



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-310-000420_RFI5573_MOD-ITP-XL_220
Rev.1			RFI Nr.: Date :
Unit -			
Plant Area -			
Isometric Number			
Inspection Package Number	IP-WSR-P-310-000420_RFI5573 - IP Spool Release From Workshop		

Sheet 01/01

The Present Inspection Package contains the following Elements:

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

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

On behalf of Tecnimont / R
Piping Supervisor
Cristi Sandu
29.10.2024

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] 29-10-2024	Name Sergio Morales Collantes	Signature			
CONTRACTOR						
COMPANY						
(Free)						



Tecnimont S.p.A.

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014-SP07-01094;2211-PCW70B04-3-SP06-00407;2121-LO40B03-1-SP03-00998;2121-LO40B02-3-SP09-01150;1121-LS50001-4-SP08-01132;1113-PN52018-1-SP0
2-00862;2211-PCW70B04-3-SP05-01158;2211-VA71A01-1-SP01-00442;2211-PCW71A01-2-SP04-01104;2121-LO40B02-3-SP10-00505;2121-LO40B02-2-SP07-0114
9;1121-LS50006-2-SP02-01129;1121-LS50002-2-SP08-01126;2211-VA71A01-1-SP02-00443;2211-PCW71A01-2-SP05-01105;2121-LO40B02-3-SP11-00506;2121-LO
40B02-3-SP08-00503;1121-PR34029-3-SP03-01131;1121-LS50005-3-SP05-00192;2121-LO40B02-2-SP06-01148;2121-LO40B02-2-SP04-01146;1211-VA81004-1-SP
01-01095;1127-LS50009-2-SP01-01130;2211-PCW70B04-3-SP04-00406;2121-LO40B04-1-SP02-01069;2121-LO40B04-1-SP01-01068;2121-LO40B01-1-SP01-00498
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0002-2-SP05-01125;2211-LS50A05-1-SP02-00385;2121-LO40B04-1-SP03-01155;2121-IA91F63-4-SP04-00487;2121-IA91F62-8-SP17-00478;1113-PN52018-1-SP01-
00861

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

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

On behalf of Tecnimont / R
Piping Supervisor
Cristi Sandu C. Sandu
29.10.2024

LEGEND OF CHECK RESULT	<input checked="" type="checkbox"/> Checked & NOT Accepted	<input checked="" type="checkbox"/> Checked & Accepted	N.A.	Not Applicable	Y / N	Punch List Produced
SUBCONTRACTOR	Date [DD-MMM-YYYY]	Name	Signature 			
CONTRACTOR	29-10-2024	Sergio Morales Collantes				
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-IA91F63-4</p>				

NOTES AND REMARKS

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

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

<div style="text-align: center; padding: 10px;">  N </div>	<div style="margin-bottom: 10px;"> <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>1,953</td> <td>2"</td> <td>S-10S</td> <td>PIPE - A312-TP304/304L DUAL GR SMLS, BExBE</td> <td>I3364302</td> </tr> </tbody> </table> </div> <div style="margin-bottom: 10px;"> <p>FLANGES</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>ITEM</th> <th>QT</th> <th>DIAMÉTRE</th> <th>PRESSION</th> <th>SCH/mm</th> <th>DESCRIPTION / MATÉRIEL</th> <th>ITEM CODE</th> </tr> </thead> <tbody> <tr> <td>5.1</td> <td>1</td> <td>2"</td> <td>150#</td> <td>S-10S</td> <td>WN FLANGE ASME B16.5 A182-F304/304L DUAL GR RF BE 125-250 AARH</td> <td>I2260686</td> </tr> </tbody> </table> </div> <div style="margin-bottom: 10px;"> <p>WELD FITTINGS</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>ITEM</th> <th>QT</th> <th>DIAMÉTRE</th> <th>SCH/PRESS.</th> <th>DESCRIPTION / MATÉRIEL</th> <th>ITEM CODE</th> </tr> </thead> <tbody> <tr> <td>2.1</td> <td>1</td> <td>2" X 2"</td> <td>S-10S</td> <td>STRAINGT TEE ASME B16.9 A403-WP304/304L DG BE SMLS</td> <td>I2259149</td> </tr> </tbody> </table> </div> <div style="margin-bottom: 10px;"> <p>FORGINGS</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <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>3000#</td> <td>REDUCING SOCKOLET MSS-SP-97 A182-F304/304L DUAL GR BE SWE</td> <td>I2258338</td> </tr> </tbody> </table> </div> <div style="text-align: right; margin-top: 10px;"> P2308S 00487  2121-IA91F63-4-SP04-00487 </div> <div style="text-align: right; margin-top: 10px;">  boccard Alliance for success Boccard Portugal, Lda. </div>	PIPE						ITEM	LONGUEUR	DIAMÉTRE	SCH/mm	DESCRIPTION / MATÉRIEL	ITEM CODE	1.1	1,953	2"	S-10S	PIPE - A312-TP304/304L DUAL GR SMLS, BExBE	I3364302	ITEM	QT	DIAMÉTRE	PRESSION	SCH/mm	DESCRIPTION / MATÉRIEL	ITEM CODE	5.1	1	2"	150#	S-10S	WN FLANGE ASME B16.5 A182-F304/304L DUAL GR RF BE 125-250 AARH	I2260686	ITEM	QT	DIAMÉTRE	SCH/PRESS.	DESCRIPTION / MATÉRIEL	ITEM CODE	2.1	1	2" X 2"	S-10S	STRAINGT TEE ASME B16.9 A403-WP304/304L DG BE SMLS	I2259149	ITEM	QT	DIAMÉTRE	SCH/PRESS.	DESCRIPTION / MATÉRIEL	ITEM CODE	3.1	1	2" x 3/4"	3000#	REDUCING SOCKOLET MSS-SP-97 A182-F304/304L DUAL GR BE SWE	I2258338
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Metal Tag:	YES	% MT - NO	% PMI - YES	BHN% -	NO	Tolerances:	ASME B31.3																																																		

Spool Material List

Contract : P2308

Client NERVION

Job : P2308S

Project ALBA

Job	Spool	Piece Mark	Drawing	Rev			
Item No Tag No ID No	Qty	Size1 Sch1	Size2 Sch2	Description	Heat No MTR No Folder No	Unit Weight Kgs	Weight Kgs
P2308S 00487	2121-IA91F63-4-SP04-00487		2121-IA91F63-4		00		
1.1	1,953	2.0000 S10S	0.0000 NA	PIPE, SEAMLESS, A312-TP304L	S-23594 0357	3,93	7,68
40391							
5.1	1	2.0000 S10S	0.0000 NA	WN FLG, RAISED FACE, 150#, A182-F304L	N230210AT03 0146	2,72	2,72
37867							
2.1	1	2.0000 S10S	0.0000 NA	TEE, SEAMLESS, A403-WP304L	S1030418 0062	0,78	0,78
44252							
3.1	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 *C. Sandu*
 25.10.2024

Number of Items : 4

Total Weight : 11,33

Signature	QA	Client
	Date	Date
	 QA / QC	Sergio Morales Date: 22-10-24 

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						ASTM A-262							
		Rp0.2% Mpa	Rp1 % Mpa					Max-90	100 Joule Min.(AVG)	Practice"E" & ISO 3651-2	Method "A"				
MAX	690	--	--	--											
MIN	515	205	230	40											
S-23594	624.31	316.22	322.57	55.21	25.40	Satisfactory	76-78	73-75	N/A		Satisfactory				
	623.05	315.91	320.42	54.89											

Heat Treatment : Solution annealing conducted at 1045-1060°C temperature and rapid water quenching after final cold process.

Marking on pipes: SURAJ LTD SPECIFICATION GRADE SIZE

CFD EN 10216-5 TC1 EN GRADE SL NO. _____ HEAT NO. _____ P O NO. _____

Remarks:

- * 100% Hydro test done at required pressure for 10 second holding time found satisfactory without any leakage.
- * 100% Visual, Dimensions(OD/THK/LENGTH) & Product Marking checked-satisfy the requirement of specification.
- * 100% Positive Material Identification (PMI) done by SL & conforming to grade as per specification.
- * Intergranular Corrosion Test (IGC) Conducted as per ASTM A262 Pr"E" & ISO 3651-2 method-A-No crack observed on bend portion at 20X.
- * Pickling and Passivation Conducted as per ASTM A-380.
- * "Approved acc.to AD 2000-MERKBLATT W0 and certified acc.to PED (2014/68/EU) by certification body for pressure equipment of TUV NORD SYSTEMS (NOTIFIED BODY,REG NO.;0045)"
- * Tensile test piece taken from the same lot as certified and tested in longitudinal direction.
- * Melting process:EIF+AOD & Material is free of mercury & radioactive contamination.

Prepared by

COMMERCIALE TUBI ACCIAIO S.p.A.

QUALITY CONTROL DEPARTMENT

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

Page no. 01 of 12

We hereby certify that the material described herein are in accordance with the specification and results comply with the requirements of the purchase order.

