



Tecnimont S.p.A.

4274\_CONST

ALBA PROJECT-PP AND PEL PLANTS


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

Report n°

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

RFI Nr.:

Date :

Unit -

Plant Area -

Isometric Number

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

Sheet 01/01

The Present Inspection Package contains the following Elements:

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

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

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

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




Tecnimont S.p.A.

REPSOL POLIMEROS  
SA

4274\_CONST

ALBA PROJECT-PP AND PEL PLANTS

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

RFI Nr.: Date :

Unit -

Plant Area -

Isometric Number

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

Sheet 01/01

The Present Inspection Package contains the following Elements:

7112-DMW64001-3-SP09-03098;7112-DMW64001-3-SP08-03097;7112-DMW64001-3-SP07-03096;7112-DMW64001-2-SP06-03101;7112-DMW64001-2-SP05-03100;7112-DMW64001-2-SP04-03099;5111-IA91F69-2-SP06-00922;5111-IA91F69-2-SP05-00921;4222-IA91F51-2-SP01-00792;4111-TEA11013-1-SP02-00911;4111-TEA1013-1-SP01-00910;4111-TEA10007-3-SP05-00909;4111-TEA10007-1-SP01-00905;3221-SWW92005-3-SP06-00689;3221-SWW92005-3-SP05-00688;3221-SWW92005-3-SP04-00687;3221-SWW92005-3-SP03-00686;3221-SWW92001-2-SP04-00671;3221-SWW92001-2-SP03-00670;3211-SWW91H17-2-SP03-01110;3211-SWW91H04-1-SP01-01080;2211-PEP71A01-2-SP07-00456;2211-VG62J02-2-SP06-00455;2211-VG62H01-2-SP02-01092;2211-PEP71A05-2-SP03-00434;2211-PEP71A01-1-SP02-00426;2211-PCW70B02-1-SP02-00985;2211-PCW70B02-1-SP01-00984;2211-LA62B03-3-SP01-00978;2211-DMW91Q01-1-SP13-03069;2211-DMW91Q01-1-SP12-03068;2131-LO52C01-1-SP02-00866;2131-LO52C01-1-SP01-00865;2121-LO40B04-2-SP06-01157;2121-LO40B04-2-SP05-01156;2121-LO40B04-2-SP07-01071;2121-LO40B04-2-SP04-01070;2121-IA91F63-6-SP11-00494;2121-IA91F63-6-SP10-00493;2121-IA91F63-6-SP09-00492;2121-IA91F63-5-SP03-00491;2121-IA91F63-5-SP02-00490;2121-IA91F63-5-SP01-00489;2121-IA91F62-9-SP08-00479;2121-IA91F13-1-SP03-01122;2121-IA91F13-1-SP05-00996;2121-IA91F13-1-SP04-00995;2121-IA91F13-1-SP02-00994;2121-IA91F13-1-SP01-00993;1211-VA89003-1-SP02-00976;1211-VA89003-1-SP01-00975;1211-LO89006-1-SP03-00355;1211-LO89006-1-SP02-00354;1211-LO89006-1-SP01-00353;1211-DMW64001-5-SP13-03062;1211-DMW64001-5-SP12-03061;1211-DMW64001-5-SP11-03060;1211-DMW64001-1-SP02-03051;1211-DMW64001-1-SP01-03050;1127-PN52028-1-SP01-00863;1127-PN52025-1-SP02-01048;1127-PN52025-1-SP01-0147;1127-PN52024-2-SP03-00829;1127-PN52024-2-SP02-00828;1127-PN52024-1-SP01-00827;1126-LO36006-1-SP04-01053;1126-LO36006-1-SP05-01052

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

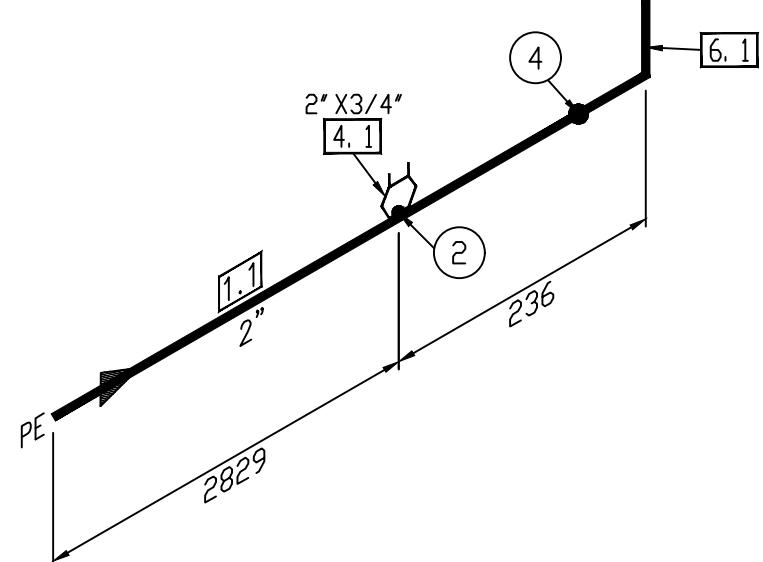
1) Painting cycle to be indicated.

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

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

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




<div style="text-align: center; padding: 10px;">    <b>N</b> </div>	<div style="border: 1px solid black; padding: 10px;"> <p style="text-align: center;"><b>BILL OF MATERIAL</b></p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th colspan="6">PIPE</th> </tr> <tr> <th>ITEM</th> <th>LENGTH</th> <th>DIAMETER</th> <th>SCH/mm</th> <th>DESCRIPTION / MATERIAL</th> <th>ITEM CODE</th> </tr> </thead> <tbody> <tr> <td>1.1</td> <td>2,987</td> <td>2"</td> <td>S-10S</td> <td>PIPE - A312-TP304/304L DUAL GR BE SMLS, PExBE</td> <td>I3364302</td> </tr> </tbody> </table>   <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th colspan="6">WELD FITTINGS</th> </tr> <tr> <th>ITEM</th> <th>QT</th> <th>DIAMETER</th> <th>SCH/mm</th> <th>DESCRIPTION / MATERIAL</th> <th>ITEM CODE</th> </tr> </thead> <tbody> <tr> <td>6.1</td> <td>1</td> <td>2"</td> <td>S-10S</td> <td>90 LR ELBOW ASME B16.9 A403-WP304/304L DG BE SMLS</td> <td>I2259133</td> </tr> </tbody> </table>   <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th colspan="6">FORGINGS</th> </tr> <tr> <th>ITEM</th> <th>QT</th> <th>DIAMÉTRE</th> <th>SCH/PRESS.</th> <th>DESCRIPTION / MATERIEL</th> <th>ITEM CODE</th> </tr> </thead> <tbody> <tr> <td>4.1</td> <td>1</td> <td>2" x 3/4"</td> <td>3000#</td> <td>REDUCING SOCKOLET MSS-SP-97 3000# A182-F304/304L DUAL GR BE SWE</td> <td>I2258338</td> </tr> </tbody> </table> </div>	PIPE						ITEM	LENGTH	DIAMETER	SCH/mm	DESCRIPTION / MATERIAL	ITEM CODE	1.1	2,987	2"	S-10S	PIPE - A312-TP304/304L DUAL GR BE SMLS, PExBE	I3364302	WELD FITTINGS						ITEM	QT	DIAMETER	SCH/mm	DESCRIPTION / MATERIAL	ITEM CODE	6.1	1	2"	S-10S	90 LR ELBOW ASME B16.9 A403-WP304/304L DG BE SMLS	I2259133	FORGINGS						ITEM	QT	DIAMÉTRE	SCH/PRESS.	DESCRIPTION / MATERIEL	ITEM CODE	4.1	1	2" x 3/4"	3000#	REDUCING SOCKOLET MSS-SP-97 3000# A182-F304/304L DUAL GR BE SWE	I2258338
PIPE																																																							
ITEM	LENGTH	DIAMETER	SCH/mm	DESCRIPTION / MATERIAL	ITEM CODE																																																		
1.1	2,987	2"	S-10S	PIPE - A312-TP304/304L DUAL GR BE SMLS, PExBE	I3364302																																																		
WELD FITTINGS																																																							
ITEM	QT	DIAMETER	SCH/mm	DESCRIPTION / MATERIAL	ITEM CODE																																																		
6.1	1	2"	S-10S	90 LR ELBOW ASME B16.9 A403-WP304/304L DG BE SMLS	I2259133																																																		
FORGINGS																																																							
ITEM	QT	DIAMÉTRE	SCH/PRESS.	DESCRIPTION / MATERIEL	ITEM CODE																																																		
4.1	1	2" x 3/4"	3000#	REDUCING SOCKOLET MSS-SP-97 3000# A182-F304/304L DUAL GR BE SWE	I2258338																																																		
					<p>P2308S 00993</p>  <p>2121-IA91F13-1-SP01-00993</p>																																																		
<p>On behalf of Tecnimont/R Piping Supervisor R. Mancino 02-12-24 </p> <p><b>Sergio Morales</b> Date: 06-11-24</p> 					<p><b>Weld Map Sticker</b></p> 																																																		
Rev.	Date	DRW	Check 1	Check 2																																																			
					Marking Color: GREEN																																																		
					Weld Class: 6C4-M																																																		
01	25/04/2024	AOM	LRG	PCO	Paint System: NR																																																		
Construction Code: ASME B31.3 % RT - YES % UT - NO Hydro: NO ID Cleaning: YES					Piece Mark																																																		
Acc Criteria: ASME B31.3 % PT - YES % FE - NO PWHT: NO OD Cleaning: YES					2121-IA91F13-1-SP01-00993																																																		
Metal Tag: YES % MT - NO % PMI - YES BHN% - NO Tolerances: ASME B31.3						Ref. Drawing	Job #	Spool #	Project																																														
					2121-IA91F13-1	P2308S	00993	REPSOL PROJETO ALBA NERVION																																															

# Spool Material List

Contract : P2308

Client NERVION

Job : P2308S

Project ALBA

Job	Spool	Piece Mark	Drawing	Rev			
Item No Tag No ID No	Qty	Size1 Sch1	Size2 Sch2	Description	Heat No MTR No Folder No	Unit Weight Kgs	Weight Kgs
<b>P2308S 00993 2121-IA91F13-1-SP01-00993</b>		<b>2121-IA91F13-1</b>		<b>01</b>			
1.1	2,987	2.0000 S10S	0.0000 NA	PIPE, SEAMLESS, A312-TP304L	NY231216AS15 0391	3,93	11,74
40391							
6.1	1	2.0000 S10S	0.0000 NA	90 LR ELL, SEAMLESS, A403-WP304L	NY230506AT08 0462	0,49	0,49
42965							
4.1	1	2.0000 NA	0.7500 NA	SOCKOLET, 3000#, A182-F304L	N220606AV04 0297	0,15	0,15
88696							

On behalf of Tecnimont/R  
 Piping Supervisor  
 R. Mancino  
 02-12-24 

Number of Items : 3

Total Weight : 12,38

Signature	QA	Client
		Sergio Morales Date: 06-11-24 
Date	2024-10-15 15:29:44	

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

**ANALISI CHIMICA - CHEMICAL COMPOSITION**

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

Note - Notes

Firma  
Signature

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

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

**CARATTERISTICHE MECCANICHE - MECHANICAL TEST**

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

Note - Notes

Firma  
Signature

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

## MATERIAL TEST CERTIFICATE

EN10204 3.1

MANUFACTURER: Yingkou Guangming Pipeline Industry Co.,Ltd

MATERIAL: ASTM A403 WP304/304L

DIMENSION: ASME B16.9

WORK NO: GMPPFCP2312363

DATE: April.10th,2024

PAGE NO: 20/29

CUSTOMER: Chero Piping S.p.A.

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

NOTE:

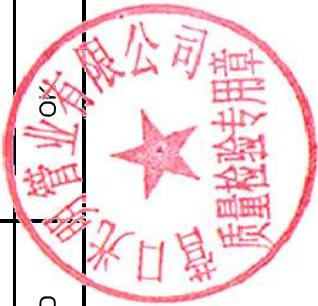
1. HEAT TREATMENT: SOLUTION ANNEALED TEMPERATURE 1050°C X 0.5HR, COOLING IN WATER.

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

CHIEF OF INSPECTION DEPARTMENT

Prime 4 030 TCN

2024.4.7





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 <sub>0.02</sub> R <sub>m</sub> (Mpa)	屈服强度 R <sub>0.2</sub> (Mpa)	延伸率 A%	冲击强度 Z, °C (10*10 <sup>5</sup> 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-IA91F13-1

## Welding and QC Report Per Spool

Job : P2300S

Material : Stainless Steel 304, 316, 317

Client : NERVION

Revision : 01

Project : ALBA

Piece Mark : 2121-IA91F13-1-SP01-0093

Spec : 6C4-M

Weld data				Welding												Control												
Weld No.	Type /Thk	Dia	Sch	Weld Proc.	1st Pass	1st MTR	Final Pass	Final MTR	Dim	Date DIM	Visual	Date Visual	PT	Date PT	MT	Date MT	PMI	Date PMI	Ferite	Date Ferrite	PWHT	Date PWHT	BHN	Date BHN	Ultra	Date UT	Xray	Date Xray
0002	SOL	0,75	XS	MW.26_SBR	BC	16-09-2024	4712055	BC	16-09-2024	4712055			001128	11-10-2024	000222	11-10-2024		001152	14-10-2024									
0004	BW	2	S10S	MW.26_BW	BC	16-09-2024	4712055	BC	16-09-2024	4712055			001128	11-10-2024			001152	14-10-2024										

Notes:

---



---



---



---

On behalf of Tecnimont  
QC Welding InspectorGABRIEL BONEL SISTACO  
ISO EN 9712 Certified Inspector  
VTP/PTM/TIT/UT/TOFD - Level II

02/12/2024

Signature

Date

Boccard Portugal QC	Client
 Sergio Morales Date: 06-11-24	
15-10-2024 15:29:44	



# Shop QC Inspection Report

P2308-001170

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

Job number: P2308S  
Spool N°: 00993  
Piece Mark: 2121-IA91F13-1-SP01-00993

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

Control Date: 11-10-2024

Remarks: The results refer to the controlled items

Actions / Tasks List	Required		Done/ Identified
	Yes	No	
Welder / weld list labels printed and pasted on the spool sheet	X	<input type="checkbox"/>	X
Spool Barcode label printed	X	<input type="checkbox"/>	X
Spool is identified with the metal tag	X	<input type="checkbox"/>	X
Spool stencil required (hard stamp low stress)	<input type="checkbox"/>	X	<input type="checkbox"/>
Joint preparation & cleanliness / spool dimensions checked	X	<input type="checkbox"/>	X
Level, plumb, Two holes, flanges and internal alignment, Squareness	X	<input type="checkbox"/>	X
Material checked (type of material, rate, heat numbers, filler material, etc.)	X	<input type="checkbox"/>	X
Welders list match with actual welder stencil / Id. on pipe	X	<input type="checkbox"/>	X
PWHT- Spool identified as per Procedure / Instruction for PWHT	<input type="checkbox"/>	X	<input type="checkbox"/>
HT ( Hardness Test)- Welds identified as per Procedure / Instruction	<input type="checkbox"/>	X	<input type="checkbox"/>
MT - Welds identified as per Procedure / Instruction	<input type="checkbox"/>	X	<input type="checkbox"/>
PT - Welds identified as per Procedure / Instruction	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: RODRIGUES(ST), VITOR (N2 VT/PT) Date: 11-10-2024 Signature 	QA/QC Inspection: RAIMUNDO, MARIANA Date: 15-10-2024 15:29:44 Signature 	Customer Inspection: <b>Sergio Morales</b> Date: 06-11-24 
--	---	--

02/12/2024

Type to

# Visual Examination Report (Welds)

P2308-001128

Contract : P2308

Job number: P2308S

Material: Stainless Steel 304, 316, 317

Client : NERVION

Spool Nº: 00993

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

Project : ALBA

Piece Mark: 2121-IA91F13-1-SP01-00993

Testing Date: 11-10-2024

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	Identification		Temp. (°F/°C)	Accepted	Rejected	Defect	Technique Used	Comments
			Cap	C						
0002	0.7500 XS SOL-Socket to Header Weld (MW.26_SBR)	BC	21	X					Direct	
0004	2.0000 S10S BW-Buttweld Straight (MW.26_BW)	BC	21	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: 11-10-2024

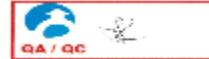
Date: 15-10-2024 15:29:44

Sergio Morales

Signature



Signature



Date: 06-11-24


02/12/2024 On behalf of Tecnimont  
QC Welding Inspector

GARIBEL BORGES MATE  
Weld Inspector  
ISO EN 9712 Certification Level 2  
VITORTM/TUT-TQFD-PA



# Liquid Penetrant Examination Report

P2308-000222

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

Job number: P2308S

Spool N°: 00993

Piece Mark: 2121-IA91F13-1-SP01-00993

Material: Stainless Steel 304, 316, 317

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

Testing Date: 11-10-2024

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				
0002	0.7500 XS SOL-Sockolet to Header Weld (MW.26_SBR)	BC	21	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: 11-10-2024				Date: 11-10-2024				Sergio Morales			
Signature				Signature				Date: 06-11-24			

On behalf of Tecnimont  
 QC Welding Inspector

GABRIEL BONFIL BOEUF  
 ISO EN 9712 Certified Inspector Level 2  
 VT/PT/MTR/UT-TOD - PA

02/12/2024



# Positive Material Identification Report (PMI)

P2308-001152

Client : NERVION

Contract : P2308 / Project : ALBA

Remarks: The results refer to the controlled items

Job number: P2308S

Spool N°: 00993

Piece Mark: 2121-IA91F13-1-SP01-00993

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			
0002	0.7500 XS SOL-Sockolet to Header Weld (MW.26_SBR)	233	0	0	0	9	69	1	19	0	0	0	X		
0004	2.0000 S10S BW-Buttweld Straight (MW.26_BW)	232	0	0	0	9	69	1	19	0	0	0	X		
1.1	2.0000 S10S PIPE, SEAMLESS, A312-TP304L (NY231216AS15)	229	0	0	0	8	71	1	17	0	0	0	X		

On behalf of Tecnimont  
QC Welding Inspector

GABRIEL BONEL STEZAK  
IVTS/IWI-3 P.O. BOX 100  
ISO EN 9712 Certification Level 2  
VT/P/MTR/T/UT-TDF-PA

02/12/2024

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

Date: 14-10-2024

Signature



Date: 15-10-2024 15:29:44

Signature



Customer Inspection: Sergio Morales

Date:

Signature Date: 06-11-24



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

## Certificate of PMI Reading

XL3t-32735

Reading No	233
Mode	ALLOY
Time	2024-10-14 11:24
Duration	10.99
Sequence	Final
Alloy1	304SS : 1.13
Alloy2	321SS : 1.48
Flags	
SAMPLE	
HEAT	
LOT	
BATCH	
MISC	
NOTE	

