

Sergio Morales

Signature



Signature



Date: 30-09-24


On behalf of Tecnímont / R
Piping Supervisor
Cristi Sandu
01.10.2024 C. Sandu



Liquid Penetrant Examination Report

P2308-000153

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°: 00486

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

Piece Mark: 2121-IA91F63-3-SP07-00486

Testing Date: 30-08-2024

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				
0037	0.7500 S10S SOL-Socket 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: GIL, MIGUEL

Customer Inspection:

Date: 30-08-2024

Date: 30-08-2024

Sergio Morales

Signature



Signature



Date: 30-09-24



On behalf of Tecnimont / R
 Piping Supervisor
 Cristi Sandu
 01.10.2024 C. Sandu



Positive Material Identification Report (PMI)

P2308-000975

Client : NERVION

Contract : P2308 / Project : ALBA

Remarks: The results refer to the controlled items

Job number: P2308S

Spool N°: 00486

Piece Mark: 2121-IA91F63-3-SP07-00486

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: 14-09-2024

Weld / Item No	Description	Reading Number	Chemical Elements										Accepted	Rejected	Comments
			%Ti	%Mo	%Cu	%Ni	%Fe	%Mn	%Cr	%Nb	%Al	%V			
0035	2.0000 S10S BW-Buttweld Straight (MW.26_BW)	13	0	0	0	9	69	1	19	0	0	0	X		
0036	2.0000 S10S BW-Buttweld Straight (MW.26_BW)	15	0	0	0	9	69	1	19	0	0	0	X		
0037	0.7500 S10S SOL-Sockolet to Header Weld (MW.26_SBR)	17	0	0	0	9	68	2	19	0	0	0	X		
1.3	2.0000 S10S PIPE, SEAMLESS, A312-TP304L (S-23594)	12	0	0	0	7	70	1	18	0	0	0	X		
1.4	2.0000 S10S PIPE, SEAMLESS, A312-TP304L (S-23594)	16	0	0	0	8	71	1	16	0	0	0	X		
2.2	2.0000 NA 0.7500 NA SOCKOLET, 3000#, A182-F304L (N220606AV04)	18	0	0	0	7	71	1	18	0	0	0	X		
3.2	2.0000 S10S 45 ELL, SEAMLESS, A403-WP304L (2K113-E002)	14	0	0	0	8	71	0	18	0	0	0	X		

On behalf of Tecnimont / R
 Piping Supervisor
 Cristi Sandu
 01.10.2024 C. Sandu

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

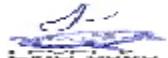
Customer Inspection:

Date: 14-09-2024

Date: 18-09-2024 10:57:00

Date: Sergio Morales

Signature



Signature



Signature

Date: 30-09-24



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

Certificate of PMI Reading

XL3t-32735

Reading No	13
Mode	ALLOY
Time	2024-09-14 06:10
Duration	6.34
Sequence	Final
Alloy1	304SS : 0.66
Alloy2	No Match : *2.19
Flags	
SAMPLE	
HEAT	
LOT	
BATCH	
MISC	
NOTE	

	%	±	Error
Sb	< LOD	:	0.051
Sn	< LOD	:	0.065
Pd	< LOD	:	0.052
Ag	< LOD	:	0.099
Al	< LOD	:	80.000
Mo	0.096	±	0.014
Nb	< LOD	:	0.012
Zr	< LOD	:	0.007
Bi	< LOD	:	0.023
Pb	< LOD	:	0.018
Se	< LOD	:	0.009
W	< LOD	:	0.127
Zn	< LOD	:	0.050
Cu	< LOD	:	0.215
Ni	9.121	±	0.396
Co	< LOD	:	0.646
Fe	69.012	±	0.592
Mn	1.773	±	0.270
Cr	19.137	±	0.346
V	< LOD	:	0.161
Ti	< LOD	:	0.201