APPLUS OBO TCM
28 03 24

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

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

INSPECTION CERTIFICATE EN 10204/3.1												TECNIMONT SPA											
												CE23002480_3.1_01											
Customer Order 7500107591 25.10.22-Proj.4274												Your Item Ref. Sines 308 - I2259149											
Article/Specification Seamless tees WP304/WP304L-S ASTM/ASME A/SA-403 ASME B16.9/18												Tecnimont spa Via Gaetano De Castillia 6A 20124 MILANO, (MI) Italia											
Heat Treatment Cold formed - Solution annealed at 1050°Cx1,5'/mm												Brand of manufacturer CENA											
Marking IT - CENA - SA 403 WP304/304L-S - Heat Nr - Od. x Th.																							
Extent of material delivered				Our pos. OV22001749/3010000				Quantity NR 1				Article 2" 10s											
Heat S1030418				Marking code S1030418				Certificate				21-03-011 *				Supplier HUADI STEEL GROUP							
Raw material Seamless pipe ASTM/ASME A/SA 312 Gr.P304																							
Results of chemical analysis %												Ceq: C+ (Mn/6) + (Cr+Mo+V)/5 + (Cu+Ni)/15											
min. max. Ladle Check	C	Mn	Si	P	S	Cu	Ni	Cr	Mo	Al	Ti	Nb	V	N	B	Ceq	Pcm	Jfact.					
	0,0800	2,0000	1,0000	0,0450	0,0300		8,0000	18,0000															
	0,022	1,35	0,31	0,027	0,002		11,0000	20,0000															
	0,021	1,34	0,32	0,026	0,003		8,05	18,03															
							8,06	18,04															
Mechanical Tests: On fittings																							
Specimen 0101495.0.0	Position A	Direction L	Temperature °C 20	Dimension mm 235	Yield Point N/mm² 540	Tensile Strength N/mm² 46	Elongation % 2"	Hardness Y _s / T _s HB 10% of batch 3 tests min.	Impact Test - Specimen = KV														
									Position Direction Temperature °C Dimension mm	Hardness Y _s / T _s HB 10% of batch 3 tests min.	Obtained energy Joule				Shear Area %								
											Values	Average	Values		Values		Values		Values		Values		
The pipes are tested on tightness.																							
Steel making process:																							
Specimen position: A=neutral axis of base material; W=weld; E=extrados of base material; I=intrados of base material; Z=heat affected zone																							
Results of visual and dimensional inspection of fittings: SATISFACTORY Controllo visivo e dimensionale dei pezzi speciali / Results of visual and dimensional inspection of fittings: Soddisfacente / Satisfactory Il materiale fornito è in accordo ai requisiti dell'ordine / The product supplied is in compliance with the requirements of the order Documento redatto a fronte delle prove eseguite o della documentazione in ns.possesso. / Edited document on the strength of the made examinations or our own documents. Prodotti decapati e passivati / Products pickled and passivated Controllo PMI / Alloy steel verification (PMI): soddisfacente / satisfactory Prova di corrosione intergranulare secondo ASTM A 262 E / IGC test according to ASTM A262 E: soddisfacente/satisfactory — La società VIRGILIO CENA S.p.A. garantisce que tous les produits, objet du certificat susdit, respectent en leur totalité les spécifications de l'article 15 de l'Arrêté Ministériel du 24 mars 1978. Matériaux exemptés de radiations / Material radiation free Material compliant with PED2014/68/EU																							
MT on the body satisfactory acc. to E709																							

Date 16/01/23	ITEx Quality Services	Quality Control Manager BUTTURINI RICCARDO
Inspection Discipline: Inspection <input checked="" type="checkbox"/> W <input type="checkbox"/> B <input checked="" type="checkbox"/> — <input type="checkbox"/> Expediting <input type="checkbox"/>	G. Di Lauro Date 22/03/2023	THIS DOCUMENT HAS BEEN ISSUED WITH THE INFORMATIC HELP AND IT IS VALID WITHOUT A SIGNATURE. MODIFICATIONS OR ELSE OTHER PRODUCTS USE WILL BE PERSECUTED ACCORDING TO THE LAW AS FALSIFICATION OF DOCUMENTS OR FRAUD.
Signature		



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 _{0.2} R _u (Mpa)	屈服强度 R _{u2} (Mpa)	延伸率 A%	冲击强度 Z, °C (10*10 ³ 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												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.														
合格 OK	合格 OK	合格 OK	-	合格 OK	-	合格 OK	合格 OK	PMI OK	固溶 Solution Annealing												1.1 Heat treatment: Solution Annealing 1050°C in the water cooling.														
特种设备制造许可证号(Manufacture License of Special Equipment): TS2732E11-2024												检验员(Inspector): 华洋												电话(Tel): 0510-8696009 传真(Fax): 0510-8696035											
检验员(Inspector): 陈晓												签发日期(Date of issue): 2023.05.29												检验专用章 Stamp of Quality Department											



Contract : P2300

Drawing : 2121-IA91F63-4

Welding and QC Report Per Spool

Job : P2300S

Material : Stainless Steel 304, 316, 317

Client : NERVION

Revision : 00

Spool : 00487

Spec : 6C4-M

Project : ALBA

Piece Mark : 2121-IA91F63-4-SP04-00487

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
0020	BW	2	S10S	MW.26_BW	BC	22-08-2024	4712055	BC	22-08-2024	4712055			001077	04-10-2024			001056	07-10-2024										
0021	SOL	0,75	S10S	MW.26_SBR	BC	22-08-2024	4712055	BC	22-08-2024	4712055			001077	04-10-2024	000206	04-10-2024		001056	07-10-2024									
0023	BW	2	S10S	MW.26_BW	BC	22-08-2024	4712055	BC	22-08-2024	4712055			001077	04-10-2024			001056	07-10-2024							000330	04-10-2024		

On behalf of Tecnimont / R
Piping Supervisor
Cristi Sandu
25.10.2024 

Notes:

Signature	Boccard Portugal QC	Client
		Sergio Morales Date: 22-10-24 
Date	08-10-2024 14:37:25	



Shop QC Inspection Report

P2308-001115

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

Job number: P2308S
 Spool N°: 00487
 Piece Mark: 2121-IA91F63-4-SP04-00487

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

Control Date: 04-10-2024

Remarks: The results refer to the controlled items

Actions / Tasks List	Required		Done/ Identified
	Yes	No	
Welder / weld list labels printed and pasted on the spool sheet	<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 checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" 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: RODRIGUES(ST), VITOR (N2 VT/PT) Date: 04-10-2024 Signature 	QA/QC Inspection: RAIMUNDO, MARIANA Date: 08-10-2024 14:37:25 Signature 	Customer Inspection: Sergio Morales Date: 22-10-24 
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On behalf of Tecnimon / R
 Piping Supervisor
 Cristi Sandu
 25.10.2024 



Visual Examination Report (Welds)

P2308-001077

Contract : P2308

Job number: P2308S

Material: Stainless Steel 304, 316, 317

Client : NERVION

Spool Nº: 00487

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

Project : ALBA

Piece Mark: 2121-IA91F63-4-SP04-00487

Testing Date: 04-10-2024

Remarks: The results refer to the controlled items

Unacceptable indications for welding

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

Weld No.	Weld Desc.	Welder	Temp. (°F/°C)	Technique Used			Comments
				Accepted	Rejected	Defect	
0020	2.0000 S10S BW-Buttweld Straight (MW.26_BW)	BC	26	X			Direct
0021	0.7500 S10S SOL-Sockolet to Header Weld (MW.26_SBR)	BC	26	X			Direct
0023	2.0000 S10S BW-Buttweld Straight (MW.26_BW)	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: RODRIGUES(ST), VITOR (N2 VT/PT)

QA/QC Inspection: RAIMUNDO, MARIANA

Customer Inspection:

Date: 04-10-2024

Date: 08-10-2024 14:37:25

Sergio Morales

Signature



Signature



Date: 22-10-24



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



Liquid Penetrant Examination Report

P2308-000206

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°: 00487

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

Piece Mark: 2121-IA91F63-4-SP04-00487

Testing Date: 04-10-2024

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

Weld / Item No.	Identification Description	Welder	Tem (°F/C)	Dwell Time (min)				Examin Time	Accepted yes	No Indication	Remarks
				Penetrant	Cleaner	Developer	Lighting				
0021	0.7500 S10S SOL-Socket to Header Weld (MW.26_SBR)	BC	24	20 m	-	10 m	-	-	X	<input type="checkbox"/>	

Sketch / Photo:



Defects

Clustered Porosity	CP	Cap	C	Undercut	UC	Surface	SU	Crack	CR
Porosity	P	Slag	S	Lack of Cleanup	LC	Crater Crack	CC		

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

QA/QC Inspection: RAIMUNDO, MARIANA

Customer Inspection:

Date: 04-10-2024

Date: 04-10-2024

Sergio Morales

Signature



Signature



Date: 22-10-24



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



Positive Material Identification Report (PMI)

P2308-001056

Client : NERVION

Contract : P2308 / Project : ALBA

Remarks: The results refer to the controlled items

Job number: P2308S

Spool N°: 00487

Piece Mark: 2121-IA91F63-4-SP04-00487

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: 07-10-2024

Weld / Item No	Description	Reading Number	Chemical Elements										Accepted	Rejected	Comments
			%Ti	%Mo	%Cu	%Ni	%Fe	%Mn	%Cr	%Nb	%Al	%V			
0020	2.0000 S10S BW-Buttweld Straight (MW.26_BW)	67	0	0	0	9	69	1	18	0	0	0	X		
0021	0.7500 S10S SOL-Sockolet to Header Weld (MW.26_SBR)	69	0	0	0	9	68	1	19	0	0	0	X		
0023	2.0000 S10S BW-Buttweld Straight (MW.26_BW)	66	0	0	0	9	69	1	18	0	0	0	X		
1.1	2.0000 S10S PIPE, SEAMLESS, A312-TP304L (S-23594)	64	0	0	0	7	71	1	18	0	0	0	X		
2.1	2.0000 S10S TEE, SEAMLESS, A403-WP304L (S1030418)	63	0	0	0	7	72	1	17	0	0	0	X		
3.1	2.0000 NA 0.7500 NA SOCKOLET, 3000#, A182-F304L (N220606AV04)	68	0	0	0	7	71	1	18	0	0	0	X		
5.1	2.0000 S10S WN FLG, RAISED FACE, 150#, A182-F304L (N230210AT03)	65	0	0	0	7	71	1	18	0	0	0	X		