	%	±	Error
Sb	< LOD	:	0.040
Sn	< LOD	:	0.053
Pd	< LOD	:	0.038
Ag	< LOD	:	0.104
Al	< LOD	:	80.000
Mo	0.053	±	0.009
Nb	< LOD	:	0.009
Zr	< LOD	:	0.004
Bi	< LOD	:	0.012
Pb	< LOD	:	0.017
Se	< LOD	:	0.007
W	< LOD	:	0.101
Zn	< LOD	:	0.033
Cu	< LOD	:	0.168
Ni	9.157	±	0.309
Co	< LOD	:	0.498
Fe	69.019	±	0.461
Mn	1.786	±	0.210
Cr	19.204	±	0.270
V	< LOD	:	0.137
Ti	< LOD	:	0.173

On behalf of Tecnimont  
QC Welding Inspector

Sergio Morales



Date: 06-11-24

02/12/2024

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

## Certificate of PMI Reading

XL3t-32735

---

Reading No 232  
Mode ALLOY  
Time 2024-10-14 11:23  
Duration 10.22  
Sequence Final  
Alloy1 304SS : 0.02  
Alloy2 No Match : \*2.10  
Flags  
SAMPLE  
HEAT  
LOT  
BATCH  
MISC  
NOTE

---

	%	±	Error
Sb	< LOD	:	0.038
Sn	< LOD	:	0.048
Pd	< LOD	:	0.034
Ag	< LOD	:	0.134
Al	< LOD	:	80.000
Mo	0.034	±	0.007
Nb	< LOD	:	0.008
Zr	< LOD	:	0.004
Bi	< LOD	:	0.003
Pb	< LOD	:	0.015
Se	< LOD	:	0.008
W	< LOD	:	0.093
Zn	< LOD	:	0.030
Cu	< LOD	:	0.142
Ni	9.207	±	0.296
Co	< LOD	:	0.478
Fe	69.328	±	0.439
Mn	1.692	±	0.200
Cr	19.156	±	0.257
V	< LOD	:	0.128
Ti	< LOD	:	0.133

---

Sergio Morales



Type text here

Date: 06-11-24

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

## Certificate of PMI Reading

XL3t-32735

Reading No	229
Mode	ALLOY
Time	2024-10-14 11:23
Duration	9.99
Sequence	Final
Alloy1	301SS : 2.09
Alloy2	No Match : *2.28
Flags	
SAMPLE	
HEAT	
LOT	
BATCH	
MISC	
NOTE	

	%	±	Error
Sb	< LOD	:	0.039
Sn	< LOD	:	0.052
Pd	< LOD	:	0.038
Ag	< LOD	:	0.182
Al	< LOD	:	80.000
Mo	0.023	±	0.007
Nb	< LOD	:	0.007
Zr	< LOD	:	0.004
Bi	< LOD	:	0.013
Pb	0.029	±	0.013
Se	< LOD	:	0.008
W	< LOD	:	0.091
Zn	< LOD	:	0.037
Cu	< LOD	:	0.138
Ni	8.083	±	0.300
Co	0.535	±	0.255
Fe	71.908	±	0.459
Mn	1.494	±	0.205
Cr	17.581	±	0.261
V	0.174	±	0.072
Ti	< LOD	:	0.129

Sergio Morales

Date: 06-11-24



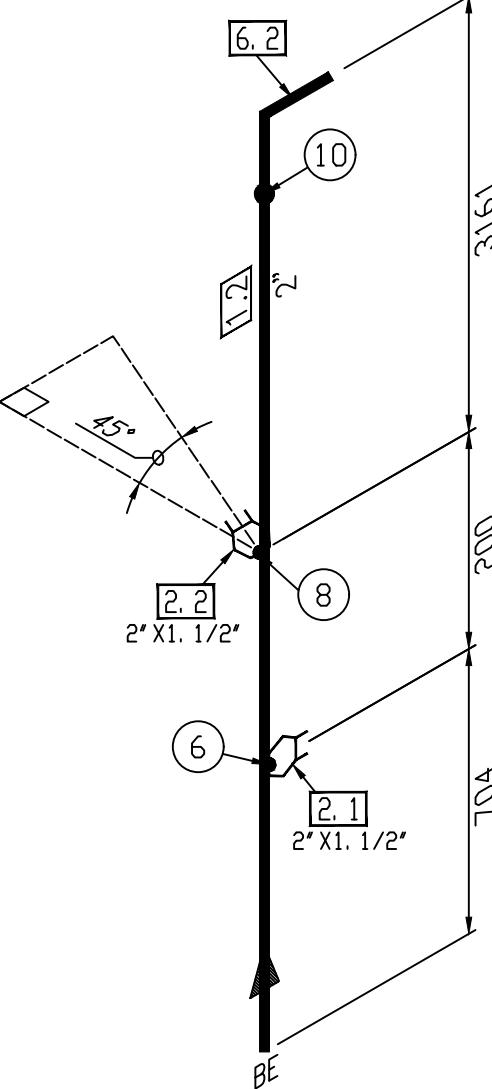
02/12/2024

On behalf of Tecnimont  
QC Welding Inspector

QC02

GABRIEL BOFFELATO  
brief 56220  
ISO EN 9712:2019  
VT/PT/MTR/TOT-TOFD-PA  
Level 2

Type text here

<div style="text-align: center; padding: 10px;">     </div>	<div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> <b>BILL OF MATERIAL</b> </div> <div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> <b>PIPE</b> </div> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>ITEM</th> <th>LENGTH</th> <th>DIAMETER</th> <th>SCH/mm</th> <th>DESCRIPTION / MATERIAL</th> <th>ITEM CODE</th> </tr> </thead> <tbody> <tr> <td>1.2</td> <td>3,987</td> <td>2"</td> <td>S-10S</td> <td>PIPE - A312-TP304/304L DUAL GR BE SMLS, BExBE</td> <td>I3364302</td> </tr> </tbody> </table> <div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> <b>WELD FITTINGS</b> </div> <div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> <b>FORGINGS</b> </div> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>ITEM</th> <th>QT</th> <th>DIAMETER</th> <th>SCH/mm</th> <th>DESCRIPTION / MATERIEL</th> <th>ITEM CODE</th> </tr> </thead> <tbody> <tr> <td>6.2</td> <td>1</td> <td>2"</td> <td>S-10S</td> <td>90 LR ELBOW ASME B16.9 A403-WP304/304L DG BE SMLS</td> <td>I2259133</td> </tr> </tbody> </table> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>ITEM</th> <th>QT</th> <th>DIAMETRE</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 1 1/2"</td> <td>3000#</td> <td>REDUCING SOCKOLET MSS-SP-97 3000# A182-F304/304L DUAL GR BE SWE</td> <td>I2258341</td> </tr> <tr> <td>2.2</td> <td>1</td> <td>2" x 1 1/2"</td> <td>3000#</td> <td>REDUCING SOCKOLET MSS-SP-97 3000# A182-F304/304L DUAL GR BE SWE</td> <td>I2258341</td> </tr> </tbody> </table> <div style="text-align: right; margin-top: 20px;"> <span>P2308S 00994</span>    <span>2121-IA91F13-1-SP02-00994</span> </div> <div style="text-align: right; margin-top: 20px;">  </div> <div style="margin-top: 20px;"> <p>On behalf of Tecnimon/R Piping Supervisor R. Mancino 02-12-24 </p> <p>Sergio Morales Date: 06-11-24 </p> <p>Ref. Drawing: 2121-IA91F13-1   Job #: P2308S   Spool #: 00994   Project: REPSOL PROJETO ALBA NERVION</p> </div> <div style="margin-top: 20px;"> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td>Rev.</td> <td>Date</td> <td>DRW</td> <td>Check 1</td> <td>Check 2</td> <td>Marking Color:</td> <td>GREEN</td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td>Weld Class:</td> <td>6C4-M</td> </tr> <tr> <td>01</td> <td>25/04/2024</td> <td>AOM</td> <td>LRG</td> <td>PCO</td> <td>Paint System:</td> <td>NR</td> </tr> </table> </div> <div style="margin-top: 10px;"> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td>Construction Code:</td> <td>ASME B31.3</td> <td>% RT - YES</td> <td>% UT - NO</td> <td>Hydro:</td> <td>NO</td> <td>ID Cleaning:</td> <td>YES</td> <td>Piece Mark</td> <td>Ref. Drawing</td> <td>Job #</td> <td>Spool #</td> <td>Project</td> </tr> <tr> <td>Acc Criteria:</td> <td>ASME B31.3</td> <td>% PT - YES</td> <td>% FE - NO</td> <td>PWHT:</td> <td>NO</td> <td>OD Cleaning:</td> <td>YES</td> <td rowspan="2">2121-IA91F13-1-SP02-00994</td> <td rowspan="2">2121-IA91F13-1</td> <td rowspan="2">P2308S</td> <td rowspan="2">00994</td> <td rowspan="2">REPSOL PROJETO ALBA NERVION</td> </tr> <tr> <td>Metal Tag:</td> <td>YES</td> <td>% MT - NO</td> <td>% PMI - YES</td> <td>BHN% -</td> <td>NO</td> <td>Tolerances:</td> <td>ASME B31.3</td> </tr> </table> </div>	ITEM	LENGTH	DIAMETER	SCH/mm	DESCRIPTION / MATERIAL	ITEM CODE	1.2	3,987	2"	S-10S	PIPE - A312-TP304/304L DUAL GR BE SMLS, BExBE	I3364302	ITEM	QT	DIAMETER	SCH/mm	DESCRIPTION / MATERIEL	ITEM CODE	6.2	1	2"	S-10S	90 LR ELBOW ASME B16.9 A403-WP304/304L DG BE SMLS	I2259133	ITEM	QT	DIAMETRE	SCH/PRESS.	DESCRIPTION / MATÉRIEL	ITEM CODE	2.1	1	2" x 1 1/2"	3000#	REDUCING SOCKOLET MSS-SP-97 3000# A182-F304/304L DUAL GR BE SWE	I2258341	2.2	1	2" x 1 1/2"	3000#	REDUCING SOCKOLET MSS-SP-97 3000# A182-F304/304L DUAL GR BE SWE	I2258341	Rev.	Date	DRW	Check 1	Check 2	Marking Color:	GREEN						Weld Class:	6C4-M	01	25/04/2024	AOM	LRG	PCO	Paint System:	NR	Construction Code:	ASME B31.3	% RT - YES	% UT - NO	Hydro:	NO	ID Cleaning:	YES	Piece Mark	Ref. Drawing	Job #	Spool #	Project	Acc Criteria:	ASME B31.3	% PT - YES	% FE - NO	PWHT:	NO	OD Cleaning:	YES	2121-IA91F13-1-SP02-00994	2121-IA91F13-1	P2308S	00994	REPSOL PROJETO ALBA NERVION	Metal Tag:	YES	% MT - NO	% PMI - YES	BHN% -	NO	Tolerances:	ASME B31.3
ITEM	LENGTH	DIAMETER	SCH/mm	DESCRIPTION / MATERIAL	ITEM CODE																																																																																													
1.2	3,987	2"	S-10S	PIPE - A312-TP304/304L DUAL GR BE SMLS, BExBE	I3364302																																																																																													
ITEM	QT	DIAMETER	SCH/mm	DESCRIPTION / MATERIEL	ITEM CODE																																																																																													
6.2	1	2"	S-10S	90 LR ELBOW ASME B16.9 A403-WP304/304L DG BE SMLS	I2259133																																																																																													
ITEM	QT	DIAMETRE	SCH/PRESS.	DESCRIPTION / MATÉRIEL	ITEM CODE																																																																																													
2.1	1	2" x 1 1/2"	3000#	REDUCING SOCKOLET MSS-SP-97 3000# A182-F304/304L DUAL GR BE SWE	I2258341																																																																																													
2.2	1	2" x 1 1/2"	3000#	REDUCING SOCKOLET MSS-SP-97 3000# A182-F304/304L DUAL GR BE SWE	I2258341																																																																																													
Rev.	Date	DRW	Check 1	Check 2	Marking Color:	GREEN																																																																																												
					Weld Class:	6C4-M																																																																																												
01	25/04/2024	AOM	LRG	PCO	Paint System:	NR																																																																																												
Construction Code:	ASME B31.3	% RT - YES	% UT - NO	Hydro:	NO	ID Cleaning:	YES	Piece Mark	Ref. Drawing	Job #	Spool #	Project																																																																																						
Acc Criteria:	ASME B31.3	% PT - YES	% FE - NO	PWHT:	NO	OD Cleaning:	YES	2121-IA91F13-1-SP02-00994	2121-IA91F13-1	P2308S	00994	REPSOL PROJETO ALBA NERVION																																																																																						
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	Qty	Size1	Sch1	Size2	Sch2	Description	Heat No	Unit	Weight
Tag No							MTR No	Weight	Kgs
ID No							Folder No		
P2308S	00994	2121-IA91F13-1-SP02-00994	2121-IA91F13-1	01					
1.2	3,987	2.0000	S10S	0.0000	NA	PIPE, SEAMLESS, A312-TP304L	NY231216AS15 0391	3,93	15,67
40391									
6.2	1	2.0000	S10S	0.0000	NA	90 LR ELL, SEAMLESS, A403-WP304L	NY230506AT08 0462	0,49	0,49
42965									
2.1	1	2.0000	NA	1.5000	NA	SOCKOLET, 3000#, A182-F304L	N220606AV04 0503	0,45	0,45
85701									
2.2	1	2.0000	NA	1.5000	NA	SOCKOLET, 3000#, A182-F304L	N220606AV04 0503	0,45	0,45
85701									

On behalf of Tecnímont/R

Piping Supervisor

R. Mancino

02-12-24



Number of Items : 4

Total Weight : 17,06

Signature	QA	Client
		Sergio Morales
		Date: 06-11-24
Date	2024-10-15 14:47:50	

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

**ANALISI CHIMICA - CHEMICAL COMPOSITION**

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

Note - Notes

Firma  
Signature**TECNICATRE**Stainless Steel Experience  
TECNICATRE S.p.A.  
Via delle Viole, 16 - 50012 Montecatini Terme (FI)  
C.F. e P.IVA: 02523320404 - Tel. 055/58078

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

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

**CARATTERISTICHE MECCANICHE - MECHANICAL TEST**

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

Note - Notes

Firma  
Signature

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

## MATERIAL TEST CERTIFICATE

EN10204 3.1

MANUFACTURER: Yingkou Guangming Pipeline Industry Co.,Ltd

MATERIAL: ASTM A403 WP304/304L

DIMENSION: ASME B16.9

WORK NO: GMPPFCP2312363

CUSTOMER: Chero Piping S.p.A.

P.O NO: 1179/2023/O/F

PAGE NO: 20/29

DATE: April.10th,2024

DURATION:

CHEMICAL COMPOSITION%

TESTING

CHEMICAL COMPOSITION%

TESTING

CHEMICAL COMPOSITION%

TESTING

CHEMICAL COMPOSITION%

TESTING

CHEMICAL COMPOSITION%

TESTING

CHEMICAL COMPOSITION%

TESTING

CHEMICAL COMPOSITION%

TESTING



江阴中南重工有限公司  
Jiangyin Zhongnan Heavy Industries  
产品品质证明书 Quality Certificate EN10

表号: ZNHI/QM400-34-1  
修订号: 0

用户(Purchaser): 意大利Technimont

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

材质(Material): ASTM A182-2021 F30C/304L_DUAL												产品执行标准(Product standards): MSS SP-97-2019															
生产批号 Batch No.	产品名称 Designation	规格型号 Dimension	化学成分 Chemical Composition (%)												机械性能 Mechanical Properties												
			单位 Unit	数量 Qty	炉号 Heat No:	C	Si	Mn	S	P	Cr	Ni	Ti	Mo	V	Cu	Nb	Al	N	CE	抗拉强度 $R_{m0.2}(\text{MPa})$	屈服强度 $R_{p0.2}(\text{MPa})$	延伸率 A%	断面收缩率 Z %	冲击试验(J) 0°C ( $\text{C} \times 10^{-5}\text{mm}$ )	硬度 HBW	备注 Remark
2024-01-435-198	REDUCING SOCKETED SWEL	SIZE:1.2" SIZE:2:0.75" 3000.13	PCS	30	N220606AV04	0.019	0.35	1.31	0.002	0.029	18.22	8.13							0.044	607	325	55.5	73	-	-	171/170/164	Ident Code: E223338
2024-01-435-199	REDUCING SOCKETED SWEL	SIZE:1.2" SIZE:2:1" 3000.13	PCS	5	N220606AV04	0.019	0.35	1.31	0.002	0.029	18.22	8.13							0.044	607	325	55.5	73	-	-	171/170/164	Ident Code: E223339
2024-01-435-200	REDUCING SOCKETED SWEL	SIZE:1.2" SIZE:2:1.5" 3000.13	PCS	10	N220606AV04	0.019	0.35	1.31	0.002	0.029	18.22	8.13							0.044	607	325	55.5	73	-	-	171/170/164	Ident Code: E223341
2024-01-435-201	REDUCING SOCKETED SWEL	SIZE:1.3" SIZE:2:0.75" 3000.13	PCS	7	N220606AV04	0.019	0.35	1.31	0.002	0.029	18.22	8.13							0.044	607	325	55.5	73	-	-	171/170/164	Ident Code: E223345
2024-01-435-202	REDUCING SOCKETED SWEL	SIZE:1.4" SIZE:2:0.75" 3000.13	PCS	5	N220606AV04	0.019	0.35	1.31	0.002	0.029	18.22	8.13							0.044	607	325	55.5	73	-	-	171/170/164	Ident Code: E223347
2024-01-435-203	REDUCING SOCKETED SWEL	SIZE:1.4" SIZE:2:1.5" 3000.13	PCS	5	N220606AV04	0.019	0.35	1.31	0.002	0.029	18.22	8.13							0.044	607	325	55.5	73	-	-	171/170/164	Ident Code: E223348
其他检测结果(Other examination and test)												无损检测(NDT)						交货状态 Delivery condition									
尺寸检查 Dimension Inspection	外观检查 Visual Inspection	厚度 Hardness (HBW≤201)	磁粉 MT	着色 PT	超声波 UT	X射线 RT	晶间腐蚀 Intergranular Corrosion Test	备注 Remark						固溶 Solution Annealing													
合格 OK	合格 OK	合格 OK	-	合格 OK	-	合格 OK	合格 OK	PMI OK	PMI OK	PMI OK	PMI OK	PMI OK	PMI OK	固溶 Solution Annealing	固溶 Solution Annealing	固溶 Solution Annealing	固溶 Solution Annealing	固溶 Solution Annealing	固溶 Solution Annealing	固溶 Solution Annealing	固溶 Solution Annealing	固溶 Solution Annealing	固溶 Solution Annealing	固溶 Solution Annealing	固溶 Solution Annealing	固溶 Solution Annealing	
兹证明上述产品的制造、检验和试验，符合上述标准规定及合同要求。 We hereby certify that the products described above have manufactured, inspected and tested in accordance with the specified standards and the contract requirements.																											
专利设备制造许可证编号(Manufacture License of Special Equipment): TS2732E11-2024												检验部门 Stamp of Quality Department						检验专用章 Stamp of Inspection									
检验员(Inspector): 印张	质保工程师(QA Engineer): 印张	签发日期(Date of issue): 2024.04.22																									