Sergio Morales

Date: 30-09-24



On behalf of Tecnimont / R
Piping Supervisor
Cristi Sandu
01.10.2024 C. Sandu

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Constância, Portugal 2250-999

Certificate of PMI Reading

XL3t-32735

Reading No	15
Mode	ALLOY
Time	2024-09-14 06:10
Duration	8.40
Sequence	Final
Alloy1	304SS : 0.04
Alloy2	No Match : *2.09
Flags	
SAMPLE	
HEAT	
LOT	
BATCH	
MISC	
NOTE	

	%	±	Error
Sb	< LOD	:	0.042
Sn	< LOD	:	0.056
Pd	< LOD	:	0.040
Ag	< LOD	:	0.161
Al	< LOD	:	80.000
Mo	0.080	±	0.011
Nb	< LOD	:	0.009
Zr	< LOD	:	0.006
Bi	< LOD	:	0.012
Pb	< LOD	:	0.014
Se	< LOD	:	0.009
W	< LOD	:	0.105
Zn	< LOD	:	0.033
Cu	< LOD	:	0.180
Ni	9.075	±	0.331
Co	< LOD	:	0.531
Fe	69.400	±	0.494
Mn	1.538	±	0.223
Cr	19.353	±	0.291
V	< LOD	:	0.147
Ti	< LOD	:	0.169

Sergio Morales

Date: 30-09-24



On behalf of Tecnimont / R
Piping Supervisor
Cristi Sandu
01.10.2024 C. Sandu

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Certificate of PMI Reading

XL3t-32735

Reading No	17
Mode	ALLOY
Time	2024-09-14 06:11
Duration	8.46
Sequence	Final
Alloy1	304SS : 1.53
Alloy2	No Match : *2.65
Flags	
SAMPLE	
HEAT	
LOT	
BATCH	
MISC	
NOTE	

	%	±	Error
Sb	< LOD	:	0.045
Sn	< LOD	:	0.054
Pd	< LOD	:	0.039
Ag	< LOD	:	0.140
Al	< LOD	:	80.000
Mo	0.055	±	0.009
Nb	< LOD	:	0.009
Zr	< LOD	:	0.004
Bi	< LOD	:	0.005
Pb	< LOD	:	0.031
Se	< LOD	:	0.006
W	< LOD	:	0.093
Zn	< LOD	:	0.032
Cu	< LOD	:	0.175
Ni	9.438	±	0.338
Co	< LOD	:	0.539
Fe	68.482	±	0.497
Mn	2.112	±	0.234
Cr	19.398	±	0.294
V	< LOD	:	0.141
Ti	< LOD	:	0.165

Sergio Morales

Date: 30-09-24



On behalf of Tecnimont / R
Piping Supervisor
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01.10.2024 C. Sandu

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Certificate of PMI Reading

XL3t-32735

Reading No	12
Mode	ALLOY
Time	2024-09-14 06:09
Duration	21.72
Sequence	Final
Alloy1	304SS : 1.28
Alloy2	No Match : *2.26
Flags	
SAMPLE	
HEAT	
LOT	
BATCH	
MISC	
NOTE	

	%	±	Error
Sb	< LOD	:	0.030
Sn	< LOD	:	0.037
Pd	< LOD	:	0.028
Ag	< LOD	:	0.194
Al	< LOD	:	80.000
Mo	0.208	±	0.012
Nb	< LOD	:	0.006
Zr	< LOD	:	0.003
Bi	< LOD	:	0.008
Pb	< LOD	:	0.010
Se	< LOD	:	0.006
W	< LOD	:	0.072
Zn	< LOD	:	0.027
Cu	0.256	±	0.060
Ni	7.929	±	0.286
Co	0.406	±	0.173
Fe	70.193	±	0.577
Mn	1.502	±	0.150
Cr	18.997	±	0.749
V	< LOD	:	0.370
Ti	< LOD	:	0.248