On behalf of Tecnimont / R
 Piping Supervisor
 Cristi Sandu 
 25.10.2024

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

Customer Inspection:

Date: 07-10-2024

Date: 08-10-2024 14:37:25

Sergio Morales

Signature Signature 

Date: 22-10-24



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

Certificate of PMI Reading

XL3t-32735

Reading No	67
Mode	ALLOY
Time	2024-10-07 09:51
Duration	12.60
Sequence	Final
Alloy1	304SS : 0.00
Alloy2	No Match : *2.11
Flags	
SAMPLE	
HEAT	
LOT	
BATCH	
MISC	
NOTE	

	%	±	Error
Sb	< LOD	:	0.032
Sn	< LOD	:	0.042
Pd	< LOD	:	0.029
Ag	< LOD	:	0.185
Al	< LOD	:	80.000
Mo	0.033	±	0.006
Nb	< LOD	:	0.007
Zr	< LOD	:	0.003
Bi	< LOD	:	0.002
Pb	< LOD	:	0.015
Se	< LOD	:	0.006
W	< LOD	:	0.071
Zn	< LOD	:	0.026
Cu	< LOD	:	0.129
Ni	9.014	±	0.260
Co	< LOD	:	0.421
Fe	69.894	±	0.388
Mn	1.485	±	0.174
Cr	18.972	±	0.227
V	0.150	±	0.060
Ti	< LOD	:	0.117

Sergio Morales
Date: 22-10-24



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

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

Certificate of PMI Reading

XL3t-32735

Reading No	69
Mode	ALLOY
Time	2024-10-07 09:52
Duration	11.60
Sequence	Final
Alloy1	304SS : 0.03
Alloy2	No Match : *2.10
Flags	
SAMPLE	
HEAT	
LOT	
BATCH	
MISC	
NOTE	

	%	±	Error
Sb	< LOD	:	0.034
Sn	< LOD	:	0.046
Pd	< LOD	:	0.032
Ag	< LOD	:	0.163
Al	< LOD	:	80.000
Mo	0.051	±	0.008
Nb	0.010	±	0.004
Zr	< LOD	:	0.004
Bi	< LOD	:	0.015
Pb	< LOD	:	0.015
Se	< LOD	:	0.007
W	< LOD	:	0.086
Zn	< LOD	:	0.023
Cu	< LOD	:	0.140
Ni	9.389	±	0.282
Co	< LOD	:	0.451
Fe	68.814	±	0.417
Mn	1.845	±	0.192
Cr	19.381	±	0.245
V	< LOD	:	0.118
Ti	< LOD	:	0.139

Sergio Morales

Date: 22-10-24



On behalf of Tecnimont / R
Piping Supervisor
Cristi Sandu
25.10.2024 

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

Certificate of PMI Reading

XL3t-32735

Reading No	66
Mode	ALLOY
Time	2024-10-07 09:51
Duration	11.35
Sequence	Final
Alloy1	304SS : 0.00
Alloy2	No Match : *2.10
Flags	
SAMPLE	
HEAT	
LOT	
BATCH	
MISC	
NOTE	

	%	±	Error
Sb	< LOD	:	0.037
Sn	< LOD	:	0.047
Pd	< LOD	:	0.034
Ag	< LOD	:	0.168
Al	< LOD	:	80.000
Mo	0.048	±	0.008
Nb	< LOD	:	0.007
Zr	< LOD	:	0.003
Bi	< LOD	:	0.013
Pb	< LOD	:	0.017
Se	< LOD	:	0.007
W	< LOD	:	0.093
Zn	< LOD	:	0.036
Cu	< LOD	:	0.145
Ni	9.045	±	0.288
Co	< LOD	:	0.461
Fe	69.958	±	0.429
Mn	1.747	±	0.195
Cr	18.817	±	0.250
V	< LOD	:	0.126
Ti	< LOD	:	0.141

Sergio Morales
Date: 22-10-24



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

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

Certificate of PMI Reading

XL3t-32735

Reading No	64
Mode	ALLOY
Time	2024-10-07 09:50
Duration	10.66
Sequence	Final
Alloy1	301SS : 2.30
Alloy2	No Match : *2.77
Flags	
SAMPLE	
HEAT	
LOT	
BATCH	
MISC	
NOTE	

	%	±	Error
Sb	< LOD	:	0.038
Sn	< LOD	:	0.050
Pd	< LOD	:	0.036
Ag	< LOD	:	0.201
Al	< LOD	:	80.000
Mo	0.083	±	0.010
Nb	< LOD	:	0.008
Zr	< LOD	:	0.003
Bi	< LOD	:	0.007
Pb	< LOD	:	0.022
Se	< LOD	:	0.006
W	< LOD	:	0.105
Zn	< LOD	:	0.031
Cu	0.280	±	0.082
Ni	7.688	±	0.279
Co	0.595	±	0.242
Fe	71.214	±	0.440
Mn	1.399	±	0.194
Cr	18.230	±	0.254
V	< LOD	:	0.134
Ti	< LOD	:	0.164

Sergio Morales

Date: 22-10-24



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

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

Certificate of PMI Reading

XL3t-32735

Reading No	63
Mode	ALLOY
Time	2024-10-07 09:50
Duration	10.27
Sequence	Final
Alloy1	301SS : 1.58
Alloy2	304SS : 1.94
Flags	
SAMPLE	
HEAT	
LOT	
BATCH	
MISC	
NOTE	

	%	±	Error
Sb	< LOD	:	0.042
Sn	< LOD	:	0.048
Pd	< LOD	:	0.036
Ag	< LOD	:	0.121
Al	< LOD	:	80.000
Mo	< LOD	:	0.007
Nb	< LOD	:	0.004
Zr	< LOD	:	0.004
Bi	< LOD	:	0.014
Pb	< LOD	:	0.014
Se	< LOD	:	0.005
W	< LOD	:	0.080
Zn	< LOD	:	0.034
Cu	< LOD	:	0.137
Ni	7.949	±	0.288
Co	< LOD	:	0.485
Fe	72.236	±	0.444
Mn	1.458	±	0.198
Cr	17.872	±	0.255
V	0.203	±	0.073
Ti	< LOD	:	0.147

Sergio Morales
Date: 22-10-24



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

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

Certificate of PMI Reading

XL3t-32735

Reading No	68
Mode	ALLOY
Time	2024-10-07 09:50
Duration	10.55
Sequence	Final
Alloy1	304SS : 0.98
Alloy2	No Match : 2.20
Flags	
SAMPLE	
HEAT	
LOT	
BATCH	
MISC	
NOTE	

	%	±	Error
Sb	< LOD	:	0.042
Sn	< LOD	:	0.049
Pd	< LOD	:	0.035
Ag	< LOD	:	0.136
Al	< LOD	:	80.000
Mo	0.059	±	0.009
Nb	< LOD	:	0.007
Zr	< LOD	:	0.004
Bi	< LOD	:	0.014
Pb	< LOD	:	0.015
Se	< LOD	:	0.007
W	< LOD	:	0.096
Zn	< LOD	:	0.029
Cu	0.160	±	0.078
Ni	7.985	±	0.287
Co	< LOD	:	0.485
Fe	71.681	±	0.444
Mn	1.390	±	0.196
Cr	18.102	±	0.255
V	< LOD	:	0.135
Ti	< LOD	:	0.149

Sergio Morales

Date: 22-10-24



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

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

Certificate of PMI Reading

XL3t-32735

Reading No	65
Mode	ALLOY
Time	2024-10-07 09:50
Duration	10.55
Sequence	Final
Alloy1	304SS : 0.98
Alloy2	No Match : 2.20
Flags	
SAMPLE	
HEAT	
LOT	
BATCH	
MISC	
NOTE	

	%	±	Error
Sb	< LOD	:	0.042
Sn	< LOD	:	0.049
Pd	< LOD	:	0.035
Ag	< LOD	:	0.136
Al	< LOD	:	80.000
Mo	0.059	±	0.009
Nb	< LOD	:	0.007
Zr	< LOD	:	0.004
Bi	< LOD	:	0.014
Pb	< LOD	:	0.015
Se	< LOD	:	0.007
W	< LOD	:	0.096
Zn	< LOD	:	0.029
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Mn	1.390	±	0.196
Cr	18.102	±	0.255
V	< LOD	:	0.135
Ti	< LOD	:	0.149

Sergio Morales
Date: 22-10-24



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

Contract : P2308
Client : NERVION
Project : ALBA

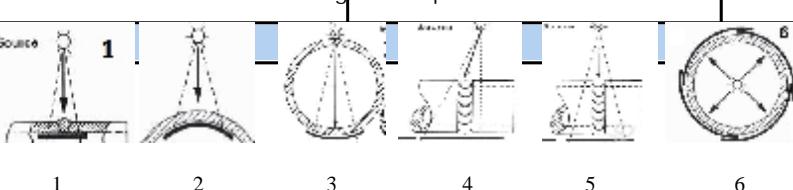
Spool N°: P2308S-00487
Isometric N°: 2121-IA91F63-4
Piece Mark: 2121-IA91F63-4-SP04-00487