Contract : P2300

Drawing : 2121-IA91F13-1

## Welding and QC Report Per Spool

Job : P2300S

Material : Stainless Steel 304, 316, 317

Client : NERVION

Revision : 01

Spool : 00994

Spec : 6C4-M

Project : ALBA

Piece Mark : 2121-IA91F13-1-SP02-00994

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
0006	SOL	1,5	XS	MW.26_SBR	BC	17-09-2024	4712055	BC	17-09-2024	4712055			001099	09-10-2024	000213	09-10-2024		001153	14-10-2024									
0008	SOL	1,5	XS	MW.26_SBR	BC	24-09-2024	4712055	BC	24-09-2024	4712055			001099	09-10-2024	000213	09-10-2024		001153	14-10-2024									
0010	BW	2	S10S	MW.26_BW	BC	24-09-2024	4712055	BC	24-09-2024	4712055			001099	09-10-2024				001153	14-10-2024									

On behalf of Tecnimont  
QC Welding Inspector

GABRIEL RODRIGUES  
 IW&IW / R&D  
 ISO EN 972 certification Level 2  
 VTP/IMRT/UT/TOD-PA

02/12/2024

Notes:

---

---

---

---

Signature

	Client
	Sergio Morales Date: 06-11-24
15-10-2024 14:47:50	



# Shop QC Inspection Report

P2308-001139

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

Job number: P2308S  
 Spool N°: 00994  
 Piece Mark: 2121-IA91F13-1-SP02-00994

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

Control Date: 09-10-2024

Remarks: The results refer to the controlled items

Actions / Tasks List	Required		Done/ Identified
	Yes	No	
Welder / weld list labels printed and pasted on the spool sheet	X	<input type="checkbox"/>	X
Spool Barcode label printed	X	<input type="checkbox"/>	X
Spool is identified with the metal tag	X	<input type="checkbox"/>	X
Spool stencil required (hard stamp low stress)	<input type="checkbox"/>	X	<input type="checkbox"/>
Joint preparation & cleanliness / spool dimensions checked	X	<input type="checkbox"/>	X
Level, plumb, Two holes, flanges and internal alignment, Squareness	X	<input type="checkbox"/>	X
Material checked (type of material, rate, heat numbers, filler material, etc.)	X	<input type="checkbox"/>	X
Welders list match with actual welder stencil / Id. on pipe	X	<input type="checkbox"/>	X
PWHT- Spool identified as per Procedure / Instruction for PWHT	<input type="checkbox"/>	X	<input type="checkbox"/>
HT ( Hardness Test)- Welds identified as per Procedure / Instruction	<input type="checkbox"/>	X	<input type="checkbox"/>
MT - Welds identified as per Procedure / Instruction	<input type="checkbox"/>	X	<input type="checkbox"/>
PT - Welds identified as per Procedure / Instruction	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: RODRIGUES(ST), VITOR (N2 VT/PT) Date: 09-10-2024 Signature 	QA/QC Inspection: RAIMUNDO, MARIANA Date: 15-10-2024 14:47:50 Signature 	Customer Inspection: <b>Sergio Morales</b> Date: 06-11-24 Signature  On behalf of Tecnimont
--	---	--

02/12/2024 QC Welding Inspector


 GABRIEL PORTELA  
 ISO EN 9712 certified welding supervisor  
 VTP/TMTR/TOT-TOFD-PD  
 15-10-2024 15:20:27

# Visual Examination Report (Welds)

P2308-001099

Contract : P2308

Job number: P2308S

Material: Stainless Steel 304, 316, 317

Client : NERVION

Spool Nº: 00994

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

Project : ALBA

Piece Mark: 2121-IA91F13-1-SP02-00994

Testing Date: 09-10-2024

Remarks: The results refer to the controlled items

Unacceptable indications for welding

ACCEPTANCE CRITERIA : ASME B31.3

Weld reinforcement greater than specified in project procedure

The illumination of the surface must be at least 500 lux. However, a value of 1000lux is recommended

Any linear indications greater than specified in project procedure, surface porosity with rounded indications having a dimension greater than specified project procedure

Indications of lack of fusion open to the surface / Cracks located on external surfaces

Surface finish that could interfere with other testing required

Incomplete penetration of welds / Indications of undercut on surfaces which are greater than specified in project procedure

Misalignment greater than specified in applicable code or poor fit up of weld joints

Identification			Temp. (°F/°C)	Accepted	Rejected	Defect	Technique Used	Comments
Weld No.	Weld Desc.	Welder						
0006	1.5000 XS SOL-Sockolet to Header Weld (MW.26_SBR)	BC	22	X			Direct	
0008	1.5000 XS SOL-Sockolet to Header Weld (MW.26_SBR)	BC	22	X			Direct	
0010	2.0000 S10S BW-Buttweld Straight (MW.26_BW)	BC	22	X			Direct	

Sketch / Photo:

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

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

QA/QC Inspection: RAIMUNDO, MARIANA

Customer Inspection:

Date: 09-10-2024

Date: 15-10-2024 14:47:50

Sergio Morales

Signature



Signature



Date: 06-11-24


On behalf of Tecnimont  
QC Welding Inspector

Type text here

GABRIEL BONFIM  
Weld Inspector  
ISO EN 9712 Certified Level 2  
VT/PT/MT/RT/UT TOFD PA



## Liquid Penetrant Examination Report

P2308-000213

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

~~Job number: P23085~~

Material: Stainless Steel 304, 316, 317

Spool N°: 00994

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

Piece Mark: 2121-IA91F13-1-SP02-00994

Testing Date: 09-10-2024

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	Welder	Tem (°F/°C)	Dwell Time (min)				Examin Time	Accepted		
				Penetrant	Cleaner	Developer	Lighting		yes	No Indication	Remarks
0006	1.5000 XS SOL-Sockolet to Header Weld (MW.26_SBR)	BC	20	20 m	-	10 m	-	-	X		
0008	1.5000 XS SOL-Sockolet to Header Weld (MW.26_SBR)	BC	20	20 m	-	10 m	-	-	X		

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: 09-10-2024

Date: 09-10-2024

**Signature**



### Signature



Sergio Morales



02/12/2024 On behalf of Tecnimont  
QC Welding Inspector

**GABRIEL BOFFAZATU**  
INVENTOR & INNOVATION LEADER  
ISO EN 9712 CERTIFICATION LEVEL 2  
VTI PTI TMT RTI UT TOFD - PA



# Positive Material Identification Report (PMI)

P2308-001153

Client : NERVION  
 Contract : P2308 / Project : ALBA

Remarks: The results refer to the controlled items

Job number: P2308S

Spool N°: 00994

Piece Mark: 2121-IA91F13-1-SP02-00994

Material: Stainless Steel 304, 316, 317

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

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

Equipment Deviation : + - 5%

Testing Date: 14-10-2024

Weld / Item No	Description	Reading Number	Chemical Elements										Accepted	Rejected	Comments
			%Ti	%Mo	%Cu	%Ni	%Fe	%Mn	%Cr	%Nb	%Al	%V			
0006	1.5000 XS SOL-Sockolet to Header Weld (MW.26_SBR)	202	0	0	0	9	69	1	18	0	0	0	X		
0008	1.5000 XS SOL-Sockolet to Header Weld (MW.26_SBR)	203	0	0	0	9	68	1	19	0	0	0	X		
0010	2.0000 S10S BW-Buttweld Straight (MW.26_BW)	204	0	0	0	8	69	1	19	0	0	0	X		
1.2	2.0000 S10S PIPE, SEAMLESS, A312-TP304L (NY231216AS15)	199	0	0	0	8	72	1	17	0	0	0	X		
2.1	2.0000 NA 1.5000 NA SOCKOLET, 3000#, A182-F304L (N220606AV04)	201	0	0	0	8	71	1	18	0	0	0	X		
2.2	2.0000 NA 1.5000 NA SOCKOLET, 3000#, A182-F304L (N220606AV04)	200	0	0	0	7	72	1	17	0	0	0	X		
6.2	2.0000 S10S 90 LR ELL, SEAMLESS, A403-WP304L (NY230506AT08)	198	0	0	0	8	71	1	17	0	0	0	X		

On behalf of Tecnimont

Type text here QC Welding Inspector

GABRIEL BOFFELATO  
INT'L INDUS. PROJ. CO., LTD.  
ISO EN 9712 certified welding level  
VT/PT/MT/RT/UT-TOD-A

02/12/2024

Test Performed by: GONCALVES(QA), J. (N2 PT/RT) QA/QC Inspection: RAIMUNDO, MARIANA  
 Date: 14-10-2024

Signature

Date: 15-10-2024 14:47:50

Signature

Customer Inspection: Sergio Morales  
 Date:

Signature Date: 06-11-24

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

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

## Certificate of PMI Reading

XL3t-32735

Reading No	202
Mode	ALLOY
Time	2024-10-14 10:48
Duration	12.31
Sequence	Final
Alloy1	304SS : 0.25
Alloy2	No Match : *2.09
Flags	
SAMPLE	
HEAT	
LOT	
BATCH	
MISC	
NOTE	

	%	±	Error
Sb	< LOD	:	0.044
Sn	< LOD	:	0.052
Pd	< LOD	:	0.040
Ag	< LOD	:	0.144
Al	< LOD	:	80.000
Mo	0.046	±	0.008
Nb	0.010	±	0.005
Zr	< LOD	:	0.004
Bi	< LOD	:	0.006
Pb	< LOD	:	0.028
Se	< LOD	:	0.009
W	< LOD	:	0.130
Zn	< LOD	:	0.037
Cu	< LOD	:	0.162
Ni	9.675	±	0.317
Co	< LOD	:	0.495
Fe	69.086	±	0.464
Mn	1.829	±	0.211
Cr	18.720	±	0.268
V	< LOD	:	0.141
Ti	< LOD	:	0.164

On behalf of Tecnimont  
QC Welding Inspector

Sergio Morales



Date: 06-11-24

GABRIEL BOCCARD  
ISO EN 9712 Certified Welder  
VIP-PMTR-TOT-TOD-PA

02/12/2024

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

## Certificate of PMI Reading

XL3t-32735

---

Reading No	203
Mode	ALLOY
Time	2024-10-14 10:49
Duration	11.48
Sequence	Final
Alloy1	321SS : 0.92
Alloy2	No Match : 1.61
Flags	
SAMPLE	
HEAT	
LOT	
BATCH	
MISC	
NOTE	

---

	%	±	Error
Sb	< LOD	:	0.036
Sn	< LOD	:	0.047
Pd	< LOD	:	0.034
Ag	< LOD	:	0.184
Al	< LOD	:	80.000
Mo	0.042	±	0.007
Nb	< LOD	:	0.007
Zr	< LOD	:	0.003
Bi	< LOD	:	0.007
Pb	< LOD	:	0.033
Se	< LOD	:	0.011
W	< LOD	:	0.083
Zn	< LOD	:	0.027
Cu	< LOD	:	0.148
Ni	9.555	±	0.294
Co	< LOD	:	0.463
Fe	68.740	±	0.432
Mn	1.743	±	0.196
Cr	19.292	±	0.254
V	< LOD	:	0.127
Ti	< LOD	:	0.168

---

Sergio Morales

Date: 06-11-24



02/12/2024 On behalf of Tecnimont

QC Welding Inspector

GABRIEL RODRIGUES  
INTERVIEW & DOCUMENTATION LEVEL 2  
VIRUTAL/REMOTE TO FO PA  
ISO EN 17020 certification level 2

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

## Certificate of PMI Reading

XL3t-32735

Reading No	204
Mode	ALLOY
Time	2024-10-14 10:49
Duration	10.75
Sequence	Final
Alloy1	304SS : 0.01
Alloy2	No Match : *2.10
Flags	
SAMPLE	
HEAT	
LOT	
BATCH	
MISC	
NOTE	

	%	±	Error
Sb	< LOD	:	0.040
Sn	< LOD	:	0.050
Pd	< LOD	:	0.035
Ag	< LOD	:	0.178
Al	< LOD	:	80.000
Mo	0.034	±	0.007
Nb	< LOD	:	0.008
Zr	< LOD	:	0.003
Bi	< LOD	:	0.018
Pb	< LOD	:	0.016
Se	< LOD	:	0.009
W	< LOD	:	0.093
Zn	< LOD	:	0.034
Cu	< LOD	:	0.144
Ni	8.667	±	0.289
Co	< LOD	:	0.477
Fe	69.855	±	0.439
Mn	1.669	±	0.199
Cr	19.101	±	0.257
V	< LOD	:	0.129
Ti	< LOD	:	0.149

Sergio Morales

Date: 06-11-24



On behalf of Tecnimont

02/12/2024 QC Welding Inspector

GABRIEL BONFANTE  
ISO 9609-1  
VPT-BRASIL  
CERTIFICADO N.º 001-1000-PA

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

## Certificate of PMI Reading

XL3t-32735

Reading No	199
Mode	ALLOY
Time	2024-10-14 10:47
Duration	11.26
Sequence	Final
Alloy1	304SS : 1.76
Alloy2	No Match : *1.92
Flags	
SAMPLE	
HEAT	
LOT	
BATCH	
MISC	
NOTE	

	%	±	Error
Sb	< LOD	:	0.035
Sn	< LOD	:	0.048
Pd	< LOD	:	0.037
Ag	< LOD	:	0.136
Al	< LOD	:	80.000
Mo	0.019	±	0.006
Nb	< LOD	:	0.005
Zr	< LOD	:	0.005
Bi	< LOD	:	0.007
Pb	< LOD	:	0.002
Se	< LOD	:	0.007
W	< LOD	:	0.092
Zn	< LOD	:	0.027
Cu	< LOD	:	0.137
Ni	8.144	±	0.282
Co	< LOD	:	0.472
Fe	72.039	±	0.434
Mn	1.434	±	0.191
Cr	17.794	±	0.247
V	0.132	±	0.065
Ti	< LOD	:	0.143

02/12/2024

Sergio Morales

Date: 06-11-24



On behalf of Tecnimont

QC Welding Inspector

GABRIEL BOFFETTO  
INTERNAUTA CONSULTORES S.A.  
ISO EN 9609 CERTIFIED  
VERIFICADO POR TECNIMONT PA

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

## Certificate of PMI Reading

XL3t-32735

Reading No	201
Mode	ALLOY
Time	2024-10-14 10:48
Duration	10.29
Sequence	Final
Alloy1	304SS : 0.36
Alloy2	No Match : *2.10
Flags	
SAMPLE	
HEAT	
LOT	
BATCH	
MISC	
NOTE	

	%	±	Error
Sb	< LOD	:	0.039
Sn	< LOD	:	0.049
Pd	< LOD	:	0.035
Ag	< LOD	:	0.167
Al	< LOD	:	80.000
Mo	0.011	±	0.005
Nb	< LOD	:	0.007
Zr	< LOD	:	0.004
Bi	< LOD	:	0.013
Pb	< LOD	:	0.017
Se	< LOD	:	0.006
W	< LOD	:	0.074
Zn	< LOD	:	0.030
Cu	< LOD	:	0.126
Ni	8.126	±	0.281
Co	< LOD	:	0.472
Fe	71.799	±	0.433
Mn	1.216	±	0.189
Cr	18.142	±	0.250
V	0.217	±	0.073
Ti	< LOD	:	0.152

Sergio Morales

Date: 06-11-24



On behalf of Tecnimont

QC Welding Inspector

GABRIEL BONFANTI  
INTERTECHNICAL CONSULTING  
ISO EN 9609-1 CERTIFIED  
VITRIMONT TECNIMONT - PA

02/12/2024

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

## Certificate of PMI Reading

XL3t-32735

Reading No	200
Mode	ALLOY
Time	2024-10-14 10:48
Duration	8.87
Sequence	Final
Alloy1	301SS : 1.31
Alloy2	No Match : 1.89
Flags	
SAMPLE	
HEAT	
LOT	
BATCH	
MISC	
NOTE	

	%	±	Error
Sb	< LOD	:	0.038
Sn	0.058	±	0.028
Pd	< LOD	:	0.037
Ag	< LOD	:	0.124
Al	< LOD	:	80.000
Mo	< LOD	:	0.011
Nb	< LOD	:	0.007
Zr	< LOD	:	0.004
Bi	< LOD	:	0.002
Pb	< LOD	:	0.019
Se	< LOD	:	0.007
W	< LOD	:	0.100
Zn	< LOD	:	0.025
Cu	< LOD	:	0.149
Ni	7.841	±	0.307
Co	< LOD	:	0.521
Fe	72.213	±	0.478
Mn	1.377	±	0.212
Cr	17.970	±	0.275
V	0.206	±	0.079
Ti	< LOD	:	0.157

---

Sergio Morales

Date: 06-11-24



02/12/2024

On behalf of Tecnimont  
QC Welding Inspector

QW Welding Inspector  
GABRIEL BONFILIAU  
INT'L WELDING INSPECTOR  
ISO EN 9712 Certified Welder Level 2  
VT/P/MT/R/T/UT-TOFD - PA

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

## Certificate of PMI Reading

XL3t-32735

Reading No	198
Mode	ALLOY
Time	2024-10-14 10:47
Duration	9.40
Sequence	Final
Alloy1	304SS : 1.47
Alloy2	No Match : *1.93
Flags	
SAMPLE	
HEAT	
LOT	
BATCH	
MISC	
NOTE	

	%	±	Error
Sb	< LOD	:	0.042
Sn	< LOD	:	0.054
Pd	< LOD	:	0.042
Ag	< LOD	:	0.213
Al	< LOD	:	80.000
Mo	< LOD	:	0.010
Nb	< LOD	:	0.007
Zr	< LOD	:	0.004
Bi	< LOD	:	0.014
Pb	< LOD	:	0.017
Se	< LOD	:	0.009
W	< LOD	:	0.094
Zn	< LOD	:	0.028
Cu	< LOD	:	0.146
Ni	8.141	±	0.314
Co	< LOD	:	0.528
Fe	71.719	±	0.484
Mn	1.565	±	0.216
Cr	17.890	±	0.276
V	< LOD	:	0.146
Ti	< LOD	:	0.162

Sergio Morales

Date: 06-11-24



On behalf of Tecnimont  
QC Welding Inspector

02/12/2024

GABRIEL BOFF FAMU  
ISO 9001:2015  
CERTIFICATE OF CONFORMITY  
Lote 3 - Montalvo - Portugal