Sergio Morales

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01.10.2024 C. Sandu

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Certificate of PMI Reading

XL3t-32735

Reading No	16
Mode	ALLOY
Time	2024-09-14 06:10
Duration	20.54
Sequence	Final
Alloy1	304SS : *0.88
Alloy2	No Match : *1.75
Flags	
SAMPLE	
HEAT	
LOT	
BATCH	
MISC	
NOTE	

	%	±	Error
Sb	< LOD	:	0.030
Sn	< LOD	:	0.040
Pd	< LOD	:	0.029
Ag	< LOD	:	0.192
Al	< LOD	:	80.000
Mo	0.221	±	0.018
Nb	< LOD	:	0.006
Zr	< LOD	:	0.004
Bi	< LOD	:	0.004
Pb	< LOD	:	0.010
Se	< LOD	:	0.008
W	< LOD	:	0.081
Zn	< LOD	:	0.032
Cu	0.339	±	0.070
Ni	8.757	±	0.531
Co	< LOD	:	0.353
Fe	71.776	±	1.116
Mn	1.570	±	0.187
Cr	16.163	±	1.681
V	< LOD	:	1.144
Ti	< LOD	:	0.034

Sergio Morales

Date: 30-09-24



On behalf of Tecnimont / R
Piping Supervisor
Cristi Sandu
01.10.2024 C. Sandu

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Certificate of PMI Reading

XL3t-32735

Reading No	18
Mode	ALLOY
Time	2024-09-14 06:11
Duration	13.95
Sequence	Final
Alloy1	304SS : 1.81
Alloy2	No Match : *2.35
Flags	
SAMPLE	
HEAT	
LOT	
BATCH	
MISC	
NOTE	

	%	±	Error
Sb	< LOD	:	0.035
Sn	0.048	±	0.022
Pd	< LOD	:	0.031
Ag	< LOD	:	0.197
Al	< LOD	:	80.000
Mo	0.038	±	0.006
Nb	< LOD	:	0.006
Zr	< LOD	:	0.003
Bi	< LOD	:	0.011
Pb	< LOD	:	0.014
Se	< LOD	:	0.004
W	< LOD	:	0.065
Zn	< LOD	:	0.026
Cu	0.133	±	0.064
Ni	7.818	±	0.242
Co	0.463	±	0.209
Fe	71.254	±	0.379
Mn	1.550	±	0.170
Cr	18.342	±	0.219
V	0.138	±	0.058
Ti	< LOD	:	0.132

Sergio Morales

Date: 30-09-24



On behalf of Tecnimont / R
Piping Supervisor
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01.10.2024 C. Sandu

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Certificate of PMI Reading

XL3t-32735

Reading No	14
Mode	ALLOY
Time	2024-09-14 06:10
Duration	12.32
Sequence	Final
Alloy1	304SS : 0.85
Alloy2	No Match : 1.71
Flags	
SAMPLE	
HEAT	
LOT	
BATCH	
MISC	
NOTE	

	%	±	Error
Sb	< LOD	:	0.038
Sn	< LOD	:	0.046
Pd	< LOD	:	0.036
Ag	< LOD	:	0.158
Al	< LOD	:	80.000
Mo	0.203	±	0.013
Nb	< LOD	:	0.007
Zr	< LOD	:	0.006
Bi	< LOD	:	0.011
Pb	< LOD	:	0.026
Se	< LOD	:	0.005
W	< LOD	:	0.075
Zn	< LOD	:	0.028
Cu	0.580	±	0.089
Ni	8.140	±	0.261
Co	< LOD	:	0.434
Fe	71.105	±	0.401
Mn	0.894	±	0.172
Cr	18.620	±	0.234
V	< LOD	:	0.117
Ti	< LOD	:	0.150

Sergio Morales

Date: 30-09-24



On behalf of Tecnimont / R
Piping Supervisor
Cristi Sandu
01.10.2024 C. Sandu