Procedure/ Instruction:

Acceptance Criteria:

Testing Date:

Material:

4274-LZ-VD-FW31010370QAC02 - RevA\$ME B.31.3 – Table 341.3.2		04-10-2024		Stainless Steel 304, 316, 317																															
Equipment		Normal Fluid Film		IQI																															
Type: G-RAY		Brand: FUJI		Type: ASTM-1A																															
Source Equip: Ir192		Type: IX50		Position: Film Side																															
Source Dim: 2x1.4		Class: C3		Sensitivity: 4																															
Activity (Ci): 22.3		Lead Sheets: 0,5		Ø of visible wire/hole 0,0063(0,16)																															
Films/Casette:Single		Testing Technique		Indication Codes (ISO 6520)																															
		<table border="1"> <tr> <td>BB-Back Bevel</td> <td>EP-Excess Penetration (504)</td> <td>SB-Suck Back</td> </tr> <tr> <td>FA-Film Artifact</td> <td>ST-Sugared Tack</td> <td></td> </tr> <tr> <td>BW-Back Weld</td> <td>GR-Grind Repair</td> <td>SU-Surface</td> </tr> <tr> <td>BT-Burn Through (510)</td> <td>HL-Hi-LO</td> <td>T-Tungsten</td> </tr> <tr> <td>C-Cap</td> <td>LC-Lack of Cleanup</td> <td>UC-Undercut (5011)</td> </tr> <tr> <td>CP-Clustered Porosity (2012)</td> <td>LF-Lack of Fusion (401)</td> <td>UP-Uniformity Porosity (2013)</td> </tr> <tr> <td>CL-Cold Lap</td> <td>LP-Lack of Penetration (402)</td> <td>V-Valley in Cap</td> </tr> <tr> <td>CR-Crack</td> <td>P-Porosity (2011)</td> <td>W-Wire</td> </tr> <tr> <td>CC-Crater Crack (104)</td> <td>R-Root</td> <td>WH-Worm Hole (2016)</td> </tr> <tr> <td>DI-Dimensional</td> <td>S-Slag (301)</td> <td>XN-Xray Film Non-Conform</td> </tr> </table>		BB-Back Bevel	EP-Excess Penetration (504)	SB-Suck Back	FA-Film Artifact	ST-Sugared Tack		BW-Back Weld	GR-Grind Repair	SU-Surface	BT-Burn Through (510)	HL-Hi-LO	T-Tungsten	C-Cap	LC-Lack of Cleanup	UC-Undercut (5011)	CP-Clustered Porosity (2012)	LF-Lack of Fusion (401)	UP-Uniformity Porosity (2013)	CL-Cold Lap	LP-Lack of Penetration (402)	V-Valley in Cap	CR-Crack	P-Porosity (2011)	W-Wire	CC-Crater Crack (104)	R-Root	WH-Worm Hole (2016)	DI-Dimensional	S-Slag (301)	XN-Xray Film Non-Conform		
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The results refer to the controlled items		- Good / Acceptable + Repair = Good after Repair																																	
		x Acceptable after Repair SFD = Source Film Distance SOD = Source Object Distance																																	

Weld No.	Weld Desc. (WPS)	Welder	Position	SFD	SOD	Weld Reinf	Testing Technique	Exposure Time	Density	IQI	Indication Code	Decision Remarks
0023	2.0000 S10S BW (MW.26_BW)	BC	A	500	440	NA	4	475	3.4	W4	-	RX428
0023	2.0000 S10S BW (MW.26_BW)	BC	B	500	440	NA	4	475	3.4	W4	-	RX428

Contract : P2308
Client : NERVION
Project : ALBA

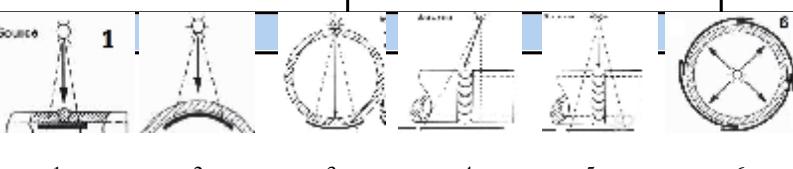
Spool N°: P2308S-00487
Isometric N°: 2121-IA91F63-4
Piece Mark: 2121-IA91F63-4-SP04-00487

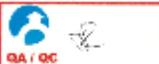
Procedure/ Instruction:

Acceptance Criteria:

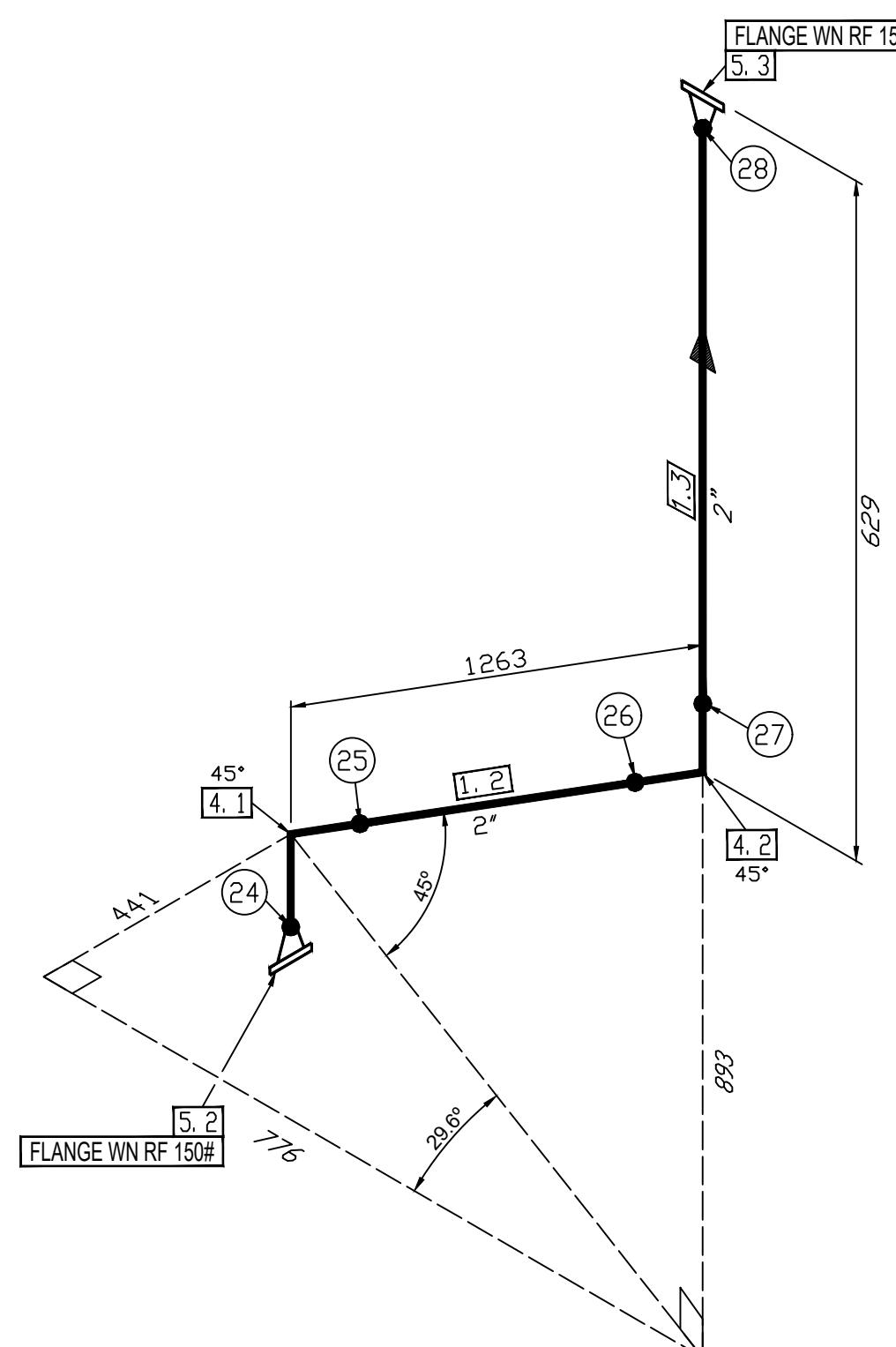
Testing Date:

Material:

4274-LZ-VD-FW31010370QAC02 - RevA\$ME B.31.3 – Table 341.3.2		04-10-2024		Stainless Steel 304, 316, 317			
Equipment		Normal Fluid Film		IQI			
Type: G-RAY	Brand: FUJI	Type: ASTM-1A		Equipment: GE M ECO			
Source Equip: Ir192	Type: IX50	Position: Film Side		Type: Auto			
Source Dim: 2x1.4	Class: C3	Sensitivity: 4		Temperature: 29			
Activity (Ci): 22.3	Lead Sheets: 0,5	\varnothing of visible wire/hole 0,0063(0,16)		Developer: G135			
Films/Casette:Single		Indication Codes (ISO 6520)		Fixer: G335			
Testing Technique							
		BB-Back Bevel EP-Excess Penetration (504) FA-Film Artifact SB-Suck Back ST-Sugared Tack					
		BW-Back Weld GR-Grind Repair BT-Burn Through (510) HL-Hi-LO C-Cap LC-Lack of Cleanup CP-Clustered Porosity (2012) CL-Cold Lap LF-Lack of Fusion (401) LP-Lack of Penetration (402) CR-Crack V-Valley in Cap CC-Crater Crack (104) P-Porosity (2011) DI-Dimensional R-Root S-Slag (301)		SU-Surface T-Tungsten UC-Undercut (5011) UP-Uniformity Porosity (2013) W-Wire WH-Worm Hole (2016) XN-Xray Film Non-Conform			
General Remarks			Notations / Symbology				
The results refer to the controlled items			- Good / Acceptable + Repair = Good after Repair				
			x Acceptable after Repair SFD = Source Film Distance SOD = Source Object Distance				