Type text here

N		BILL OF MATERIAL								
		PIPE								
		ITEM	LENGTH	DIAMETER	SCH/mm	DESCRIPTION / MATERIAL		ITEM CODE		
1.4		1,220	2"	S-10S	PIPE - A312-TP304/304L DUAL GR BE SMLS, BExBE		I3364302			
1.5		4,178	2"	S-10S	PIPE - A312-TP304/304L DUAL GR BE SMLS, BExBE		I3364302			
1.6		0,712	2"	S-10S	PIPE - A312-TP304/304L DUAL GR BE SMLS, BExPE		I3364302			
1.8		4,891	2"	S-10S	PIPE - A312-TP304/304L DUAL GR BE SMLS, BExPE		I3364302			
WELD FITTINGS										
		ITEM	QT	DIAMETER	SCH/mm	DESCRIPTION / MATERIAL		ITEM CODE		
6.3		1	2"	S-10S	90 LR ELBOW ASME B16.9 A403-WP304/304L DG BE SMLS		I2259133			
FORGINGS										
		ITEM	QT	DIAMÉTRE	SCH/PRESS.	DESCRIPTION / MATERIEL		ITEM CODE		
2.3		1	2" x 1 1/2"	3000#	REDUCING SOCKOLET MSS-SP-97 3000# A182-F304/304L DUAL GR BE SWE		I2258341			
2.4		1	2" x 1 1/2"	3000#	REDUCING SOCKOLET MSS-SP-97 3000# A182-F304/304L DUAL GR BE SWE		I2258341			
2.5		1	2" x 1 1/2"	3000#	REDUCING SOCKOLET MSS-SP-97 3000# A182-F304/304L DUAL GR BE SWE		I2258341			
3.1		1	2" x 1"	3000#	REDUCING SOCKOLET MSS-SP-97 3000# A182-F304/304L DUAL GR BE SWE		I2258339			
3.2		1	2" x 1"	3000#	REDUCING SOCKOLET MSS-SP-97 3000# A182-F304/304L DUAL GR BE SWE		I2258339			
5.1		1	2" x 1/2"	3000#	REDUCING SOCKOLET MSS-SP-97 3000# A182-F304/304L DUAL GR BE SWE		I2258337			
Weld Map Sticker										
						P2308S 00995				
						2121-IA91F13-1-SP04-00995				
Rev.	Date	DRW	Check 1	Check 2						
					Marking Color: GREEN					
					Weld Class: 6C4-M					
01	25/04/2024	AOM	LRG	PCO	Paint System: NR					
Construction Code:		ASME B31.3	% RT -	YES	% UT -	NO	Hydro:	NO		
Acc Criteria:		ASME B31.3	% PT -	YES	% FE -	NO	PWHT:	NO		
Metal Tag:		YES	% MT -	NO	% PMI -	YES	BHN% -	NO		
ID Cleaning: YES					OD Cleaning: YES		Piece Mark			
							Ref. Drawing			
							Job #			
							Spool #			
							Project			

# Spool Material List

Contract : P2308

Client NERVION

Job : P2308S

Project ALBA

Job	Spool	Piece Mark					Drawing	Rev		
Item No	Qty	Size1	Sch1	Size2	Sch2	Description		Heat No	Unit	Weight
Tag No								MTR No	Weight	Kgs
ID No								Folder No		
P2308S	00995	2121-IA91F13-1-SP04-00995					2121-IA91F13-1		01	
1.4	1,22	2.0000	S10S	0.0000	NA	PIPE, SEAMLESS, A312-TP304L		NY231216AS15	3,93	4,79
40391								0391		
1.6	,712	2.0000	S10S	0.0000	NA	PIPE, SEAMLESS, A312-TP304L		NY231216AS15	3,93	2,80
40391								0391		
1.5	4,178	2.0000	S10S	0.0000	NA	PIPE, SEAMLESS, A312-TP304L		NY231216AS15	3,93	16,42
40391								0391		
1.8	4,891	2.0000	S10S	0.0000	NA	PIPE, SEAMLESS, A312-TP304L		NY231216AS15	3,93	19,22
40391								0391		
6.3	1	2.0000	S10S	0.0000	NA	90 LR ELL, SEAMLESS, A403-WP304L		NY230506AT08	0,49	0,49
42965								0462		
5.1	1	2.0000	NA	0.5000	NA	SOCKOLET, 3000#, A182-F304L		280455	0,14	0,14
88704								0299		
3.1	1	2.0000	NA	1.0000	NA	SOCKOLET, 3000#, A182-F304L		N220606AV04	0,01	0,01
85700								0502		
3.2	1	2.0000	NA	1.0000	NA	SOCKOLET, 3000#, A182-F304L		174037	0,01	0,01
85700								0298		
2.3	1	2.0000	NA	1.5000	NA	SOCKOLET, 3000#, A182-F304L		N220606AV04	0,45	0,45
85701								0503		
2.4	1	2.0000	NA	1.5000	NA	SOCKOLET, 3000#, A182-F304L		N220606AV04	0,45	0,45
85701								0503		
2.5	1	2.0000	NA	1.5000	NA	SOCKOLET, 3000#, A182-F304L		N220606AV04	0,45	0,45
85701								0503		

On behalf of Tecnimont/R

Piping Supervisor

R. Mancino

02-12-24



Number of Items : 11

Total Weight :

45,23

Signature	QA	Client
	 QA / QC	Sergio Morales
Date	2024-10-22 11:21:42	Date: 06-11-24

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

**ANALISI CHIMICA - CHEMICAL COMPOSITION**

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

Note - Notes

Firma  
Signature

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

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

**CARATTERISTICHE MECCANICHE - MECHANICAL TEST**

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

Note - Notes

Firma  
Signature

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

## MATERIAL TEST CERTIFICATE

EN10204 3.1

MANUFACTURER: Yingkou Guangming Pipeline Industry Co.,Ltd

MATERIAL: ASTM A403 WP304/304L

DIMENSION: ASME B16.9

WORK NO: GMPPFCP2312363

CUSTOMER: Chero Piping S.p.A.

P.O NO: 1179/2023/O/F

PAGE NO: 20/29

DATE: April.10th,2024

DURATION:

CHEMICAL COMPOSITION%

TESTING

CHEMICAL COMPOSITION%

TESTING

CHEMICAL COMPOSITION%

TESTING

CHEMICAL COMPOSITION%

TESTING

CHEMICAL COMPOSITION%

TESTING

CHEMICAL COMPOSITION%

TESTING

CHEMICAL COMPOSITION%

TESTING

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

POS.	TEST No.	HEAT CODE	HEAT NUMBER	Q.TY	DESCRIPTION / MAT./REQUISIT. - TAG N. - ITEM CODE - COMPUTER CODE - UB / ENCLOSURE - NOTES
172	1	59052	P52	286124	18.00 90° ELBOW SW SI/3000 A182F316/316L 1/2" / C/C: I2235149 - CR: MR ITEM NO.49 XH0212 - CC: R31FNL1M103
176	1	60059	B16P	1V2B	447.00 90° ELBOW SW SI/3000 A182F304/304L 1" / C/C: I2258117 - CR: MR ITEM NO.53 XH0212 - CC: R31FNL2A1703
180	1	59269	P55	0TNH	36.00 45° ELBOW SW SI/3000 A182F304/304L 1" / C/C: I2258129 - CR: MR ITEM NO.57 XH0212 - CC: R32FNL2A1701
181	1	48676		273641	5.00 CAP FEMALE SW SI/3000 A182F316/316L 3/4" / C/C: I2235185 - CR: MR ITEM NO.59 XH0212 - CC: R41FNL1M107
182	1	56611		072541	1.00 CAP FEMALE SW SI/3000 A182F304/304L 1/2" / C/C: I2259124 - CR: MR ITEM NO.61 XH0212 - CC: R41FNL2A101
183	1	46280		406025	9.00 CAP FEMALE SW SI/3000 A182F304/304L 3/4" / C/C: I2259125 - CR: MR ITEM NO.62 XH0212 - CC: R41FNL2A1001
184	1	59345		285338	10.00 FULL COUPLING SW SI/3000 A182F304/304L 1/2" / C/C: I2258103 - CR: MR ITEM NO.64 XH0212 - CC: R01FNL2A1701
185	1	59752		174248	10.00 FULL COUPLING SW SI/3000 A182F304/304L 3/4" / C/C: I2258104 - CR: MR ITEM NO.65 XH0212 - CC: R07FNL2A1701
186	1	59752		174248	5.00 FULL COUPLING SW SI/3000 A182F304/304L 1" / C/C: I2258105 - CR: MR ITEM NO.66 XH0212 - CC: R01FNL2A1701
187	1	59538		174577	10.00 FULL COUPLING SW SI/3000 A182F304/304L 11/2" / C/C: I2258107 - CR: MR ITEM NO.67 XH0212 - CC: R07FNL2A1701
188	1	60080		367770	1.00 PIPE NIPPLE POE-TOE Sch.80S A31/P104/304L 3/4" L100mm / C/C: I2258068 - CR: MR ITEM NO.68 XH0212 - CC: R03AQL2CW04
189	1	59881		272546	4.00 CONC.SWAGE LEB-SEP Sch.40S/A40SWP304/304L 2"x11/2" / C/C: I2258973 - CR: MR ITEM NO.69 XH0212 - CC: R21FQL2FVZ04
195	1	59881		272546	1.00 ECC.SWAGE LEB-SEP Sch.40S/A40SWP304/304L 2"x3/4" / C/C: I2258065 - CR: MR ITEM NO.75 XH0212 - CC: R22FQL2FVZ04
196	1	59881		272546	3.00 ECC.SWAGE LEB-SEP Sch.40S/A40SWP304/304L 2"x3/4" / C/C: I2496326 - CR: MR ITEM NO.78 XH0212 - CC: R22FQL2FVZ04
198	1	686		6852	5.00 CAP FEMALE SW SI/3000 A182F316/316L 1/2" / C/C: I2235184 - CR: MR ITEM NO.80 XH0212 - CC: R41FNL1M1001
199	1	59346		287142	1.00 CAP FEMALE NPT SI/3000 A182F304/304L 3/4" / C/C: I2259129 - CR: MR ITEM NO.81 XH0212 - CC: R41FNL2A2001
200	1	54228	W3TE	1.00 ROUND HEAD PLUG NPT SI/3000 A182F304/304L 3/4" / C/C: I2260792 - CR: MR ITEM NO.82 XH0212 - CC: R42FQL2A1001	
308	1	57876	I020	280455	5.00 WELDOLET BW Sch.80S/A40S A182F304/304L 1/2"x2" / C/C: I2496795 - CR: MR ITEM NO.1 XH0222 - CC: C35DL2A101
309	1	58449	OJPC	1.00 WELDOLET BW Sch.80S/A40S A182F304/304L 1"x2" / C/C: I2498797 - CR: MR ITEM NO.2 XH0222 - CC: C35DL2A101	
311	1	58313		172917	1.00 WELDOLET BW Sch.40S/A40S A182F304/304L 3/4"x24" / C/C: I2260663 - CR: MR ITEM NO.5 XH0222 - CC: C35DL1M101
312	1	59056	E-LJ	521631	5.00 SOCKET SW SI/3000 A182F316/316L 3/4"x3" / C/C: I2250462 - CR: MR ITEM NO.7 XH0222 - CC: R13DNL1M101
313	1	58450		284688	5.00 SOCKET SW SI/3000 A182F316/316L 1"x3" / C/C: I2250493 - CR: MR ITEM NO.8 XH0222 - CC: R13DNL1M101

NOTES

THIS IS TO CERTIFY THAT MATERIAL IS IN FULL COMPLIANCE TO PURCHASE ORDER AND APPLICABLE SPECIFICATIONS.  
 FITTING SUPPLIED ARE ACC.TO ASME B16.11, MSS SP-97, MSS SP-83 AS APPLICABLE AND MARKED ACCORDING TO MSS SP-25. ALL STANDARDS ARE IN LATEST EDITION.  
 MATERIAL ACC.TO ASTM IN.L.E. AND ASME II ED.2021. MATERIAL ACC. TO NACE MR01.75 ED.2015 AND PED 2014/68/UE ANNEX 1.  
 VISUAL, DIMENSIONAL AND MARKING CHECK HAVE BEEN CARRIED OUT WITH SATISFACTORY RESULTS.  
 STAINLESS STEEL FITTINGS ARE PICKLED AND PASSIVATED IN ACCORDANCE WITH ASME A380.

CUSTOMER INSPECTOR

THIRD PARTS

QUALITY CONTROL

Laura Paganuzzi

*J. Paganuzzi*

CHERO PIPING S.P.A.

BUREAU VERITAS	ITALY
2 <sup>nd</sup> PARTY INSPECTION ON BEHALF OF	TCH
WITNESSED	NOTED
SURVEYOR: S. NEGRINI	REVIEWED
DATE 1/1 - 15 DEC 2022	

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

### Materials Heat Number Summary

TEST No.	MATERIAL SPECIFICATION AND GRADE	HEAT NUMBER	BASE MATERIAL CERTIFICATE REF.	STEEL WORKS
39020	ASTM A182-22 F304/F304L	365767	181/334	OLARRA
46280	ASTM A182-22 F304/F304L	406025	261114	OLARRA
52765	ASTM A182-22 F304/F304L	468165	371065	OLARRA
54228	ASTM A182-22 F304/F304L	W31TE	2019/015552	ROLDAN
54285	ASTM A182-22 F304/F304L	481150	395730	OLARRA
55556	ASTM A182-22 F304/F304L	279394	MEST/52750/02020	ACCIARIE VALBRUNA
56611	ASTM A182-22 F304/F304L	072541	030226	COGNE ACCIAI SPECIALI
57429	ASTM A182-22 F304/F304L	072996	20210/0433	COGNE ACCIAI SPECIALI
57876	ASTM A182-22 F304/F304L	280455	MEST/548926/2020	ACCIARIE VALBRUNA
58313	ASTM A182-22 F304/F304L	172917	20210/23605	COGNE ACCIAI SPECIALI
58416	ASTM A182-22 F304/F304L	514059	449964	OLARRA
58449	ASTM A182-22 F304/F304L	OJPC	2021/069174	ROLDAN S.A.
58474	ASTM A182-22 F304/F304L	515098	452941	OLARRA
58602	ASTM A182-22 F304/F304L	573084	2015/061497	COGNE ACCIAI SPECIALI
58609	ASTM A182-22 F304/F304L	514786	452546	OLARRA
59054	ASTM A182-22 F304/F304L	515098	452941	OLARRA
59202	ASTM A182-22 F304/F304L	17369	20210/56230	COGNE
59269	ASTM A182-22 F304/F304L	OTNH	2021/012547	ROLDAN S.A.
59345	ASTM A182-22 F304/F304L	286338	MEST/863/112/2022	ACCIARIE VALBRUNA
59346	ASTM A182-22 F304/F304L	287142	MEST/863/113/2022	ACCIARIE VALBRUNA
59412	ASTM A182-22 F304/F304L	526509	472548	OLARRA
59538	ASTM A182-22 F304/F304L	174577	2022/006080	COGNE
59586	ASTM A182-22 F304/F304L	174578	2022/002830	COGNE
59752	ASTM A182-22 F304/F304L	174248	2021/057503	COGNE
59790	ASTM A182-22 F304/F304L	287723	MEST/883/375/2022	ACCIARIE VALBRUNA
59881	ASTM A182-22 F304/F304L	272546	2020/166559	COGNE
59959	ASTM A182-22 F304/F304L	174037	2021/048041	COGNE
60059	ASTM A182-22 F304/F304L	1VZB	2022/005128	ROLDAN S.A.
60212	ASTM A182-22 F304/F304L	538845	492348	OLARRA
60858	ASTM A182-22 F304/F304L	1RWL	2022/012165	ROLDAN S.A.
48676	ASTM A182-22 F316/F316L	273641	MEST/095863/2017	ACCIARIE VALBRUNA
55354	ASTM A182-22 F316/F316L	281487	MEST/50234/1/2019	ACCIARIE VALBRUNA
56932	ASTM A182-22 F316/F316L	072865	043593	COGNE ACCIAI SPECIALI
58450	ASTM A182-22 F316/F316L	284568	MEST/7765246/2021	ACCIARIE VALBRUNA

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

CUSTOMER INSPECTOR

THIRD PARTS

QUALITY CONTROL

NOTES

Laura Paganuzzi

J. Fogorudi

CHERO PIPING S.P.A.

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





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

CUSTOMER ORDER REF.  
**7500107587 - 25/10/2022**

---

CUSTOMER  
**TECNIMONT S.P.A.**

SHEET  
19/25

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

Serial Number	W3TE-0001
Mn %	1.510
Cr %	18.674
N %	8.119

PMI Test - Position 200: ROUND HEAD PLUG NPT S/3000 A182F304/304L 3/4"

<i>Material Spec. and Grade</i>	<i>Heat Number</i>	<i>Procedure Number</i>	<i>Applicable Standard</i>	<i>Instrument</i>
ASTM A403 WP34U/WP34U	W31E	CHERO-QA-PMI-8	ASTM E572	NITON XL2-SN93371

Serial W3TE-0007

**Test - Position 308: WELDOLET BW Sch.80S/40**

Heat Number	Procedure Number	Chemical Name
280455	E304/E304I	CHERO-DA-PMI-8

Serial Number 280455-0001

Mn %	1.746
Cr %	19.000

Test Position 2000: WHEN DO YOU GET YOUR SODA DRINKS AND SNACKS?