Weld No.	Weld Desc. (WPS)	Welder	Position	SFD	SOD	Weld Reinf	Testing Technique	Exposure Density	Time	IQI	Indication	Decision	Remarks Code	
	Performed by:	Examined by:									QA/QC Inspection:		Customer Inspection:	
Name:	GONCALVES(QA), J. (N2 PT/RT)	FIGUEIRAS(QA), RUI (N2 PT/RT)									RAIMUNDO, MARIANA			
Date:	04-10-2024		04-10-2024								08-10-2024 14:37:25			
Signature:												Sergio Morales	Date: 22-10-24	

On behalf of Tecnimont / R
Piping Supervisor
Cristi Sandu
25.10.2024 

  <p>On behalf of Tecnimont / R Piping Supervisor Cristi Sandu 25.10.2024 C. Sandu</p> <table border="1" style="width: 100%; border-collapse: collapse; margin-top: 10px;"> <tr><td>Rev.</td><td>Date</td><td>DRW</td><td>Check 1</td><td>Check 2</td></tr> <tr><td></td><td></td><td></td><td></td><td>Marking Color: GREEN</td></tr> <tr><td></td><td></td><td></td><td></td><td>Weld Class: 6C4-M</td></tr> <tr><td>00</td><td>04/03/2024</td><td>AOM</td><td>MCM</td><td>PCO</td></tr> <tr><td colspan="5">Paint System: NA</td></tr> <tr> <td colspan="5">Construction Code: ASME B31.3 % RT - YES % UT - NO 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 colspan="5"></td> <td>OD Cleaning: YES</td> <td rowspan="2">2121-IA91F63-4-SP05-00488</td> <td rowspan="2">2121-IA91F63-4</td> <td rowspan="2">P2308S</td> <td rowspan="2">00488</td> <td rowspan="2">REPSOL PROJETO ALBA NERVION</td> </tr> <tr> <td colspan="5"></td> <td>Tolerances: ASME B31.3</td> </tr> </table>	Rev.	Date	DRW	Check 1	Check 2					Marking Color: GREEN					Weld Class: 6C4-M	00	04/03/2024	AOM	MCM	PCO	Paint System: NA					Construction Code: ASME B31.3 % RT - YES % UT - NO Hydro: NO					ID Cleaning: YES	Piece Mark	Ref. Drawing	Job #	Spool #	Project						OD Cleaning: YES	2121-IA91F63-4-SP05-00488	2121-IA91F63-4	P2308S	00488	REPSOL PROJETO ALBA NERVION						Tolerances: ASME B31.3	<h3 style="text-align: center;">BILL OF MATERIAL</h3> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th colspan="6" style="text-align: center;">PIPE</th> </tr> <tr> <th>ITEM</th><th>LONGUEUR</th><th>DIAMÉTRE</th><th>SCH/mm</th><th>DESCRIPTION / MATERIEL</th><th>ITEM CODE</th> </tr> </thead> <tbody> <tr> <td>1.2</td><td>1,189</td><td>2"</td><td>S-10S</td><td>PIPE - A312-TP304/304L DUAL GR SMLS, BExBE</td><td>I3364302</td> </tr> <tr> <td>1.3</td><td>0,527</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" style="text-align: center;">FLANGES</th> </tr> <tr> <th>ITEM</th><th>QT</th><th>DIAMÉTRE</th><th>PRESSION</th><th>SCH/mm</th><th>DESCRIPTION / MATERIEL</th><th>ITEM CODE</th> </tr> </thead> <tbody> <tr> <td>5.2</td><td>1</td><td>2"</td><td>150#</td><td>S-10S</td><td>WN FLANGE ASME B16.5 A182-F304/304L DUAL GR RF BE 125-250 AARH</td><td>I2260686</td> </tr> <tr> <td>5.3</td><td>1</td><td>2"</td><td>150#</td><td>S-10S</td><td>WN FLANGE ASME B16.5 A182-F304/304L DUAL GR RF BE 125-250 AARH</td><td>I2260686</td> </tr> </tbody> </table> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th colspan="6" style="text-align: center;">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>4.1</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> <tr> <td>4.2</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> </tbody> </table> <div style="text-align: right; margin-bottom: 10px;"> P2308S 00488  2121-IA91F63-4-SP05-00488 </div> <div style="text-align: right; margin-bottom: 10px;">  boccard Alliance for success Boccard Portugal, Lda. </div> <div style="text-align: center; margin-bottom: 10px;"> Weld Map Sticker </div> <div style="text-align: center; margin-bottom: 10px;"> F324-302-0 </div>	PIPE						ITEM	LONGUEUR	DIAMÉTRE	SCH/mm	DESCRIPTION / MATERIEL	ITEM CODE	1.2	1,189	2"	S-10S	PIPE - A312-TP304/304L DUAL GR SMLS, BExBE	I3364302	1.3	0,527	2"	S-10S	PIPE - A312-TP304/304L DUAL GR SMLS, BExBE	I3364302	FLANGES						ITEM	QT	DIAMÉTRE	PRESSION	SCH/mm	DESCRIPTION / MATERIEL	ITEM CODE	5.2	1	2"	150#	S-10S	WN FLANGE ASME B16.5 A182-F304/304L DUAL GR RF BE 125-250 AARH	I2260686	5.3	1	2"	150#	S-10S	WN FLANGE ASME B16.5 A182-F304/304L DUAL GR RF BE 125-250 AARH	I2260686	WELD FITTINGS						ITEM	QT	DIAMÉTRE	SCH/PRESS.	DESCRIPTION / MATERIEL	ITEM CODE	4.1	1	2"	S-10S	45 LR ELBOW ASME B16.9 A403-WP304/304L DG BE SMLS	I2259145	4.2	1	2"	S-10S	45 LR ELBOW ASME B16.9 A403-WP304/304L DG BE SMLS	I2259145
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Spool Material List

Contract : P2308

Client NERVION

Job : P2308S

Project ALBA

Job	Spool	Piece Mark	Drawing	Rev			
Item No Tag No ID No	Qty	Size1 Sch1	Size2 Sch2	Description	Heat No MTR No Folder No	Unit Weight Kgs	Weight Kgs
P2308S	00488	2121-IA91F63-4-SP05-00488		2121-IA91F63-4		00	
1.2	1,189	2.0000 S10S	0.0000 NA	PIPE, SEAMLESS, A312-TP304L	S-23594 0357	3,93	4,67
40391							
1.3	,527	2.0000 S10S	0.0000 NA	PIPE, SEAMLESS, A312-TP304L	S-23594 0357	3,93	2,07
40391							
5.2	1	2.0000 S10S	0.0000 NA	WN FLG, RAISED FACE, 150#, A182-F304L	CH-18449 0393	2,72	2,72
37867							
5.3	1	2.0000 S10S	0.0000 NA	WN FLG, RAISED FACE, 150#, A182-F304L	CH-18449 0393	2,72	2,72
37867							
4.2	1	2.0000 S10S	0.0000 NA	45 ELL, SEAMLESS, A403-WP304L	2K113-E002 0408	0,24	0,24
42790							
4.1	1	2.0000 S10S	0.0000 NA	45 ELL, SEAMLESS, A403-WP304L	2K113-E002 0408	0,24	0,24
42790							

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

Number of Items : 6

Total Weight :

12,66

Signature	QA	Client
		Sergio Morales Date: 22-10-24
Date	2024-10-15 14:41:38	

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



CHANDAN STEEL LIMITED
(GOVT. OF INDIA RECOGNISED EXPORT HOUSE)

ISO 9001:2015 CERTIFICATE No. 04100011022

ADM. OFFICE: 504, SUGHISAGAR, N. S. PATKAR MARG,
MUMBAI 400 007, INDIA
Tel: 91-22-66150600, Fax: 91-22-66150633/34
Website: www.chandansteel.net
Email: rcv@chandansteel.net
L/c. No. :
L/c. Date:

WORKS: Plot No. 35, G. I. D. C., Umbergaon
Dist. Vadodara, Gujarat - 396 171, INDIA
Tel.: 91-260-256 2066/4267/1166, Fax: 91-260-256 2287
E-mail: export@chandansteel.net

INSPECTION CERTIFICATE 3.1
ACCORDING TO EN 10204

RACCORDUBI SPA
VIALE DE GASPERI, 194
20010 MARCALLO CON CASONE
(MILANO) - ITALIA

Test Certificate No. : EXP/22-23/01571 - 32
Date of Issue : 18.03.2023
P. O. No. : 00000350 Dt. 02-12-2022
Invoice No. & Date : EXP/22-23/01571 Date- 18.03.2023

ITEM DESCRIPTION
STAINLESS STEEL FORGED & FULLY MACHINED FLANGES

Po Sr No.	Heat No.	Pcs	Box No.	Wt.Kgs	Grade	Item	Process Route
9	CH-18449	158	5 & 7	409.41	ASTM/ASME A/SA182 F304/304L	2" WNRF150 LBS 10S	
-	-	-	-	-	-	-	Electric Induction Melting, A.O.D. Refining, Continuous Casting & Hot Forging
-	-	-	-	-	-	-	
-	-	-	-	-	-	-	
-	-	-	-	-	-	-	

CHEMICAL COMPOSITION (Weight %)

Po Sr No.	C	Si	Mn	P	S	Cr	Mo	Ni	Cu	Ti	N	OTHERS
9	0.023	0.52	1.74	0.036	0.005	18.23	-	8.07	-	-	0.077	-
-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-

MECHANICAL PROPERTIES

Po Sr No.	0.2% Yield Strength N/mm ² (Rp0.2)	Tensile Strength N/mm ² (R _m)	Elongation %	Reduction of Area %	Hardness (H. B. W.)
9	261	566	57	74	162-166
-	-	-	-	-	-
-	-	-	-	-	-
-	-	-	-	-	-
-	-	-	-	-	-

Remarks:

- The material is solution annealed at minimum 1050 °C and water quenched.
- Visual and Dimensions inspection OK.
- PMI Test 100%- Satisfactory.
- No welding was performed on this material.
- Material is free from mercury and radio-active contamination and is found within the limits of the background radiation.
- Inter-Granular Corrosion Test (ASTM A262- 17 (Pt.B))- Satisfactory.
- The material conforms to ASTM A 182 - 22, ASME SECTION II PART A SA 182 - 21 & Dimension confirms to ASME B16.5-20 Specification.
- The material hardness conforms to NACE MR0175/ISO 15156-3:2015 & NACE MR0103-2015.
- Surface roughness quality checked by comparator & found 125 - 250 AARH
- Visual , Dimension and PMI performed by CSL.
- Mechanical Testing perfomed by CSL.

We hereby certify that, the material described herein,
and supplied are in compliance with the requirements of the order.



V.Y. Narayanan
V.Y.NARAYANAN
WORKS INSPECTOR

Customer:

TECNIMONT S.p.A.

Order: 7500118979 - 26.01.24 - Item n.: 184 - Project: 4274 - PP+PE Sines (Portugal) EPC - Our ref.:

OCVEIT202400000475

Description:

W.N. 2" S.150 RF SCH.10/S

I2260686



Heat num. or Pcs. marking: CH-18449 - Qty:22,00

Protocol: CTCERC202400003069 * CERTIFIED TRUE COPY

* Issued 14-03-2024



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



Contract : P2300

Drawing : 2121-IA91F63-4

Welding and QC Report Per Spool

Job : P2300S

Material : Stainless Steel 304, 316, 317

Client : NERVION

Revision : 00

Spool : 00488

Spec : 6C4-M

Project : ALBA

Piece Mark : 2121-IA91F63-4-SP05-00488

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
0024	BW	2	S10S	MW.26_BW	AE	12-07-2024	4712055	AE	12-07-2024	4712055			001095	09-10-2024			001142	14-10-2024										
0025	BW	2	S10S	MW.26_BW	AE	12-07-2024	4712055	AE	12-07-2024	4712055			001095	09-10-2024			001142	14-10-2024										
0026	BW	2	S10S	MW.26_BW	AE	12-07-2024	4712055	AE	12-07-2024	4712055			001095	09-10-2024			001142	14-10-2024									000342	11-10-2024
0027	BW	2	S10S	MW.26_BW	AE	12-07-2024	4712055	AE	12-07-2024	4712055			001095	09-10-2024			001142	14-10-2024										
0028	BW	2	S10S	MW.26_BW	AE	12-07-2024	4712055	AE	12-07-2024	4712055			001095	09-10-2024			001142	14-10-2024										

On behalf of Tecnimont / R
Piping Supervisor
Cristi Sandu 
25.10.2024

Notes:

Boccard Portugal QC	Client
	Sergio Morales Date: 22-10-24 
15-10-2024 14:41:38	



Shop QC Inspection Report

P2308-001133

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

Job number: P2308S
 Spool N°: 00488
 Piece Mark: 2121-IA91F63-4-SP05-00488

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

Control Date: 09-10-2024

Remarks: The results refer to the controlled items

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

Comments:

Performed by: MATOS, MARCO (N2 VT/PT) Date: 09-10-2024 Signature 	QA/QC Inspection: RAIMUNDO, MARIANA Date: 15-10-2024 14:41:38 Signature 	Customer Inspection: Sergio Morales Date: 22-10-24 
--	--	--

On behalf of Tecnimont / R
 Piping Supervisor
 Cristi Sandu 
 25.10.2024

Visual Examination Report (Welds)

P2308-001095

Contract : P2308

Job number: P2308S

Material: Stainless Steel 304, 316, 317

Client : NERVION

Spool Nº: 00488

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

Project : ALBA

Piece Mark: 2121-IA91F63-4-SP05-00488

Testing Date: 09-10-2024

Remarks: The results refer to the controlled items

Unacceptable indications for welding

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

Weld No.	Weld Desc.	Welder	Temp. (°F/°C)	Technique Used			Comments
				Accepted	Rejected	Defect	
0024	2.0000 S10S BW-Buttweld Straight (MW.26_BW)	AE	20	X			Direct
0025	2.0000 S10S BW-Buttweld Straight (MW.26_BW)	AE	20	X			Direct
0026	2.0000 S10S BW-Buttweld Straight (MW.26_BW)	AE	20	X			Direct
0027	2.0000 S10S BW-Buttweld Straight (MW.26_BW)	AE	20	X			Direct
0028	2.0000 S10S BW-Buttweld Straight (MW.26_BW)	AE	20	X			Direct

Sketch / Photo:

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

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

QA/QC Inspection: RAIMUNDO, MARIANA

Customer Inspection:

Date: 09-10-2024

Date: 15-10-2024 14:41:38

Sergio Morales

Signature



Signature



Date: 22-10-24



On behalf of Tecnimont / R

Piping Supervisor

Cristi Sandu

25.10.2024 C. Sandu



Positive Material Identification Report (PMI)

P2308-001142

Client : NERVION

Contract : P2308 / Project : ALBA

Remarks: The results refer to the controlled items

Job number: P2308S

Spool N°: 00488

Piece Mark: 2121-IA91F63-4-SP05-00488

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: 14-10-2024

Weld / Item No	Description	Reading Number	Chemical Elements										Accepted	Rejected	Comments
			%Ti	%Mo	%Cu	%Ni	%Fe	%Mn	%Cr	%Nb	%Al	%V			
0024	2.0000 S10S BW-Buttweld Straight (MW.26_BW)	65	0	0	0	8	69	1	19	0	0	0	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
0025	2.0000 S10S BW-Buttweld Straight (MW.26_BW)	66	0	0	0	8	69	1	19	0	0	0	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
0026	2.0000 S10S BW-Buttweld Straight (MW.26_BW)	67	0	0	0	9	68	1	18	0	0	0	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
0027	2.0000 S10S BW-Buttweld Straight (MW.26_BW)	68	0	0	0	8	69	1	18	0	0	0	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
0028	2.0000 S10S BW-Buttweld Straight (MW.26_BW)	69	0	0	0	8	70	1	19	0	0	0	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1.2	2.0000 S10S PIPE, SEAMLESS, A312-TP304L (S-23594)	62	0	0	0	7	71	1	18	0	0	0	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1.3	2.0000 S10S PIPE, SEAMLESS, A312-TP304L (S-23594)	60	0	0	0	8	71	1	18	0	0	0	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4.1	2.0000 S10S 45 ELL, SEAMLESS, A403-WP304L (2K113-E002)	63	0	0	0	8	70	1	18	0	0	0	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4.2	2.0000 S10S 45 ELL, SEAMLESS, A403-WP304L (2K113-E002)	61	0	0	0	8	70	2	17	0	0	0	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5.2	2.0000 S10S WN FLG, RAISED FACE, 150#, A182-F304L (CH-18449)	64	0	0	0	8	70	1	18	0	0	0	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5.3	2.0000 S10S WN FLG, RAISED FACE, 150#, A182-F304L (CH-18449)	59	0	0	0	7	70	2	17	0	0	0	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

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

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

Customer Inspection:

Sergio Morales

Date: 14-10-2024

Date: 15-10-2024 14:41:38

Date:



Signature



Signature



Signature

Date: 22-10-24

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

Certificate of PMI Reading

XL3t-32735

Reading No	65
Mode	ALLOY
Time	2024-10-14 09:39
Duration	9.66
Sequence	Final
Alloy1	304SS : 0.00
Alloy2	No Match : *2.10
Flags	
SAMPLE	
HEAT	
LOT	
BATCH	
MISC	
NOTE	

	%	±	Error
Sb	< LOD	:	0.041
Sn	< LOD	:	0.053
Pd	< LOD	:	0.036
Ag	< LOD	:	0.153
Al	< LOD	:	80.000
Mo	0.088	±	0.011
Nb	< LOD	:	0.007
Zr	< LOD	:	0.003
Bi	< LOD	:	0.018
Pb	< LOD	:	0.014
Se	< LOD	:	0.008
W	< LOD	:	0.085
Zn	< LOD	:	0.033
Cu	0.220	±	0.085
Ni	8.484	±	0.303
Co	< LOD	:	0.504
Fe	69.907	±	0.462
Mn	1.696	±	0.211
Cr	19.121	±	0.271
V	< LOD	:	0.132
Ti	< LOD	:	0.136