**Material Spec. and Grade**      **Heat Number**      **Production Number**

ASTM A182-22 F304/F304L		OJPC
	Serial Number	OJPC-0001
Mn %		1.468
Cr %		18.000

INT %a 8.016

Material Spec. and Grade	Heat Number	Procedure Number	Applicable Standard	Quantity Inspected %	Instrument
test - Position 311: WELDULE BW Sch.4UNS-N08 A182F304/3104L 34x24"					

ASIMAI 102-22730473047  
112917 CHERU-QA-PMI-3

11/23/11-0001	
Specimen Number	Mn %
	1.327
C %	18.655
Ni %	8.000

Material Specs and Grade      Heat Number      Date

110

卷之三

QUALITY CONTROL

Laura Paiganuzzi

J. Fagundes

CHEBO BIPING S P A

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

POS.	TEST No.	HEAT CODE	HEAT NUMBER	Q.TY	DESCRIPTION / MAT. REQUISIT. - TAG N. - ITEM CODE - COMPUTER CODE - UB / ENCLOSURE - NOTES
314	1	59056	E-LJ	521831	5,00 SOCKOLET SW Si/3000 A182F3/16/316L 3/4"x4" / C/C: 12250468 - CR: MR ITEM NO.9 XH0222 - CC: R13DNL1M/107
315	1	55354	I20N	281487	5,00 SOCKOLET SW Si/3000 A182F3/16/316L 11/12"x4" / C/C: 12250549 - CR: MR ITEM NO.10 XH0222 - CC: R13DNL1M/107
316	1	57876	I020	280455	5,00 SOCKOLET SW Si/3000 A182F3/304L 11/12"x4" / C/C: 12256337 - CR: MR ITEM NO.11 XH0222 - CC: R13DNL2A/107
317	1	58474		515098	20,00 SOCKOLET SW Si/3000 A182F3/304/304L 3/4"x2" / C/C: 12256338 - CR: MR ITEM NO.12 XH0222 - CC: R13DNL2A/107
318	1	59959	E-OE	174037	15,00 SOCKOLET SW Si/3000 A182F3/304/304L 11"x2" / C/C: 12256339 - CR: MR ITEM NO.13 XH0222 - CC: R13DNL2A/107
319	1	588609	I160	514786	10,00 SOCKOLET SW Si/3000 A182F3/304/304L 11/12"x2" / C/C: 12258341 - CR: MR ITEM NO.14 XH0222 - CC: R13DNL2A/107
320	1	57876	I020	280455	1,00 SOCKOLET SW Si/3000 A182F3/304/304L 11/12"x3" / C/C: 12258414 - CR: MR ITEM NO.15 XH0222 - CC: R13DNL2A/107
321	1	59054	E-LZ	515098	25,00 SOCKOLET SW Si/3000 A182F3/304/304L 3/4"x3" / C/C: 12258415 - CR: MR ITEM NO.16 XH0222 - CC: R13DNL2A/107
322	1	59859	E-OE	174037	5,00 SOCKOLET SW Si/3000 A182F3/304/304L 11/12"x3" / C/C: 12258416 - CR: MR ITEM NO.17 XH0222 - CC: R13DNL2A/107
323	1	58609	I160	514786	5,00 SOCKOLET SW Si/3000 A182F3/304/304L 11/12"x3" / C/C: 12258418 - CR: MR ITEM NO.18 XH0222 - CC: R13DNL2A/107
324	1	59054	E-LZ	515098	20,00 SOCKOLET SW Si/3000 A182F3/304/304L 3/4"x4" / C/C: 12258477 - CR: MR ITEM NO.20 XH0222 - CC: R13DNL2A/107
325	1	588602	I21O	573084	15,00 SOCKOLET SW Si/3000 A182F3/304/304L 11/12"x4" / C/C: 12258480 - CR: MR ITEM NO.21 XH0222 - CC: R13DNL2A/107
326	1	59412	E-MJ	526509	1,00 SOCKOLET SW Si/3000 A182F3/304/304L 11/12"x6" / C/C: 12258517 - CR: MR ITEM NO.22 XH0222 - CC: R13DNL2A/107
327	1	58474		515098	5,00 SOCKOLET SW Si/3000 A182F3/304/304L 3/4"x6" / C/C: 12258518 - CR: MR ITEM NO.23 XH0222 - CC: R13DNL2A/107
328	1	58449	OJPC		5,00 SOCKOLET SW Si/3000 A182F3/304/304L 11"x6" / C/C: 12258519 - CR: MR ITEM NO.24 XH0222 - CC: R13DNL2A/107
329	1	58474		515098	10,00 SOCKOLET SW Si/3000 A182F3/304/304L 3/4"x8" / C/C: 12258538 - CR: MR ITEM NO.25 XH0222 - CC: R13DNL2A/107
330	1	58449	OJPC		1,00 SOCKOLET SW Si/3000 A182F3/304/304L 11/12"x6" / C/C: 12258539 - CR: MR ITEM NO.26 XH0222 - CC: R13DNL2A/107
331	1	54285		481150	1,00 SOCKOLET SW Si/3000 A182F3/304/304L 11/12"x20" / C/C: 12258291 - CR: MR ITEM NO.27 XH0222 - CC: R13DNL2A/107
332	1	52765		468165	4,00 SOCKOLET SW Si/3000 A182F3/304/304L 3/4"x16" / C/C: 12258314 - CR: MR ITEM NO.28 XH0222 - CC: R13DNL2A/107
333	1	59412	E-MJ	526509	5,00 SOCKOLET SW Si/3000 A182F3/304/304L 11/12"x20" / C/C: 12258364 - CR: MR ITEM NO.29 XH0222 - CC: R13DNL2A/107
334	1	52765		468165	6,00 SOCKOLET SW Si/3000 A182F3/304/304L 3/4"x20" / C/C: 12258355 - CR: MR ITEM NO.30 XH0222 - CC: R13DNL2A/107
335	1	54285		481150	1,00 SOCKOLET SW Si/3000 A182F3/304/304L 11/12"x20" / C/C: 12258356 - CR: MR ITEM NO.31 XH0222 - CC: R13DNL2A/107

NOTES

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

CUSTOMER INSPECTOR

THIRD PARTS

QUALITY CONTROL

Laura Paganuzzi

J. Foggnini

CHERO PIPING S.P.A.

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



CERTIFICATE NR.	CE/2022/1606 -	Rev. 0	DATE 13/12/2022	CUSTOMER ORDER REF. 7500107587 - 25/10/2022
INTERNAL ORDER NR.	OC/2022/1021		DATE 26/10/2022	CUSTOMER TECNIMONT SPA

TEST CERTIFICATE ACCORDING TO EN 10294-3.1 - EXTENT OF MATERIAL DELIVERY

STEEL WORKS			
TEST No.	MATERIAL SPECIFICATION AND GRADE	HEAT NUMBER	BASE MATERIAL CERTIFICATE REF.
39020	ASTM A182-22 F304/F304L	365767	18/1334
46280	ASTM A182-22 F304/F304L	405025	26/1114
52765	ASTM A182-22 F304/F304L	468165	37/085
54228	ASTM A182-22 F304/F304L	W3TE	2019/015552
54285	ASTM A182-22 F304/F304L	48/150	395730
55556	ASTM A182-22 F304/F304L	279394	MEST527500/2020
56611	ASTM A182-22 F304/F304L	072541	030226
57429	ASTM A182-22 F304/F304L	072996	2021/00433
57876	ASTM A182-22 F304/F304L	280456	MEST548926/2020
58313	ASTM A182-22 F304/F304L	172917	2021/023605
58416	ASTM A182-22 F304/F304L	514059	449954
58449	ASTM A182-22 F304/F304L	OJPC	2021/009174
58474	ASTM A182-22 F304/F304L	515098	452941
58602	ASTM A182-22 F304/F304L	573084	2015061497
58609	ASTM A182-22 F304/F304L	514786	452546
59054	ASTM A182-22 F304/F304L	515088	452941
59202	ASTM A182-22 F304/F304L	174369	2021/066230
59269	ASTM A182-22 F304/F304L	0TNH	2021/02547
59345	ASTM A182-22 F304/F304L	285338	MEST863112/2022
59346	ASTM A182-22 F304/F304L	287112	MEST863113/2022
59412	ASTM A182-22 F304/F304L	526509	472548
59538	ASTM A182-22 F304/F304L	174577	2022/06080
59886	ASTM A182-22 F304/F304L	174578	2022/02830
59752	ASTM A182-22 F304/F304L	174248	2021/057503
59790	ASTM A182-22 F304/F304L	287723	MEST883375/2022
59881	ASTM A182-22 F304/F304L	272546	2022/015659
59559	ASTM A182-22 F304/F304L	174037	2021/048041
60059	ASTM A182-22 F304/F304L	17VZ	2022/005128
60212	ASTM A182-22 F304/F304L	538645	492348
60858	ASTM A182-22 F304/F304L	1RWL	2022/012165
48876	ASTM A182-22 F316/F316L	273641	MEST095863/2017
55354	ASTM A182-22 F316/F316L	281487	MEST502341/2019
56532	ASTM A182-22 F316/F316L	072865	043593
58450	ASTM A182-22 F316/F316L	284588	MEST765246/2021

THIS IS TO CERTIFY THAT MATERIAL IS IN FULL COMPLIANCE TO PURCHASE ORDER AND APPLICABLE SPECIFICATIONS.

FITTING SUPPLIED ARE ACC TO ASME B16.11 MSS SP-97, MSS SP-83 AS APPLICABLE AND MARKED ACC MSS SP-25. ALL STANDARDS ARE IN LATEST 1 EDITION.

MATERIAL ACC TO ASTM IN L.E. AND ASME II ED.2021. MATERIAL ACC. TO NACE MR 01.75 ED.2015 AND PMA 2014/68/EU ANNEX 1.

VISUAL, DIMENSIONAL AND MARKING CHECK HAVE BEEN CARRIED OUT WITH SATISFACTORY RESULTS

STAINLESS STEEL FITTINGS ARE RIGIDLY AND DURABLY MANUFACTURED IN ACCORDANCE WITH LASTRA 200

CUSTOMER INSPECTOR

THIRD PARTS

NOTES

QUALITY CONTROL

J. Fogmaki

CHERO PIPING S.P.A.



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

CUSTOMER ORDER REF.  
**7500107587 - 25/10/2022**

---

CUSTOMER  
**TECNIMONT S.P.A.**

SHEET 8/25

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

ASTM A182-22 F304/F304L										
Heat Number										
Ladle Analysis	Heat Number									
C %	0.020	C %	0.018	C %	0.018	C %	0.019	C %	0.017	
Mn %	1.500	Mn %	1.350	Mn %	1.470	Mn %	1.470	Mn %	1.320	
Si %	0.430	Si %	0.400	Si %	0.410	Si %	0.520	Si %	0.560	
P %	0.037	P %	0.035	P %	0.029	P %	0.029	P %	0.031	
S %	0.028	S %	0.029	S %	0.026	S %	0.029	S %	0.028	
Cr %	18.050	Cr %	18.110	Cr %	18.180	Cr %	18.220	Cr %	18.220	
Mo %	0.000	Mo %	0.000	Mo %	0.382	Mo %	0.450	Mo %	0.430	
Ni %	8.080	Ni %	8.030	Ni %	8.060	Ni %	8.110	Ni %	8.140	
Cr %	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
Test Temperature °C		Test Temperature °C		Test Temperature °C		Test Temperature °C		Test Temperature °C		
Tensile Test	632	Tensile Strength MPa	632							
Yield Strength MPa (0.2%)	320									
Elongation Area %	52.00									
Reduction Area %	71.00	Reduction Area %	71.00	Reduction Area %	74.00	Reduction Area %	74.00	Reduction Area %	74.70	
Scale	HBW									
Value 1	180	Value 1	169	Value 1	166	Value 1	184	Value 1	177	
Value 2	177	Value 2	170	Value 2	168	Value 2	185	Value 2	174	
Value 3	179	Value 3	173	Value 3	175	Value 3	188	Value 3	180	
Average Hardness	178.667	Average Hardness	170.667	Average Hardness	169.667	Average Hardness	185.667	Average Hardness	172.667	
Type	SOL ANN.									
Heat Treatment	Holding Temperature °C	+1.050	Holding Temperature °C	+1.080	Holding Temperature °C	+1.080	Holding Temperature °C	+1.080	Holding Temperature °C	+1.080
	Holding Time (min)	Min 1h/inch	Holding Time (min)	Min 1h/inch						
	Cooling Medium	WATER	Cooling Medium	WATER						

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

## NOTES

CUSTOMER INSPECTOR	THIRD PARTS	QUALITY CONTROL
		Laura Paganuzzi

CHERO PIPING S.P.A.

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

DATE  
13/12/2022  
INTERNAL ORDER REF.  
7500107587 - 25/10/2022

DATE  
26/10/2022  
CUSTOMER  
TECNIMONT S.P.A.

SHEET  
21/25

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

Material Spec. and Grade	Heat Number	Procedure Number	Applicable Standard	Instrument
ASTM A182-22 F304/F304L	515098	CHERO-QA-PMI-B	ASTM E572	NITON XL2-SN:95371
Serial Number	515098-0001			
Mn %	1.423		1.455	
Cr %	18.000		18.000	
Ni %	8.068		8.000	

#### PML Test - Position 318: STOCKOLET SW S/3000 A182F304/304L 1"x2"

Material Spec. and Grade	Heat Number	Procedure Number	Applicable Standard	Instrument
ASTM A182-22 F304/F304L	174037	CHERO-QA-PMI-B	ASTM E572	NITON XL2-SN:95371
Serial Number	174037-0001			
Mn %	1.317		1.319	
Cr %	18.000		18.000	
Ni %	8.436		8.000	

#### PML Test - Position 319: STOCKOLET SW S/3000 A182F304/304L 11/2"x2"

Material Spec. and Grade	Heat Number	Procedure Number	Applicable Standard	Instrument
ASTM A182-22 F304/F304L	514786	CHERO-QA-PMI-B	ASTM E572	NITON XL2-SN:95371
Serial Number	514786-0001			
Mn %	1.539			
Cr %	18.000			
Ni %	8.173			

#### PML Test - Position 320: STOCKOLET SW S/3000 A182F304/304L 1/2"x3"

Material Spec. and Grade	Heat Number	Procedure Number	Applicable Standard	Instrument
ASTM A182-22 F304/F304L	280455	CHERO-QA-PMI-B	ASTM E572	NITON XL2-SN:95371
Serial Number	280455-0001			
Mn %	1.846			
Cr %	18.000			
Ni %	8.120			

#### PML Test - Position 321: STOCKOLET SW S/3000 A182F304/304L 3/4"x3"

Material Spec. and Grade	Heat Number	Procedure Number	Applicable Standard	Instrument
ASTM A182-22 F304/F304L	515098	CHERO-QA-PMI-B	ASTM E572	NITON XL2-SN:95371
Serial Number	515098-0001			
Mn %	1.439		1.526	
Cr %	18.249		18.778	
Ni %	8.000		8.000	

#### PML Test - Position 322: STOCKOLET SW S/3000 A182F304/304L 1"x3"

Material Spec. and Grade	Heat Number	Procedure Number	Applicable Standard	Instrument
ASTM A182-22 F304/F304L	515098	CHERO-QA-PMI-B	ASTM E572	NITON XL2-SN:95371
Serial Number	515098-0002			
Mn %	1.439		1.526	
Cr %	18.249		18.778	
Ni %	8.000		8.000	

#### PML Test - Position 323: STOCKOLET SW S/3000 A182F304/304L 1/2"x3"

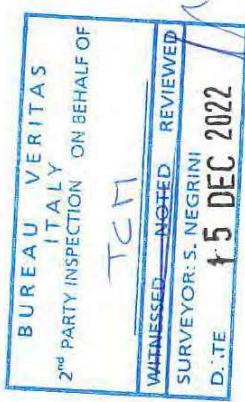
Material Spec. and Grade	Heat Number	Procedure Number	Applicable Standard	Instrument
ASTM A182-22 F304/F304L	515098	CHERO-QA-PMI-B	ASTM E572	NITON XL2-SN:95371
Serial Number	515098-0003			
Mn %	1.439		1.526	
Cr %	18.249		18.778	
Ni %	8.000		8.000	

#### PML Test - Position 324: STOCKOLET SW S/3000 A182F304/304L 1/2"x3"

Material Spec. and Grade	Heat Number	Procedure Number	Applicable Standard	Instrument
ASTM A182-22 F304/F304L	515098	CHERO-QA-PMI-B	ASTM E572	NITON XL2-SN:95371
Serial Number	515098-0004			
Mn %	1.439		1.526	
Cr %	18.249		18.778	
Ni %	8.000		8.000	

J. Fogorzi  
CHERO PIPING S.p.A.

NOTES	CUSTOMER INSPECTOR	THIRD PARTS	QUALITY CONTROL
	Laura Paganuzzi		



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

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

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

SHEET  
22/25

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

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

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

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

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

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

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

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

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

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

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

NOTES

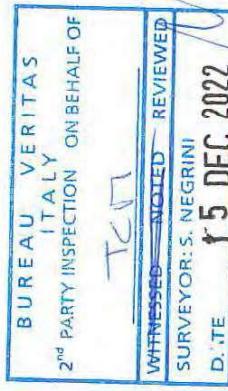
CUSTOMER INSPECTOR

THIRD PARTS

QUALITY CONTROL

Laura Paganuzzi

J. Fogassi





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

Ji

买家(Purchaser): 意大利Technimont

材质(Material): ASTM A182-2021 F304(304L) AISI

表号：ZNHI/QM400-34-1  
修订号：0

## Welding and QC Report Per Spool

Job : P2300S

Material : Stainless Steel 304, 316, 317

Client : NERVION

Revision : 01

Project : ALBA

Piece Mark : 2121-IA91F13-1-SP04-00995

Spec : 6C4-M

Weld No.	Type	Dia	Sch	Weld Proc.	1st Pass	1st MTR	Final Pass	Final MTR	Dim	Date DIM	Visual	Date Visual	PT	Date PT	MT	Date MT	PMI	Date PMI	Ferite	Date Ferrite	PWHT	Date PWHT	BHN	Date BHN	Ultra	Date UT	Xray	Date Xray
0013	SOL	1	XS	MW.26_SBR	BC	03-10-2024	4712055	BC	03-10-2024	4712055			001168	18-10-2024	000228	18-10-2024			001206	21-10-2024								
0015	BW	2	S10S	MW.26_BW	BC	04-10-2024	4712055	BC	04-10-2024	4712055			001168	18-10-2024					001206	21-10-2024								
0016	BW	2	S10S	MW.26_BW	BC	04-10-2024	4712055	BC	04-10-2024	4712055			001168	18-10-2024					001206	21-10-2024								
0017	SOL	1,5	XS	MW.26_SBR	BC	02-10-2024	4712055	BC	02-10-2024	4712055			001168	18-10-2024	000228	18-10-2024			001206	21-10-2024								
0019	SOL	0,5	XS	MW.26_SBR	BC	02-10-2024	4712055	BC	02-10-2024	4712055			001168	18-10-2024	000228	18-10-2024			001206	21-10-2024								
0021	SOL	1	XS	MW.26_SBR	BC	02-10-2024	4712055	BC	02-10-2024	4712055			001168	18-10-2024	000228	18-10-2024			001206	21-10-2024								
0023	SOL	1,5	XS	MW.26_SBR	BC	03-10-2024	4712055	BC	03-10-2024	4712055			001168	18-10-2024	000228	18-10-2024			001206	21-10-2024								
0025	BW	2	S10S	MW.26_BW	CA	17-10-2024	4712055	CA	17-10-2024	4712055			001168	18-10-2024					001206	21-10-2024								
0026	SOL	1,5	XS	MW.26_SBR	BC	01-10-2024	4712055	BC	01-10-2024	4712055			001168	18-10-2024	000228	18-10-2024			001206	21-10-2024								
0041	BW	2	S10S	MW.26_BW	CA	17-10-2024	4712055	CA	17-10-2024	4712055			001168	18-10-2024					001206	21-10-2024								

02/12/2024

On behalf of Tecnimont  
QC Welding InspectorGABRIEL BONEL SANTOS  
INTERNAUTA CONSULTORES LTDA  
ISO 9001:2015 certified company  
PA  
VITRIN/ATRIBUTO  
SANTOS, SP - BRAZIL

Notes:

Boccard Portugal QC	Client
	Sergio Morales Date: 06-11-24
22-10-2024 11:21:42	



# Shop QC Inspection Report

P2308-001212

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

Job number: P2308S  
 Spool N°: 00995  
 Piece Mark: 2121-IA91F13-1-SP04-00995

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

Control Date: 18-10-2024

Remarks: The results refer to the controlled items

Actions / Tasks List	Required		Done/ Identified
	Yes	No	
Welder / weld list labels printed and pasted on the spool sheet	X	<input type="checkbox"/>	X
Spool Barcode label printed	X	<input type="checkbox"/>	X
Spool is identified with the metal tag	X	<input type="checkbox"/>	X
Spool stencil required (hard stamp low stress)	<input type="checkbox"/>	X	<input type="checkbox"/>
Joint preparation & cleanliness / spool dimensions checked	X	<input type="checkbox"/>	X
Level, plumb, Two holes, flanges and internal alignment, Squareness	X	<input type="checkbox"/>	X
Material checked (type of material, rate, heat numbers, filler material, etc.)	X	<input type="checkbox"/>	X
Welders list match with actual welder stencil / Id. on pipe	X	<input type="checkbox"/>	X
PWHT- Spool identified as per Procedure / Instruction for PWHT	<input type="checkbox"/>	X	<input type="checkbox"/>
HT ( Hardness Test)- Welds identified as per Procedure / Instruction	<input type="checkbox"/>	X	<input type="checkbox"/>
MT - Welds identified as per Procedure / Instruction	<input type="checkbox"/>	X	<input type="checkbox"/>
PT - Welds identified as per Procedure / Instruction	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: 18-10-2024  Signature 	QA/QC Inspection: RAIMUNDO, MARIANA  Date: 22-10-2024 11:21:42  Signature 	Customer Inspection: <b>Sergio Morales</b> <b>Date: 06-11-24</b> 
--	--	---