Sergio Morales

Date: 22-10-24



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

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

Certificate of PMI Reading

XL3t-32735

Reading No	66
Mode	ALLOY
Time	2024-10-14 09:39
Duration	8.64
Sequence	Final
Alloy1	304SS : 0.04
Alloy2	No Match : *2.09
Flags	
SAMPLE	
HEAT	
LOT	
BATCH	
MISC	
NOTE	

	%	±	Error
Sb	< LOD	:	0.048
Sn	< LOD	:	0.059
Pd	< LOD	:	0.042
Ag	< LOD	:	0.113
Al	< LOD	:	80.000
Mo	0.052	±	0.009
Nb	< LOD	:	0.008
Zr	< LOD	:	0.004
Bi	< LOD	:	0.009
Pb	< LOD	:	0.020
Se	< LOD	:	0.009
W	< LOD	:	0.098
Zn	< LOD	:	0.039
Cu	< LOD	:	0.171
Ni	8.747	±	0.331
Co	< LOD	:	0.543
Fe	69.519	±	0.502
Mn	1.741	±	0.229
Cr	19.393	±	0.296
V	< LOD	:	0.141
Ti	< LOD	:	0.171

Sergio Morales

Date: 22-10-24



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

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

Certificate of PMI Reading

XL3t-32735

Reading No	67
Mode	ALLOY
Time	2024-10-14 09:39
Duration	9.13
Sequence	Final
Alloy1	304SS : 0.19
Alloy2	No Match : *2.10
Flags	
SAMPLE	
HEAT	
LOT	
BATCH	
MISC	
NOTE	

	%	±	Error
Sb	< LOD	:	0.047
Sn	< LOD	:	0.054
Pd	< LOD	:	0.041
Ag	< LOD	:	0.115
Al	< LOD	:	80.000
Mo	0.577	±	0.026
Nb	< LOD	:	0.008
Zr	< LOD	:	0.006
Bi	< LOD	:	0.010
Pb	< LOD	:	0.004
Se	< LOD	:	0.007
W	< LOD	:	0.101
Zn	< LOD	:	0.031
Cu	< LOD	:	0.166
Ni	9.752	±	0.331
Co	< LOD	:	0.523
Fe	68.511	±	0.480
Mn	1.870	±	0.222
Cr	18.609	±	0.279
V	< LOD	:	0.142
Ti	< LOD	:	0.168

Sergio Morales

Date: 22-10-24



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

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

Certificate of PMI Reading

XL3t-32735

Reading No	68
Mode	ALLOY
Time	2024-10-14 09:39
Duration	10.48
Sequence	Final
Alloy1	304SS : 0.49
Alloy2	No Match : *2.13
Flags	
SAMPLE	
HEAT	
LOT	
BATCH	
MISC	
NOTE	

	%	±	Error
Sb	< LOD	:	0.046
Sn	0.079	±	0.029
Pd	< LOD	:	0.042
Ag	< LOD	:	0.159
Al	< LOD	:	80.000
Mo	0.057	±	0.009
Nb	< LOD	:	0.009
Zr	< LOD	:	0.006
Bi	< LOD	:	0.014
Pb	< LOD	:	0.008
Se	< LOD	:	0.008
W	< LOD	:	0.093
Zn	< LOD	:	0.038
Cu	0.176	±	0.085
Ni	8.611	±	0.310
Co	< LOD	:	0.512
Fe	69.540	±	0.471
Mn	1.922	±	0.217
Cr	18.988	±	0.275
V	< LOD	:	0.132
Ti	< LOD	:	0.168

Sergio Morales

Date: 22-10-24



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

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

Certificate of PMI Reading

XL3t-32735

Reading No	69
Mode	ALLOY
Time	2024-10-14 09:40
Duration	12.17
Sequence	Final
Alloy1	304SS : 0.05
Alloy2	No Match : *2.10
Flags	
SAMPLE	
HEAT	
LOT	
BATCH	
MISC	
NOTE	

	%	±	Error
Sb	< LOD	:	0.038
Sn	< LOD	:	0.046
Pd	< LOD	:	0.033
Ag	< LOD	:	0.158
Al	< LOD	:	80.000
Mo	0.122	±	0.011
Nb	< LOD	:	0.008
Zr	< LOD	:	0.003
Bi	< LOD	:	0.009
Pb	< LOD	:	0.016
Se	< LOD	:	0.010
W	< LOD	:	0.086
Zn	< LOD	:	0.034
Cu	0.222	±	0.076
Ni	8.361	±	0.270
Co	< LOD	:	0.444
Fe	70.207	±	0.414
Mn	1.654	±	0.189
Cr	19.116	±	0.244
V	< LOD	:	0.122
Ti	< LOD	:	0.144

Sergio Morales

Date: 22-10-24



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

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

Certificate of PMI Reading

XL3t-32735

Reading No	62
Mode	ALLOY
Time	2024-10-14 09:38
Duration	11.37
Sequence	Final
Alloy1	304SS : 1.59
Alloy2	301SS : 1.61
Flags	
SAMPLE	
HEAT	
LOT	
BATCH	
MISC	
NOTE	

	%	±	Error
Sb	< LOD	:	0.039
Sn	< LOD	:	0.048
Pd	< LOD	:	0.036
Ag	< LOD	:	0.194
Al	< LOD	:	80.000
Mo	< LOD	:	0.007
Nb	< LOD	:	0.005
Zr	< LOD	:	0.003
Bi	< LOD	:	0.008
Pb	< LOD	:	0.015
Se	< LOD	:	0.007
W	< LOD	:	0.069
Zn	< LOD	:	0.028
Cu	< LOD	:	0.144
Ni	7.858	±	0.277
Co	< LOD	:	0.474
Fe	71.893	±	0.431
Mn	1.325	±	0.189
Cr	18.018	±	0.248
V	0.178	±	0.069
Ti	< LOD	:	0.146

Sergio Morales

Date: 22-10-24



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

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

Certificate of PMI Reading

XL3t-32735

Reading No	60
Mode	ALLOY
Time	2024-10-14 09:37
Duration	10.77
Sequence	Final
Alloy1	304SS : 0.39
Alloy2	No Match : *2.14
Flags	
SAMPLE	
HEAT	
LOT	
BATCH	
MISC	
NOTE	

	%	±	Error
Sb	< LOD	:	0.044
Sn	0.062	±	0.027
Pd	< LOD	:	0.038
Ag	< LOD	:	0.146
Al	< LOD	:	80.000
Mo	0.068	±	0.009
Nb	< LOD	:	0.007
Zr	< LOD	:	0.004
Bi	< LOD	:	0.017
Pb	< LOD	:	0.010
Se	< LOD	:	0.008
W	< LOD	:	0.089
Zn	< LOD	:	0.035
Cu	< LOD	:	0.153
Ni	8.192	±	0.290
Co	< LOD	:	0.486
Fe	71.505	±	0.447
Mn	1.451	±	0.197
Cr	18.029	±	0.255
V	< LOD	:	0.127
Ti	< LOD	:	0.141

Sergio Morales

Date: 22-10-24



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

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

Certificate of PMI Reading

XL3t-32735

Reading No	63
Mode	ALLOY
Time	2024-10-14 09:38
Duration	13.11
Sequence	Final
Alloy1	304SS : 0.23
Alloy2	No Match : *2.12
Flags	
SAMPLE	
HEAT	
LOT	
BATCH	
MISC	
NOTE	

	%	±	Error
Sb	< LOD	:	0.038
Sn	< LOD	:	0.047
Pd	< LOD	:	0.034
Ag	< LOD	:	0.158
Al	< LOD	:	80.000
Mo	0.125	±	0.011
Nb	< LOD	:	0.007
Zr	< LOD	:	0.004
Bi	< LOD	:	0.012
Pb	< LOD	:	0.002
Se	< LOD	:	0.010
W	< LOD	:	0.092
Zn	< LOD	:	0.032
Cu	0.598	±	0.091
Ni	8.135	±	0.263
Co	< LOD	:	0.441
Fe	70.792	±	0.405
Mn	1.415	±	0.180
Cr	18.284	±	0.234
V	< LOD	:	0.121
Ti	< LOD	:	0.139

Sergio Morales

Date: 22-10-24



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

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

Certificate of PMI Reading

XL3t-32735

Reading No	61
Mode	ALLOY
Time	2024-10-14 09:38
Duration	9.45
Sequence	Final
Alloy1	304SS : *2.58
Alloy2	301SS : *2.96
Flags	
SAMPLE	
HEAT	
LOT	
BATCH	
MISC	
NOTE	

	%	±	Error
Sb	< LOD	:	0.043
Sn	< LOD	:	0.055
Pd	< LOD	:	0.043
Ag	< LOD	:	0.194
Al	< LOD	:	80.000
Mo	0.071	±	0.010
Nb	< LOD	:	0.006
Zr	< LOD	:	0.004
Bi	< LOD	:	0.009
Pb	< LOD	:	0.019
Se	< LOD	:	0.012
W	< LOD	:	0.102
Zn	< LOD	:	0.040
Cu	0.297	±	0.095
Ni	8.536	±	0.320
Co	< LOD	:	0.528
Fe	70.405	±	0.484
Mn	2.230	±	0.227
Cr	17.859	±	0.276
V	< LOD	:	0.145
Ti	< LOD	:	0.151

Sergio Morales

Date: 22-10-24



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

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

Certificate of PMI Reading

XL3t-32735

Reading No	64
Mode	ALLOY
Time	2024-10-14 09:38
Duration	11.01
Sequence	Final
Alloy1	304SS : 0.73
Alloy2	No Match : *2.10
Flags	
SAMPLE	
HEAT	
LOT	
BATCH	
MISC	
NOTE	

	%	±	Error
Sb	< LOD	:	0.037
Sn	< LOD	:	0.052
Pd	< LOD	:	0.035
Ag	< LOD	:	0.175
Al	< LOD	:	80.000
Mo	0.323	±	0.018
Nb	0.020	±	0.005
Zr	< LOD	:	0.004
Bi	< LOD	:	0.003
Pb	< LOD	:	0.013
Se	< LOD	:	0.009
W	< LOD	:	0.094
Zn	< LOD	:	0.039
Cu	0.315	±	0.085
Ni	8.297	±	0.285
Co	< LOD	:	0.472
Fe	70.560	±	0.435
Mn	1.780	±	0.200
Cr	18.229	±	0.252
V	< LOD	:	0.132
Ti	< LOD	:	0.149

Sergio Morales

Date: 22-10-24



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

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

Certificate of PMI Reading

XL3t-32735

Reading No	59
Mode	ALLOY
Time	2024-10-14 09:37
Duration	11.57
Sequence	Final
Alloy1	301SS : 2.31
Alloy2	No Match : 2.87
Flags	
SAMPLE	
HEAT	
LOT	
BATCH	
MISC	
NOTE	

	%	±	Error
Sb	< LOD	:	0.045
Sn	< LOD	:	0.054
Pd	< LOD	:	0.042
Ag	< LOD	:	0.198
Al	< LOD	:	80.000
Mo	0.494	±	0.023
Nb	0.014	±	0.005
Zr	< LOD	:	0.004
Bi	< LOD	:	0.013
Pb	< LOD	:	0.017
Se	< LOD	:	0.007
W	< LOD	:	0.105
Zn	< LOD	:	0.040
Cu	0.814	±	0.111
Ni	7.956	±	0.293
Co	< LOD	:	0.496
Fe	70.094	±	0.452
Mn	2.052	±	0.211
Cr	17.835	±	0.260
V	0.167	±	0.072
Ti	< LOD	:	0.145

Sergio Morales

Date: 22-10-24



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

Contract : P2308
Client : NERVION
Project : ALBA

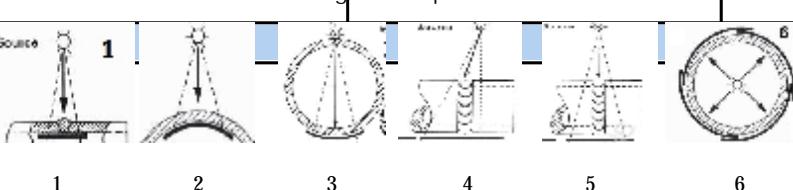
Spool N°: P2308S-00488
Isometric N°: 2121-IA91F63-4
Piece Mark: 2121-IA91F63-4-SP05-00488

Procedure/ Instruction:

Acceptance Criteria:

Testing Date:

Material:

4274-LZ-VD-FW31010370QAC02 - RevA\$ME B.31.3 – Table 341.3.2		11-10-2024		Stainless Steel 304, 316, 317																															
Equipment		Normal Fluid Film		IQI																															
Type: G-RAY		Brand: FUJI		Type: ASTM-1A																															
Source Equip: Ir192		Type: IX50		Position: Film Side																															
Source Dim: 2x1.4		Class: C3		Sensitivity: 4																															
Activity (Ci): 20.9		Lead Sheets: 0,5		Ø of visible wire/hole 0,0063(0,16)																															
Films/Casette:Single		Testing Technique		Indication Codes (ISO 6520)																															
				<table border="1"> <tr> <td>BB-Back Bevel</td> <td>EP-Excess Penetration (504)</td> <td>SB-Suck Back</td> </tr> <tr> <td>FA-Film Artifact</td> <td>ST-Sugared Tack</td> <td></td> </tr> <tr> <td>BW-Back Weld</td> <td>GR-Grind Repair</td> <td>SU-Surface</td> </tr> <tr> <td>BT-Burn Through (510)</td> <td>HL-Hi-LO</td> <td>T-Tungsten</td> </tr> <tr> <td>C-Cap</td> <td>LC-Lack of Cleanup</td> <td>UC-Undercut (5011)</td> </tr> <tr> <td>CP-Clustered Porosity (2012)</td> <td>LF-Lack of Fusion (401)</td> <td>UP-Unformity Porosity (2013)</td> </tr> <tr> <td>CL-Cold Lap</td> <td>LP-Lack of Penetration (402)</td> <td>V-Valley in Cap</td> </tr> <tr> <td>CR-Crack</td> <td>P-Porosity (2011)</td> <td>W-Wire</td> </tr> <tr> <td>CC-Crater Crack (104)</td> <td>R-Root</td> <td>WH-Worm Hole (2016)</td> </tr> <tr> <td>DI-Dimensional</td> <td>S-Slag (301)</td> <td>XN-Xray Film Non-Conform</td> </tr> </table>		BB-Back Bevel	EP-Excess Penetration (504)	SB-Suck Back	FA-Film Artifact	ST-Sugared Tack		BW-Back Weld	GR-Grind Repair	SU-Surface	BT-Burn Through (510)	HL-Hi-LO	T-Tungsten	C-Cap	LC-Lack of Cleanup	UC-Undercut (5011)	CP-Clustered Porosity (2012)	LF-Lack of Fusion (401)	UP-Unformity Porosity (2013)	CL-Cold Lap	LP-Lack of Penetration (402)	V-Valley in Cap	CR-Crack	P-Porosity (2011)	W-Wire	CC-Crater Crack (104)	R-Root	WH-Worm Hole (2016)	DI-Dimensional	S-Slag (301)	XN-Xray Film Non-Conform
BB-Back Bevel	EP-Excess Penetration (504)	SB-Suck Back																																	
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DI-Dimensional	S-Slag (301)	XN-Xray Film Non-Conform																																	
General Remarks			Notations / Symbology																																
The results refer to the controlled items			- Good / Acceptable + Repair = Good after Repair																																
			x Acceptable after Repair SFD = Source Film Distance SOD = Source Object Distance																																

Weld No.	Weld Desc. (WPS)	Welder	Position	SFD	SOD	Weld Reinf	Testing Technique	Exposure Time	Density	IQI	Indication Code	Decision Remarks
0026	2.0000 S10S BW (MW.26_BW)	AE	A	500	440	NA	4	563	3.4	W4	-	RX445
0026	2.0000 S10S BW (MW.26_BW)	AE	B	500	440	NA	4	563	3.3	W4	-	RX445

Contract : P2308
Client : NERVION
Project : ALBA

Spool N°: P2308S-00488
Isometric N°: 2121-IA91F63-4
Piece Mark: 2121-IA91F63-4-SP05-00488

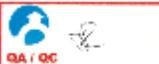
Procedure/ Instruction:

Acceptance Criteria:

Testing Date:

Material:

4274-LZ-VD-FW31010370QAC02 - RevA\$ME B.31.3 – Table 341.3.2		11-10-2024		Stainless Steel 304, 316, 317	
Equipment		Normal Fluid Film		IQI	
Type: G-RAY	Brand: FUJI	Type: ASTM-1A		Equipment: GE M ECO	
Source Equip: Ir192	Type: IX50	Position: Film Side		Type: Auto	
Source Dim: 2x1.4	Class: C3	Sensitivity: 4		Temperature: 29	
Activity (Ci): 20.9	Lead Sheets: 0,5	\varnothing of visible wire/hole 0,0063(0,16)		Developer: G135	
Films/Casette:Single		Indication Codes (ISO 6520)		Fixer: G335	
Testing Technique					
1	2	3	4	5	6
Source					
BB-Back Bevel	EP-Excess Penetration (504)	SB-Suck Back			
FA-Film Artifact	ST-Sugared Tack				
BW-Back Weld	GR-Grind Repair	SU-Surface			
BT-Burn Through (510)	HL-Hi-LO	T-Tungsten			
C-Cap	LC-Lack of Cleanup	UC-Undercut (5011)			
CP-Clustered Porosity (2012)	LF-Lack of Fusion (401)	UP-Uniformity Porosity (2013)			
CL-Cold Lap	LP-Lack of Penetration (402)	V-Valley in Cap			
CR-Crack	P-Porosity (2011)	W-Wire			
CC-Crater Crack (104)	R-Root	WH-Worm Hole (2016)			
DI-Dimensional	S-Slag (301)	XN-Xray Film Non-Conform			
General Remarks					
The results refer to the controlled items	- Good	/ Acceptable	+ Repair	= Good after Repair	x Acceptable after Repair SFD = Source Film Distance SOD = Source Object Distance

Weld No.	Weld Desc. (WPS)	Welder	Position	SFD	SOD	Weld Reinf	Testing Technique	Exposure	Density	IQI	Indication	Decision	Remarks Code
	Performed by:	Examined by:									QA/QC Inspection:	Customer Inspection:	
Name:	GONCALVES(QA), J. (N2 PT/RT)	FIGUEIRAS(QA), RUI (N2 PT/RT)									RAIMUNDO, MARIANA		
Date:	11-10-2024		11-10-2024				15-10-2024 14:41:38						
Signature:											Sergio Morales	Date: 22-10-24 	

On behalf of Tecnicont / R
Piping Supervisor
Cristi Sandu
25.10.2024 