On behalf of Tecnimont  
QC Welding Inspector  
02/12/2024

*GARIBEL BORELLATO*  
GARIBEL BORELLATO  
ISO EN 971-1 Certified Welder  
here

# Visual Examination Report (Welds)

P2308-001168

Contract : P2308

Job number: P2308S

Material: Stainless Steel 304, 316, 317

Client : NERVION

Spool Nº: 00995

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

Project : ALBA

Piece Mark: 2121-IA91F13-1-SP04-00995

Testing Date: 18-10-2024

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	
0013	1.0000 XS SOL-Sockolet to Header Weld (MW.26_SBR)	BC	15	X			Direct
0015	2.0000 S10S BW-Buttweld Straight (MW.26_BW)	BC	15	X			Direct
0016	2.0000 S10S BW-Buttweld Straight (MW.26_BW)	BC	15	X			Direct
0017	1.5000 XS SOL-Sockolet to Header Weld (MW.26_SBR)	BC	15	X			Direct
0019	0.5000 XS SOL-Sockolet to Header Weld (MW.26_SBR)	BC	15	X			Direct
0021	1.0000 XS SOL-Sockolet to Header Weld (MW.26_SBR)	BC	15	X			Direct
0023	1.5000 XS SOL-Sockolet to Header Weld (MW.26_SBR)	BC	15	X			Direct
0026	1.5000 XS SOL-Sockolet to Header Weld (MW.26_SBR)	BC	15	X			Direct
0025	2.0000 S10S BW-Buttweld Straight (MW.26_BW)	CA	15	X			Direct
0041	2.0000 S10S BW-Buttweld Straight (MW.26_BW)	CA	15	X			Direct

On behalf of Tecnimont  
QC Welding Inspector

  
GABRIEL BOFFELLOT  
INTERVIEWS INSPECTOR - TOP-DA  
ISO EN 971-2 Certified Inspector Level 2  
VT/PT/MT/TOT-TOP-DA

02/12/2024

Type text

# Visual Examination Report (Welds)

P2308-001168

Contract : P2308

Job number: P2308S

Material: Stainless Steel 304, 316, 317

Client : NERVION

Spool Nº: 00995

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

Project : ALBA

Piece Mark: 2121-IA91F13-1-SP04-00995

Testing Date: 18-10-2024

Remarks: The results refer to the controlled items

Unacceptable indications for welding

ACCEPTANCE CRITERIA : ASME B31.3

Weld reinforcement greater than specified in project procedure

The illumination of the surface must be at least 500 lux. However, a value of 1000lux is recommended

Any linear indications greater than specified in project procedure, surface porosity with rounded indications having a dimension greater than specified project procedure

Indications of lack of fusion open to the surface / Cracks located on external surfaces

Surface finish that could interfere with other testing required

Incomplete penetration of welds / Indications of undercut on surfaces which are greater than specified in project procedure

Misalignment greater than specified in applicable code or poor fit up of weld joints

Identification		Temp. (°F/°C)	Accepted	Rejected	Defect	Technique Used	Comments
Weld No.	Weld Desc.						

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: 18-10-2024

Date: 22-10-2024 11:21:42

Sergio Morales

Signature



Signature



Date: 06-11-24


On behalf of Tecnimont  
02/12/2024  
QC Welding Inspector




# Liquid Penetrant Examination Report

P2308-000228

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

Job number: P2308S

Spool N°: 00995

Piece Mark: 2121-IA91F13-1-SP04-00995

Material: Stainless Steel 304, 316, 317

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

Testing Date: 18-10-2024

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	Accepted no	Indication	Remarks
				Penetrant	Cleaner	Developer	Lighting					
0013	1.0000 XS SOL-Sockolet to Header Weld (MW.26_SBR)	BC	15	20 m	-	10 m	-	-	X			
0017	1.5000 XS SOL-Sockolet to Header Weld (MW.26_SBR)	BC	15	20 m	-	10 m	-	-	X			
0019	0.5000 XS SOL-Sockolet to Header Weld (MW.26_SBR)	BC	15	20 m	-	10 m	-	-	X			
0021	1.0000 XS SOL-Sockolet to Header Weld (MW.26_SBR)	BC	15	20 m	-	10 m	-	-	X			
0023	1.5000 XS SOL-Sockolet to Header Weld (MW.26_SBR)	BC	15	20 m	-	10 m	-	-	X			
0026	1.5000 XS SOL-Sockolet to Header Weld (MW.26_SBR)	BC	15	20 m	-	10 m	-	-	X			

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: 18-10-2024

Date: 18-10-2024

Sergio Morales

Signature



Signature

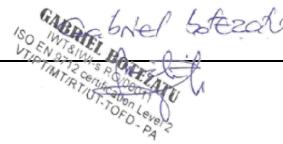


Date: 06-11-24

02/12/2024 On behalf of Tecnimont  
QC Welding InspectorBoccard Portugal - Zona Industrial de Montalvo, Lote 3  
Constância - Portugal 2250-999

04-11-2024 11:29:31

Page 1 / 1





# Positive Material Identification Report (PMI)

P2308-001206

Client : NERVION

Contract : P2308 / Project : ALBA

Remarks: The results refer to the controlled items

Job number: P2308S

Spool N°: 00995

Piece Mark: 2121-IA91F13-1-SP04-00995

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: 21-10-2024

Weld / Item No	Description	Reading Number	Chemical Elements										Accepted	Rejected	Comments
			%Ti	%Mo	%Cu	%Ni	%Fe	%Mn	%Cr	%Nb	%Al	%V			
0013	1.0000 XS SOL-Sockolet to Header Weld (MW.26_SBR)	13	0	0	0	8	69	1	19	0	0	0	<input checked="" type="checkbox"/>		
0015	2.0000 S10S BW-Buttweld Straight (MW.26_BW)	14	0	0	0	8	69	1	19	0	0	0	<input checked="" type="checkbox"/>		
0016	2.0000 S10S BW-Buttweld Straight (MW.26_BW)	15	0	0	0	8	69	1	18	0	0	0	<input checked="" type="checkbox"/>		
0017	1.5000 XS SOL-Sockolet to Header Weld (MW.26_SBR)	16	0	0	0	9	69	1	19	0	0	0	<input checked="" type="checkbox"/>		
0019	0.5000 XS SOL-Sockolet to Header Weld (MW.26_SBR)	17	0	0	0	9	69	1	19	0	0	0	<input checked="" type="checkbox"/>		
0021	1.0000 XS SOL-Sockolet to Header Weld (MW.26_SBR)	18	0	0	0	9	69	1	19	0	0	0	<input checked="" type="checkbox"/>		
0023	1.5000 XS SOL-Sockolet to Header Weld (MW.26_SBR)	19	0	0	0	9	69	1	19	0	0	0	<input checked="" type="checkbox"/>		
0025	2.0000 S10S BW-Buttweld Straight (MW.26_BW)	21	0	0	0	8	69	1	19	0	0	0	<input checked="" type="checkbox"/>		
0026	1.5000 XS SOL-Sockolet to Header Weld (MW.26_SBR)	20	0	0	0	9	69	1	19	0	0	0	<input checked="" type="checkbox"/>		
0041	2.0000 S10S BW-Buttweld Straight (MW.26_BW)	22	0	0	0	9	69	1	18	0	0	0	<input checked="" type="checkbox"/>		
1.4	2.0000 S10S PIPE, SEAMLESS, A312-TP304L (NY231216AS15)	11	0	0	0	7	71	1	17	0	0	0	<input checked="" type="checkbox"/>		
1.5	2.0000 S10S PIPE, SEAMLESS, A312-TP304L (NY231216AS15)	6	0	0	0	8	71	1	17	0	0	0	<input checked="" type="checkbox"/>		
1.6	2.0000 S10S PIPE, SEAMLESS, A312-TP304L (NY231216AS15)	2	0	0	0	7	71	1	17	0	0	0	<input checked="" type="checkbox"/>		
1.8	2.0000 S10S PIPE, SEAMLESS, A312-TP304L (NY231216AS15)	3	0	0	0	7	72	1	17	0	0	0	<input checked="" type="checkbox"/>		
2.3	2.0000 NA 1.5000 NA SOCKOLET, 3000#, A182-F304L (N220606AV04)	9	0	0	0	8	71	1	18	0	0	0	<input checked="" type="checkbox"/>		On behalf of Tecnimont QC Welding Inspector
2.4	2.0000 NA 1.5000 NA SOCKOLET, 3000#, A182-F304L (N220606AV04)	5	0	0	0	7	72	1	18	0	0	0	<input checked="" type="checkbox"/>		GABRIEL BOFFATO IVTS/IVIS Project Manager VT/PT/MT/RT/UT-TOFD-PA
2.5	2.0000 NA 1.5000 NA SOCKOLET, 3000#, A182-F304L (N220606AV04)	4	0	0	0	7	72	1	17	0	0	0	<input checked="" type="checkbox"/>		
3.1	2.0000 NA 1.0000 NA SOCKOLET, 3000#, A182-F304L	12	0	0	0	8	70	1	17	0	0	0	<input checked="" type="checkbox"/>		02/12/2024



# Positive Material Identification Report (PMI)

P2308-001206

Client : NERVION  
 Contract : P2308 / Project : ALBA

Remarks: The results refer to the controlled items

Job number: P2308S

Spool N°: 00995

Piece Mark: 2121-IA91F13-1-SP04-00995

Procedure / Instruction reference: 4274-LZ-VF-W31010370QAC11 - Rev: 1

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

Equipment Deviation : + - 5%

Testing Date: 21-10-2024

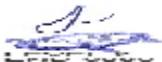
Weld / Item No	Description	Reading Number	Chemical Elements										Accepted	Rejected	Comments
			%Ti	%Mo	%Cu	%Ni	%Fe	%Mn	%Cr	%Nb	%Al	%V			
(N220606AV04)															
3.2	2.0000 NA 1.0000 NA SOCKOLET, 3000#, A182-F304L (174037)	7	0	0	0	7	71	1	18	0	0	0	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
5.1	2.0000 NA 0.5000 NA SOCKOLET, 3000#, A182-F304L (280455)	8	0	0	0	8	70	1	18	0	0	0	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
6.3	2.0000 S10S 90 LR ELL, SEAMLESS, A403-WP304L (NY230506AT08)	10	0	0	0	8	71	1	17	0	0	0	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

On behalf of Tecnimont  
 QC Welding Inspector

GABRIEL BONFIM  
 IWTS/IWIS Registered  
 ISO EN 9712 certified  
 VTPT/MT/RT/UT-TOFD-PA  
*bretel bontemps*  
 02/12/2024

Test Performed by: GONCALVES(QA), J. (N2 PT/RT) QA/QC Inspection: RAIMUNDO, MARIANA  
 Date: 21-10-2024

Signature



Date: 22-10-2024 11:21:42

Signature



Customer Inspection:  
 Type text here  
 Date:

Sergio Morales

Signature

Date: 06-11-24



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	2024-10-21 09:10
Duration	11.80
Sequence	Final
Alloy1	304SS : 0.22
Alloy2	No Match : *2.09
Flags	
SAMPLE	
HEAT	
LOT	
BATCH	
MISC	
NOTE	

	%	±	Error
Sb	< LOD	:	0.042
Sn	< LOD	:	0.052
Pd	< LOD	:	0.038
Ag	< LOD	:	0.203
Al	< LOD	:	80.000
Mo	0.091	±	0.011
Nb	< LOD	:	0.008
Zr	< LOD	:	0.004
Bi	< LOD	:	0.010
Pb	< LOD	:	0.016
Se	< LOD	:	0.008
W	< LOD	:	0.093
Zn	< LOD	:	0.035
Cu	< LOD	:	0.150
Ni	8.960	±	0.305
Co	< LOD	:	0.496
Fe	69.197	±	0.458
Mn	1.735	±	0.209
Cr	19.359	±	0.270
V	< LOD	:	0.141
Ti	< LOD	:	0.162

On behalf of Tecnimont  
QC Welding Inspector

Sergio Morales



Date: 06-11-24

02/12/2024

GABRIEL BOFFELA MU  
ISO 9001:2015 certificated by  
TUV NORD CERT  
GABRIEL BOFFELA MU  
02/12/2024

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

## Certificate of PMI Reading

XL3t-32735

Reading No	14
Mode	ALLOY
Time	2024-10-21 09:11
Duration	11.06
Sequence	Final
Alloy1	304SS : 0.00
Alloy2	No Match : *2.10
Flags	
SAMPLE	
HEAT	
LOT	
BATCH	
MISC	
NOTE	

	%	±	Error
Sb	< LOD	:	0.038
Sn	< LOD	:	0.050
Pd	< LOD	:	0.035
Ag	< LOD	:	0.156
Al	< LOD	:	80.000
Mo	0.037	±	0.007
Nb	< LOD	:	0.007
Zr	< LOD	:	0.004
Bi	< LOD	:	0.003
Pb	< LOD	:	0.018
Se	< LOD	:	0.007
W	< LOD	:	0.081
Zn	< LOD	:	0.036
Cu	< LOD	:	0.144
Ni	8.860	±	0.291
Co	< LOD	:	0.476
Fe	69.763	±	0.438
Mn	1.658	±	0.199
Cr	19.057	±	0.257
V	< LOD	:	0.134
Ti	< LOD	:	0.145

On behalf of Tecnimont  
QC Welding Inspector

Sergio Morales

Date: 06-11-24



02/12/2024  
GABRIEL BOFF MAMU  
INTERNAUTICAL INDUSTRIAL S.A.  
ISO EN 9712 certified laboratory  
VTP/TIMTRY/UT-TOD-FD-PA

Type text here

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

## Certificate of PMI Reading

XL3t-32735

Reading No	15
Mode	ALLOY
Time	2024-10-21 09:11
Duration	11.89
Sequence	Final
Alloy1	304SS : 0.21
Alloy2	No Match : *2.11
Flags	
SAMPLE	
HEAT	
LOT	
BATCH	
MISC	
NOTE	

	%	±	Error
Sb	< LOD	:	0.040
Sn	< LOD	:	0.045
Pd	< LOD	:	0.037
Ag	< LOD	:	0.159
Al	< LOD	:	80.000
Mo	0.031	±	0.007
Nb	< LOD	:	0.007
Zr	< LOD	:	0.003
Bi	< LOD	:	0.012
Pb	< LOD	:	0.010
Se	< LOD	:	0.007
W	< LOD	:	0.075
Zn	< LOD	:	0.024
Cu	< LOD	:	0.137
Ni	8.993	±	0.280
Co	< LOD	:	0.456
Fe	69.693	±	0.419
Mn	1.683	±	0.189
Cr	18.929	±	0.244
V	< LOD	:	0.117
Ti	< LOD	:	0.145

Sergio Morales



Date: 06-11-24

02/12/2024 On behalf of Tecnimont  
QC Welding Inspector

GABRIEL BOCCARD  
ISO EN 9712 Certified Welder  
VT/PT/T/RT/UT-TOPO-PA  
Level 2

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

## Certificate of PMI Reading

XL3t-32735

Reading No	16
Mode	ALLOY
Time	2024-10-21 09:11
Duration	10.25
Sequence	Final
Alloy1	304SS : 0.48
Alloy2	No Match : 1.74
Flags	
SAMPLE	
HEAT	
LOT	
BATCH	
MISC	
NOTE	

	%	±	Error
Sb	< LOD	:	0.043
Sn	< LOD	:	0.058
Pd	< LOD	:	0.040
Ag	< LOD	:	0.219
Al	< LOD	:	80.000
Mo	0.045	±	0.009
Nb	< LOD	:	0.010
Zr	< LOD	:	0.004
Bi	< LOD	:	0.009
Pb	< LOD	:	0.020
Se	< LOD	:	0.009
W	< LOD	:	0.089
Zn	< LOD	:	0.028
Cu	< LOD	:	0.161
Ni	9.166	±	0.330
Co	< LOD	:	0.531
Fe	69.094	±	0.493
Mn	1.762	±	0.225
Cr	19.397	±	0.289
V	< LOD	:	0.133
Ti	< LOD	:	0.177

Sergio Morales



Date: 06-11-24

On behalf of Teenimont  
02/12/2024 QC Welding Inspector

GABRIEL BONEL SÁEZ  
WPS/WPS & TIG Welder  
ISO EN 971-1/1993 certification Level 2  
VTP-TMTR/TUT-TOPD-PA

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

## Certificate of PMI Reading

XL3t-32735

---

Reading No	17
Mode	ALLOY
Time	2024-10-21 09:12
Duration	12.39
Sequence	Final
Alloy1	304SS : 0.07
Alloy2	No Match : *2.10
Flags	
SAMPLE	
HEAT	
LOT	
BATCH	
MISC	
NOTE	

---

	%	±	Error
Sb	< LOD	:	0.038
Sn	< LOD	:	0.047
Pd	< LOD	:	0.035
Ag	< LOD	:	0.174
Al	< LOD	:	80.000
Mo	0.040	±	0.007
Nb	< LOD	:	0.007
Zr	< LOD	:	0.003
Bi	< LOD	:	0.002
Pb	< LOD	:	0.014
Se	< LOD	:	0.004
W	< LOD	:	0.079
Zn	< LOD	:	0.027
Cu	< LOD	:	0.142
Ni	9.216	±	0.277
Co	< LOD	:	0.445
Fe	69.200	±	0.411
Mn	1.864	±	0.189
Cr	19.116	±	0.241
V	< LOD	:	0.120
Ti	< LOD	:	0.136

Sergio Morales



Date: 06-11-24

02/12/2024 02

02/12/2024



02/12/2024

Type text here

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

## Certificate of PMI Reading

XL3t-32735

Reading No	18
Mode	ALLOY
Time	2024-10-21 09:15
Duration	13.72
Sequence	Final
Alloy1	304SS : 0.00
Alloy2	No Match : *2.11
Flags	
SAMPLE	
HEAT	
LOT	
BATCH	
MISC	
NOTE	

	%	±	Error
Sb	< LOD	:	0.030
Sn	< LOD	:	0.043
Pd	< LOD	:	0.032
Ag	< LOD	:	0.147
Al	< LOD	:	80.000
Mo	0.042	±	0.006
Nb	0.010	±	0.004
Zr	< LOD	:	0.003
Bi	< LOD	:	0.006
Pb	< LOD	:	0.018
Se	< LOD	:	0.007
W	< LOD	:	0.077
Zn	< LOD	:	0.032
Cu	< LOD	:	0.130
Ni	9.443	±	0.256
Co	< LOD	:	0.403
Fe	69.075	±	0.377
Mn	1.830	±	0.174
Cr	19.260	±	0.221
V	< LOD	:	0.107
Ti	< LOD	:	0.120

Sergio Morales  
Date: 06-11-24



02/12/2024

On behalf of Tecnimont  
QC Welding Inspector

GABRIEL BONET ALVAREZ  
ISO 9001:2015 certified  
VT/PT/MR/OT-TODD-PA  
Leiria

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

## Certificate of PMI Reading

XL3t-32735

Reading No	19
Mode	ALLOY
Time	2024-10-21 09:15
Duration	11.02
Sequence	Final
Alloy1	304SS : 0.00
Alloy2	No Match : *2.11
Flags	
SAMPLE	
HEAT	
LOT	
BATCH	
MISC	
NOTE	

	%	±	Error
Sb	< LOD	:	0.035
Sn	0.053	±	0.026
Pd	< LOD	:	0.037
Ag	< LOD	:	0.169
Al	< LOD	:	80.000
Mo	0.044	±	0.008
Nb	< LOD	:	0.007
Zr	< LOD	:	0.003
Bi	< LOD	:	0.021
Pb	< LOD	:	0.014
Se	< LOD	:	0.007
W	< LOD	:	0.082
Zn	< LOD	:	0.026
Cu	< LOD	:	0.147
Ni	9.174	±	0.293
Co	< LOD	:	0.472
Fe	69.126	±	0.436
Mn	1.797	±	0.201
Cr	19.310	±	0.257
V	< LOD	:	0.132
Ti	< LOD	:	0.125

On behalf of Tecnimont

Sergio Morales



Date: 06-11-24

OC Welding Inspector

02/12/2024

02/12/2024

GABRIEL BORGES DA SILVA  
ISO 9609-2 / UNI EN ISO 9609-2  
VTP/PMI/UT/TOFOL TEST  
PA

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

## Certificate of PMI Reading

XL3t-32735

---

Reading No	21
Mode	ALLOY
Time	2024-10-21 09:16
Duration	11.04
Sequence	Final
Alloy1	304SS : 0.24
Alloy2	No Match : *2.10
Flags	
SAMPLE	
HEAT	
LOT	
BATCH	
MISC	
NOTE	

---

	%	±	Error
Sb	< LOD	:	0.039
Sn	< LOD	:	0.049
Pd	< LOD	:	0.036
Ag	< LOD	:	0.178
Al	< LOD	:	80.000
Mo	0.040	±	0.007
Nb	< LOD	:	0.008
Zr	< LOD	:	0.003
Bi	< LOD	:	0.005
Pb	< LOD	:	0.017
Se	< LOD	:	0.010
W	< LOD	:	0.078
Zn	< LOD	:	0.024
Cu	< LOD	:	0.144
Ni	8.740	±	0.285
Co	< LOD	:	0.469
Fe	69.544	±	0.432
Mn	1.760	±	0.197
Cr	19.268	±	0.254
V	< LOD	:	0.117
Ti	< LOD	:	0.153

---

Sergio Morales

Date: 06-11-24



On behalf of Tecnimont  
02/12/2024 QC Welding Inspector

GABRIEL HOMMEL  
INTERTECHNIMONT  
VITRIMETAL SRL  
ISO EN 1090-2 Level 2  
VITRIMETAL SRL  
TODI - PA

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

## Certificate of PMI Reading

XL3t-32735

Reading No	20
Mode	ALLOY
Time	2024-10-21 09:16
Duration	12.80
Sequence	Final
Alloy1	304SS : 0.29
Alloy2	No Match : *2.12
Flags	
SAMPLE	
HEAT	
LOT	
BATCH	
MISC	
NOTE	

	%	±	Error
Sb	< LOD	:	0.038
Sn	< LOD	:	0.046
Pd	< LOD	:	0.035
Ag	< LOD	:	0.167
Al	< LOD	:	80.000
Mo	0.047	±	0.007
Nb	0.008	±	0.004
Zr	< LOD	:	0.002
Bi	< LOD	:	0.014
Pb	< LOD	:	0.010
Se	< LOD	:	0.006
W	< LOD	:	0.084
Zn	< LOD	:	0.033
Cu	< LOD	:	0.135
Ni	9.077	±	0.277
Co	< LOD	:	0.446
Fe	69.241	±	0.417
Mn	1.915	±	0.191
Cr	19.167	±	0.243
V	< LOD	:	0.125
Ti	< LOD	:	0.144

---

Sergio Morales

Date: 06-11-24



02/12/2024

On behalf of Tecnimont

ype

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

## Certificate of PMI Reading

XL3t-32735

Reading No	22
Mode	ALLOY
Time	2024-10-21 09:16
Duration	11.36
Sequence	Final
Alloy1	321SS : 1.45
Alloy2	304SS : 1.60
Flags	
SAMPLE	
HEAT	
LOT	
BATCH	
MISC	
NOTE	

	%	±	Error
Sb	< LOD	:	0.039
Sn	< LOD	:	0.049
Pd	< LOD	:	0.037
Ag	< LOD	:	0.210
Al	< LOD	:	80.000
Mo	0.039	±	0.007
Nb	< LOD	:	0.007
Zr	< LOD	:	0.003
Bi	< LOD	:	0.009
Pb	< LOD	:	0.016
Se	< LOD	:	0.008
W	< LOD	:	0.093
Zn	< LOD	:	0.030
Cu	< LOD	:	0.144
Ni	9.021	±	0.299
Co	< LOD	:	0.484
Fe	69.427	±	0.447
Mn	1.984	±	0.207
Cr	18.841	±	0.260
V	< LOD	:	0.129
Ti	< LOD	:	0.171

---

Sergio Morales

Date: 06-11-24



02/12/2024

On behalf of Tecnimont  
QC Welding Inspector

Type text here

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

## Certificate of PMI Reading

XL3t-32735

Reading No	11
Mode	ALLOY
Time	2024-10-21 09:06
Duration	12.05
Sequence	Final
Alloy1	301SS : 1.69
Alloy2	321SS : 2.06
Flags	
SAMPLE	
HEAT	
LOT	
BATCH	
MISC	
NOTE	

	%	±	Error
Sb	< LOD	:	0.034
Sn	< LOD	:	0.048
Pd	< LOD	:	0.036
Ag	< LOD	:	0.122
Al	< LOD	:	80.000
Mo	0.023	±	0.006
Nb	< LOD	:	0.004
Zr	< LOD	:	0.005
Bi	< LOD	:	0.014
Pb	0.027	±	0.011
Se	< LOD	:	0.007
W	< LOD	:	0.091
Zn	< LOD	:	0.028
Cu	< LOD	:	0.137
Ni	7.863	±	0.266
Co	0.511	±	0.228
Fe	71.660	±	0.417
Mn	1.431	±	0.183
Cr	17.958	±	0.238
V	< LOD	:	0.123
Ti	< LOD	:	0.161

Sergio Morales

Date: 06-11-24



02/12/2024

On behalf of Tecnimont  
QC Welding Inspector

GABRIEL BOCCARD  
ISO EN 9719:2019  
VTP/MT/RT/TDF/TOFD/PA

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

## Certificate of PMI Reading

XL3t-32735

Reading No	6
Mode	ALLOY
Time	2024-10-21 09:03
Duration	11.90
Sequence	Final
Alloy1	304SS : 1.32
Alloy2	301SS : 1.81
Flags	
SAMPLE	
HEAT	
LOT	
BATCH	
MISC	
NOTE	

	%	±	Error
Sb	< LOD	:	0.033
Sn	< LOD	:	0.047
Pd	< LOD	:	0.034
Ag	< LOD	:	0.162
Al	< LOD	:	80.000
Mo	0.015	±	0.005
Nb	< LOD	:	0.006
Zr	< LOD	:	0.003
Bi	< LOD	:	0.002
Pb	< LOD	:	0.028
Se	< LOD	:	0.005
W	< LOD	:	0.073
Zn	< LOD	:	0.033
Cu	< LOD	:	0.131
Ni	8.025	±	0.265
Co	< LOD	:	0.447
Fe	71.902	±	0.408
Mn	1.364	±	0.180
Cr	17.936	±	0.234
V	< LOD	:	0.121
Ti	< LOD	:	0.145

Sergio Morales

Date: 06-11-24



On behalf of Tecnimont  
02/12/2024 QC Welding Inspector

GABRIEL BENEDETTI  
ISO EN 9609-1  
VIMAR TUTTOFORO - PA

Type text here

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

## Certificate of PMI Reading

XL3t-32735

Reading No	2
Mode	ALLOY
Time	2024-10-21 09:02
Duration	11.03
Sequence	Final
Alloy1	301SS : 1.55
Alloy2	No Match : *2.48
Flags	
SAMPLE	
HEAT	
LOT	
BATCH	
MISC	
NOTE	

	%	±	Error
Sb	< LOD	:	0.043
Sn	< LOD	:	0.051
Pd	< LOD	:	0.039
Ag	< LOD	:	0.183
Al	< LOD	:	80.000
Mo	0.022	±	0.006
Nb	< LOD	:	0.004
Zr	< LOD	:	0.004
Bi	< LOD	:	0.002
Pb	< LOD	:	0.004
Se	< LOD	:	0.007
W	< LOD	:	0.082
Zn	< LOD	:	0.035
Cu	< LOD	:	0.140
Ni	7.916	±	0.286
Co	< LOD	:	0.487
Fe	71.947	±	0.443
Mn	1.546	±	0.197
Cr	17.725	±	0.252
V	0.147	±	0.068
Ti	< LOD	:	0.150

Sergio Morales



Date: 06-11-24

On behalf of Tecnimont  
QC Welding Inspector

GABRIEL DIAZ JIMENEZ  
ISO 9609-1:2012 Certified Welding Inspector  
02/12/2024

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

## Certificate of PMI Reading

XL3t-32735

Reading No	3
Mode	ALLOY
Time	2024-10-21 09:02
Duration	11.28
Sequence	Final
Alloy1	301SS : 1.56
Alloy2	No Match : *2.48
Flags	SAMPLE
	HEAT
LOT	
BATCH	
MISC	
NOTE	

	%	±	Error
Sb	< LOD	:	0.039
Sn	< LOD	:	0.050
Pd	< LOD	:	0.035
Ag	< LOD	:	0.122
Al	< LOD	:	80.000
Mo	0.019	±	0.006
Nb	< LOD	:	0.005
Zr	< LOD	:	0.004
Bi	< LOD	:	0.004
Pb	< LOD	:	0.016
Se	< LOD	:	0.012
W	< LOD	:	0.081
Zn	< LOD	:	0.033
Cu	< LOD	:	0.131
Ni	7.918	±	0.279
Co	< LOD	:	0.477
Fe	72.155	±	0.431
Mn	1.412	±	0.191
Cr	17.739	±	0.246
V	0.142	±	0.066
Ti	< LOD	:	0.132

Sergio Morales  
Date: 06-11-24



02/12/2024

On behalf of Tecnimont  
QC Welding Inspector

GABRIEL BOCARD  
Tecnimont S.A.  
ISO EN 9609-2 Quality Management System  
VTP/TM/RPT/01-TOFD-PA

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

## Certificate of PMI Reading

XL3t-32735

Reading No	9
Mode	ALLOY
Time	2024-10-21 09:05
Duration	11.57
Sequence	Final
Alloy1	304SS : 0.32
Alloy2	No Match : 2.14
Flags	
SAMPLE	
HEAT	
LOT	
BATCH	
MISC	
NOTE	

	%	±	Error
Sb	< LOD	:	0.039
Sn	0.051	±	0.025
Pd	< LOD	:	0.036
Ag	< LOD	:	0.149
Al	< LOD	:	80.000
Mo	< LOD	:	0.010
Nb	< LOD	:	0.004
Zr	< LOD	:	0.003
Bi	< LOD	:	0.002
Pb	< LOD	:	0.024
Se	< LOD	:	0.007
W	< LOD	:	0.084
Zn	< LOD	:	0.023
Cu	< LOD	:	0.136
Ni	8.047	±	0.276
Co	< LOD	:	0.466
Fe	71.924	±	0.427
Mn	1.196	±	0.185
Cr	18.051	±	0.245
V	0.146	±	0.066
Ti	< LOD	:	0.152

Sergio Morales

Date: 06-11-24



On behalf of Tecnímont  
QC Welding Inspector

GABRIEL DOPPELHOFF  
bento bento  
ISO 9609-1  
VTP/TM/R/TOT/TOD-A

Please text here

02/12/2024

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

## Certificate of PMI Reading

XL3t-32735

---

Reading No	5
Mode	ALLOY
Time	2024-10-21 09:03
Duration	11.26
Sequence	Final
Alloy1	304SS : 1.79
Alloy2	301SS : 1.91
Flags	SAMPLE
	HEAT
LOT	
BATCH	
MISC	
NOTE	

---

	%	±	Error
Sb	< LOD	:	0.038
Sn	< LOD	:	0.049
Pd	< LOD	:	0.036
Ag	< LOD	:	0.153
Al	< LOD	:	80.000
Mo	0.014	±	0.006
Nb	< LOD	:	0.005
Zr	< LOD	:	0.003
Bi	< LOD	:	0.011
Pb	< LOD	:	0.008
Se	< LOD	:	0.011
W	< LOD	:	0.079
Zn	< LOD	:	0.034
Cu	< LOD	:	0.135
Ni	7.791	±	0.279
Co	< LOD	:	0.476
Fe	72.258	±	0.434
Mn	1.216	±	0.190
Cr	18.191	±	0.250
V	< LOD	:	0.127
Ti	< LOD	:	0.129

---

Sergio Morales

Date: 06-11-24



On behalf of Tecnimont

QC Welding Inspector

02/12/2024

GABRIEL MORALES  
Welding Inspector  
ISO EN 9606-1  
VTPR/RT/OT-TWD-PA

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

## Certificate of PMI Reading

XL3t-32735

---

Reading No	4
Mode	ALLOY
Time	2024-10-21 09:03
Duration	11.41
Sequence	Final
Alloy1	301SS : 1.41
Alloy2	304SS : 1.89
Flags	
SAMPLE	
HEAT	
LOT	
BATCH	
MISC	
NOTE	

---

	%	±	Error
Sb	< LOD	:	0.042
Sn	< LOD	:	0.048
Pd	< LOD	:	0.036
Ag	< LOD	:	0.116
Al	< LOD	:	80.000
Mo	< LOD	:	0.010
Nb	< LOD	:	0.004
Zr	< LOD	:	0.006
Bi	< LOD	:	0.012
Pb	< LOD	:	0.017
Se	< LOD	:	0.009
W	< LOD	:	0.092
Zn	< LOD	:	0.028
Cu	< LOD	:	0.135
Ni	7.862	±	0.276
Co	< LOD	:	0.469
Fe	72.466	±	0.429
Mn	1.035	±	0.184
Cr	17.971	±	0.246
V	0.173	±	0.068
Ti	< LOD	:	0.138

---

Sergio Morales

Date: 06-11-24



On behalf of Tecnimont  
QC Welding Inspector

GABRIEL HENRIQUE DA SILVA  
ISO 9606-2017 Certified Inspector Level 2  
GABRIEL HENRIQUE DA SILVA  
ISO 9606-2017 Certified Inspector Level 2  
GABRIEL HENRIQUE DA SILVA  
ISO 9606-2017 Certified Inspector Level 2

02/12/2024

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

## Certificate of PMI Reading

XL3t-32735

---

Reading No	12
Mode	ALLOY
Time	2024-10-21 09:06
Duration	10.84
Sequence	Final
Alloy1	304SS : 0.97
Alloy2	No Match : 1.92
Flags	
SAMPLE	
HEAT	
LOT	
BATCH	
MISC	
NOTE	

---

	%	±	Error
Sb	< LOD	:	0.045
Sn	< LOD	:	0.055
Pd	< LOD	:	0.042
Ag	< LOD	:	0.171
Al	< LOD	:	80.000
Mo	0.468	±	0.023
Nb	< LOD	:	0.006
Zr	< LOD	:	0.005
Bi	< LOD	:	0.014
Pb	< LOD	:	0.017
Se	< LOD	:	0.010
W	< LOD	:	0.110
Zn	< LOD	:	0.040
Cu	0.410	±	0.096
Ni	8.048	±	0.301
Co	< LOD	:	0.506
Fe	70.827	±	0.465
Mn	1.622	±	0.209
Cr	17.989	±	0.266
V	< LOD	:	0.125
Ti	< LOD	:	0.162

---

Sergio Morales

Date: 06-11-24



On behalf of Tecnimont  
QC Welding Inspector

GABRIEL BOCCARD  
ISO EN 9712 Certified Welding Inspector  
VERIFIMATE/UT-TFG/DP

02/12/2024

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

## Certificate of PMI Reading

XL3t-32735

Reading No	7
Mode	ALLOY
Time	2024-10-21 09:04
Duration	13.69
Sequence	Final
Alloy1	304SS : 1.36
Alloy2	No Match : 2.33
Flags	
SAMPLE	
HEAT	
LOT	
BATCH	
MISC	
NOTE	

	%	±	Error
Sb	< LOD	:	0.038
Sn	< LOD	:	0.048
Pd	< LOD	:	0.035
Ag	< LOD	:	0.129
Al	< LOD	:	80.000
Mo	0.033	±	0.007
Nb	< LOD	:	0.004
Zr	< LOD	:	0.004
Bi	< LOD	:	0.005
Pb	< LOD	:	0.011
Se	< LOD	:	0.007
W	< LOD	:	0.085
Zn	< LOD	:	0.033
Cu	< LOD	:	0.141
Ni	7.939	±	0.265
Co	< LOD	:	0.449
Fe	71.488	±	0.413
Mn	1.597	±	0.185
Cr	18.185	±	0.237
V	0.161	±	0.065
Ti	< LOD	:	0.143

02/12/2024

Sergio Morales



Date: 06-11-24

On behalf of Tecnimont

QC Welding Inspector

GABRIEL BONFANTI  
ISO 9001:2015 CERTIFIED  
VTP/PTM/ART/OTTOFO-PA

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

## Certificate of PMI Reading

XL3t-32735

---

Reading No	8
Mode	ALLOY
Time	2024-10-21 09:05
Duration	11.03
Sequence	Final
Alloy1	304SS : 0.87
Alloy2	No Match : 1.87
Flags	SAMPLE
	HEAT
LOT	
BATCH	
MISC	
NOTE	

---

	%	±	Error
Sb	< LOD	:	0.049
Sn	0.069	±	0.031
Pd	< LOD	:	0.048
Ag	< LOD	:	0.133
Al	< LOD	:	80.000
Mo	0.405	±	0.023
Nb	< LOD	:	0.010
Zr	< LOD	:	0.004
Bi	< LOD	:	0.010
Pb	< LOD	:	0.017
Se	< LOD	:	0.009
W	< LOD	:	0.112
Zn	< LOD	:	0.045
Cu	0.406	±	0.100
Ni	8.055	±	0.315
Co	< LOD	:	0.533
Fe	70.297	±	0.487
Mn	1.933	±	0.224
Cr	18.050	±	0.280
V	< LOD	:	0.149
Ti	< LOD	:	0.179

Sergio Morales

Date: 06-11-24



On behalf of Tecnimont

QC Welding Inspector

GABRIEL BOEUF  
ISO EN 9613-2 Quality Management System  
VTPP/PMTG/TG/TG/CE/LE/EN  
02/12/2024

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

## Certificate of PMI Reading

XL3t-32735

---

Reading No	10
Mode	ALLOY
Time	2024-10-21 09:06
Duration	11.57
Sequence	Final
Alloy1	304SS : 1.75
Alloy2	No Match : *1.92
Flags	
SAMPLE	
HEAT	
LOT	
BATCH	
MISC	
NOTE	

---

	%	±	Error
Sb	< LOD	:	0.037
Sn	< LOD	:	0.048
Pd	< LOD	:	0.037
Ag	< LOD	:	0.136
Al	< LOD	:	80.000
Mo	0.039	±	0.007
Nb	< LOD	:	0.005
Zr	< LOD	:	0.004
Bi	< LOD	:	0.010
Pb	< LOD	:	0.026
Se	< LOD	:	0.007
W	< LOD	:	0.102
Zn	< LOD	:	0.038
Cu	< LOD	:	0.143
Ni	8.168	±	0.282
Co	< LOD	:	0.472
Fe	71.828	±	0.433
Mn	1.432	±	0.191
Cr	17.808	±	0.247
V	0.176	±	0.069
Ti	< LOD	:	0.142

---

Sergio Morales

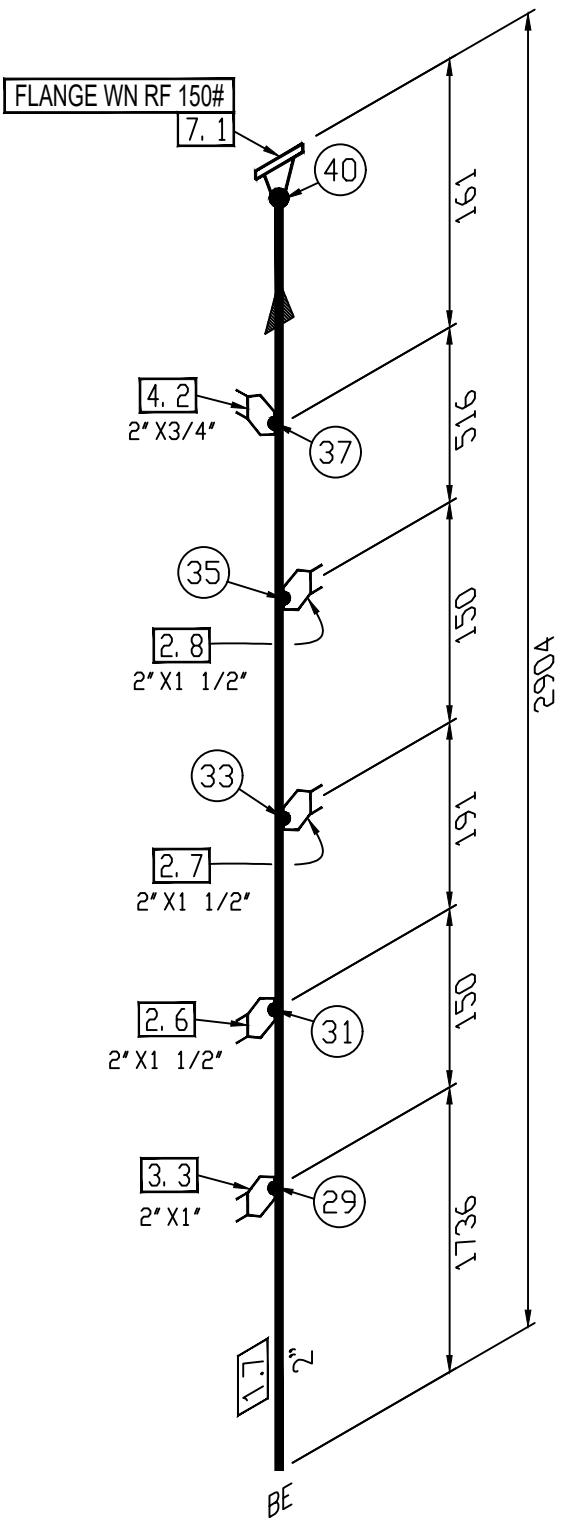
Date: 06-11-24



02/12/2024 On behalf of Tecnimont

QC Welding Inspector

GABRIEL RODRIGUES  
INTERNAUTA CONSULTORES  
VISTAMATTOURTOID-PA  
ISO EN 9613-1 & 9613-2  
LEVEL 2

<div style="text-align: center; padding: 10px;">    <b>FLANGE WN RF 150#</b>   </div>	<div style="text-align: center; padding: 10px;"> <p><b>BILL OF MATERIAL</b></p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th colspan="6">PIPE</th> </tr> <tr> <th>ITEM</th> <th>LENGTH</th> <th>DIAMETER</th> <th>SCH/mm</th> <th>DESCRIPTION / MATERIAL</th> <th>ITEM CODE</th> </tr> </thead> <tbody> <tr> <td>1.7</td> <td>2,839</td> <td>2"</td> <td>S-10S</td> <td>PIPE - A312-TP304/304L DUAL GR BE SMLS, BExBE</td> <td>I3364302</td> </tr> </tbody> </table>   <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th colspan="6">FLANGES</th> </tr> <tr> <th>ITEM</th> <th>QT</th> <th>DIAMÉTRE</th> <th>PRESSION</th> <th>SCH/mm</th> <th>DESCRIPTION / MATÉRIEL</th> </tr> </thead> <tbody> <tr> <td>7.1</td> <td>1</td> <td>2"</td> <td>150#</td> <td>S-10S</td> <td>WN FLANGE ASME B16.5 150# A182-F304/304L DUAL GR BE 125 -250 AARH</td> </tr> </tbody> </table>   <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th colspan="6">FORGINGS</th> </tr> <tr> <th>ITEM</th> <th>QT</th> <th>DIAMÉTRE</th> <th>SCH/PRESS.</th> <th>DESCRIPTION / MATÉRIEL</th> <th>ITEM CODE</th> </tr> </thead> <tbody> <tr> <td>2.6</td> <td>1</td> <td>2" x 1 1/2"</td> <td>3000#</td> <td>REDUCING SOCKOLET MSS-SP-97 3000# A182-F304/304L DUAL GR BE SWE</td> <td>I2258341</td> </tr> <tr> <td>2.7</td> <td>1</td> <td>2" x 1 1/2"</td> <td>3000#</td> <td>REDUCING SOCKOLET MSS-SP-97 3000# A182-F304/304L DUAL GR BE SWE</td> <td>I2258341</td> </tr> <tr> <td>2.8</td> <td>1</td> <td>2" x 1 1/2"</td> <td>3000#</td> <td>REDUCING SOCKOLET MSS-SP-97 3000# A182-F304/304L DUAL GR BE SWE</td> <td>I2258341</td> </tr> <tr> <td>3.3</td> <td>1</td> <td>2" x 1"</td> <td>3000#</td> <td>REDUCING SOCKOLET MSS-SP-97 3000# A182-F304/304L DUAL GR BE SWE</td> <td>I2258339</td> </tr> <tr> <td>4.2</td> <td>1</td> <td>2" x 3/4"</td> <td>3000#</td> <td>REDUCING SOCKOLET MSS-SP-97 3000# A182-F304/304L DUAL GR BE SWE</td> <td>I2258338</td> </tr> </tbody> </table>   <div style="text-align: right; margin-top: 10px;"> <span style="border: 1px solid black; padding: 2px;">P2308S 00996</span>      <span style="border: 1px solid black; padding: 2px;">2121-IA91F13-1-SP05-00996</span> </div> <div style="text-align: right; margin-top: 10px;">    <b>boccard</b>  Alliance for success  Boccard Portugal, Lda. </div> </div>	PIPE						ITEM	LENGTH	DIAMETER	SCH/mm	DESCRIPTION / MATERIAL	ITEM CODE	1.7	2,839	2"	S-10S	PIPE - A312-TP304/304L DUAL GR BE SMLS, BExBE	I3364302	FLANGES						ITEM	QT	DIAMÉTRE	PRESSION	SCH/mm	DESCRIPTION / MATÉRIEL	7.1	1	2"	150#	S-10S	WN FLANGE ASME B16.5 150# A182-F304/304L DUAL GR BE 125 -250 AARH	FORGINGS						ITEM	QT	DIAMÉTRE	SCH/PRESS.	DESCRIPTION / MATÉRIEL	ITEM CODE	2.6	1	2" x 1 1/2"	3000#	REDUCING SOCKOLET MSS-SP-97 3000# A182-F304/304L DUAL GR BE SWE	I2258341	2.7	1	2" x 1 1/2"	3000#	REDUCING SOCKOLET MSS-SP-97 3000# A182-F304/304L DUAL GR BE SWE	I2258341	2.8	1	2" x 1 1/2"	3000#	REDUCING SOCKOLET MSS-SP-97 3000# A182-F304/304L DUAL GR BE SWE	I2258341	3.3	1	2" x 1"	3000#	REDUCING SOCKOLET MSS-SP-97 3000# A182-F304/304L DUAL GR BE SWE	I2258339	4.2	1	2" x 3/4"	3000#	REDUCING SOCKOLET MSS-SP-97 3000# A182-F304/304L DUAL GR BE SWE	I2258338
PIPE																																																																															
ITEM	LENGTH	DIAMETER	SCH/mm	DESCRIPTION / MATERIAL	ITEM CODE																																																																										
1.7	2,839	2"	S-10S	PIPE - A312-TP304/304L DUAL GR BE SMLS, BExBE	I3364302																																																																										
FLANGES																																																																															
ITEM	QT	DIAMÉTRE	PRESSION	SCH/mm	DESCRIPTION / MATÉRIEL																																																																										
7.1	1	2"	150#	S-10S	WN FLANGE ASME B16.5 150# A182-F304/304L DUAL GR BE 125 -250 AARH																																																																										
FORGINGS																																																																															
ITEM	QT	DIAMÉTRE	SCH/PRESS.	DESCRIPTION / MATÉRIEL	ITEM CODE																																																																										
2.6	1	2" x 1 1/2"	3000#	REDUCING SOCKOLET MSS-SP-97 3000# A182-F304/304L DUAL GR BE SWE	I2258341																																																																										
2.7	1	2" x 1 1/2"	3000#	REDUCING SOCKOLET MSS-SP-97 3000# A182-F304/304L DUAL GR BE SWE	I2258341																																																																										
2.8	1	2" x 1 1/2"	3000#	REDUCING SOCKOLET MSS-SP-97 3000# A182-F304/304L DUAL GR BE SWE	I2258341																																																																										
3.3	1	2" x 1"	3000#	REDUCING SOCKOLET MSS-SP-97 3000# A182-F304/304L DUAL GR BE SWE	I2258339																																																																										
4.2	1	2" x 3/4"	3000#	REDUCING SOCKOLET MSS-SP-97 3000# A182-F304/304L DUAL GR BE SWE	I2258338																																																																										
<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>Rev.</th> <th>Date</th> <th>DRW</th> <th>Check 1</th> <th>Check 2</th> </tr> </thead> <tbody> <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>01</td> <td>25/04/2024</td> <td>AOM</td> <td>LRG</td> <td>PCO</td> <td>Paint System: NR</td> </tr> </tbody> </table> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td>Construction Code: ASME B31.3</td> <td>% RT - YES</td> <td>% UT - NO</td> <td>Hydro: NO</td> <td>ID Cleaning: YES</td> <td>Piece Mark</td> <td>Ref. Drawing</td> <td>Job #</td> <td>Spool #</td> <td>Project</td> </tr> <tr> <td>Acc Criteria: ASME B31.3</td> <td>% PT - YES</td> <td>% FE - NO</td> <td>PWHT: NO</td> <td>OD Cleaning: YES</td> <td rowspan="2" style="vertical-align: middle; text-align: center;">2121-IA91F13-1-SP05-00996</td> <td rowspan="2" style="vertical-align: middle; text-align: center;">2121-IA91F13-1</td> <td rowspan="2" style="vertical-align: middle; text-align: center;">P2308S</td> <td rowspan="2" style="vertical-align: middle; text-align: center;">00996</td> <td rowspan="2" style="vertical-align: middle; text-align: center;">REPSOL PROJETO ALBA NERVION</td> </tr> <tr> <td>Metal Tag: YES</td> <td>% MT - NO</td> <td>% PMI - YES</td> <td>BHN% - NO</td> <td>Tolerances: ASME B31.3</td> </tr> </table>	Rev.	Date	DRW	Check 1	Check 2					Marking Color: GREEN					Weld Class: 6C4-M	01	25/04/2024	AOM	LRG	PCO	Paint System: NR	Construction Code: ASME B31.3	% RT - YES	% UT - NO	Hydro: NO	ID Cleaning: YES	Piece Mark	Ref. Drawing	Job #	Spool #	Project	Acc Criteria: ASME B31.3	% PT - YES	% FE - NO	PWHT: NO	OD Cleaning: YES	2121-IA91F13-1-SP05-00996	2121-IA91F13-1	P2308S	00996	REPSOL PROJETO ALBA NERVION	Metal Tag: YES	% MT - NO	% PMI - YES	BHN% - NO	Tolerances: ASME B31.3	<div style="text-align: center; padding: 10px;"> <p>On behalf of Tecnimont/R Piping Supervisor R. Mancino 02-12-24 </p> <p>Sergio Morales  Date: 06-11-24</p> </div>																																
Rev.	Date	DRW	Check 1	Check 2																																																																											
				Marking Color: GREEN																																																																											
				Weld Class: 6C4-M																																																																											
01	25/04/2024	AOM	LRG	PCO	Paint System: NR																																																																										
Construction Code: ASME B31.3	% RT - YES	% UT - NO	Hydro: NO	ID Cleaning: YES	Piece Mark	Ref. Drawing	Job #	Spool #	Project																																																																						
Acc Criteria: ASME B31.3	% PT - YES	% FE - NO	PWHT: NO	OD Cleaning: YES	2121-IA91F13-1-SP05-00996	2121-IA91F13-1	P2308S	00996	REPSOL PROJETO ALBA NERVION																																																																						
Metal Tag: YES	% MT - NO	% PMI - YES	BHN% - NO	Tolerances: ASME B31.3																																																																											

# Spool Material List

Contract : P2308

Client NERVION

Job : P2308S

Project ALBA

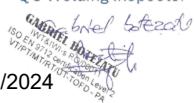
Job	Spool	Piece Mark	Drawing	Rev			
Item No Tag No ID No	Qty	Size1 Sch1	Size2 Sch2	Description	Heat No MTR No Folder No	Unit Weight Kgs	Weight Kgs
P2308S	00996	2121-IA91F13-1-SP05-00996	2121-IA91F13-1	01			
1.7	2,839	2.0000 S10S	0.0000 NA	PIPE, SEAMLESS, A312-TP304L	S-23594 0357	3,93	11,16
40391							
7.1	1	2.0000 S10S	0.0000 NA	WN FLG, RAISED FACE, 150#, A182-F304L	N230210AT03 0146	2,72	2,72
37867							
4.2	1	2.0000 NA	0.7500 NA	SOCKOLET, 3000#, A182-F304L	N220606AV04 0297	0,15	0,15
88696							
3.3	1	2.0000 NA	1.0000 NA	SOCKOLET, 3000#, A182-F304L	174037 0298	0,01	0,01
85700							
2.6	1	2.0000 NA	1.5000 NA	SOCKOLET, 3000#, A182-F304L	514786 0301	0,45	0,45
85701							
2.7	1	2.0000 NA	1.5000 NA	SOCKOLET, 3000#, A182-F304L	514786 0301	0,45	0,45
85701							
2.8	1	2.0000 NA	1.5000 NA	SOCKOLET, 3000#, A182-F304L	514786 0301	0,45	0,45
85701							

On behalf of Tecnimont/R  
Piping Supervisor

R. Mancino  
02-12-24



On behalf of Tecnimont  
QC Welding Inspector



02/12/2024

Number of Items : 7 Total Weight : 15,39

Signature	QA	Client
		Sergio Morales Date: 06-11-24
Date	2024-11-04 09:03:09	

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

12

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



F / QA / 24

REV. NO. 10

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

### INSPECTION CERTIFICATE

In Accordance with EN 10204/3.1

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

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

### Chemical Analysis %

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

### Mechanical Test

Heat No.	Required			Gauge Width	Flattening Test	Hardness Test	Impact Test		IGC Test					
	Tensile strength Mpa	Yield strength					Max-90 HRB	100 Joule Min.(AVG)	ASTM A-262 Practice"E" & ISO 3651-2 Method "A"					
		Rp0.2% Mpa	Rp1 % Mpa						N/A					
MAX	690	--	--	--										
MIN	515	205	230	40										
S-23594	624.31	316.22	322.57	55.21	25.40	Satisfactory	76-78							
	623.05	315.91	320.42	54.89			73-75							

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

**Marking on pipes:** SURAJ LTD SPECIFICATION GRADE SIZE

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

**Remarks:**

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

Prepared by

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

SURAJ LTD  
THOL  
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 specime			Test temp	ASTM A370-2021					ASTM A370-21						
						Yield strength	Yield strength	Tensile Strength	Elongation	Reduction of area	Hardness	Energy of impact test (ISO-V specimen) Charpy size 10mm×10mm×55mm					
		Thickne ss	Width	Location	Direction	Position	R <sub>p0.2</sub> N/mm <sup>2</sup>	R <sub>p1.0</sub> N/mm <sup>2</sup>	R <sub>m</sub> N/mm <sup>2</sup>	A %	Z %	HB	Joule				
A182-F304	mm	mm			T		≥205		≥515	≥30	≥50						
A182-F304L							≥170		≥485	≥30	≥50		1	2	3	Σ/N	
23Y0340	Φ12.5					20	274		540	52	76	156/157					

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

Visual inspection

Dimensional check

Surface crack inspection

Renew by zhangchen  
PM&L obo Teckmone

Without Complaint  
Without Complaint  
Without Complaint

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

Date:

2023/5/25

Manufacturer's Authorized Inspection Representative



江阴中南重工有限公司  
Jiangyin Zhongnan Heavy Industries Co., Ltd.  
产品质量证明书 Quality Certificate EN10

戶(Purchaser): (印度)TECNIMONT S.P.A

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

订单号:PO 7500110919

质(Material)、ASTM A182-2001 F304/304L DIN 1.4301 GB

MSS SB 07 3012

材质(Material): ASTM A182-2021 F304/304L DUAL GR												执行标准(Product standards): MSS SP-97-2012																
生产批号 Batch No.	产品名称 Designation	化学成分 Chemical Composition (%)												机械性能 Mechanical Properties														
		牌格型号 Dimension	单位 Unit	数量 Qty	炉号 Heat No.	C	Si	Mn	S	P	Cr	Ni	Ti	Mo	V	Cu	Nb	Al	N	CE	抗拉强度 R <sub>tu</sub> (MPa)	屈服强度 R <sub>0.2</sub> (MPa)	延伸率 A <sub>5%</sub> %	冲击试验(J) 0°C (10*10*55mm)	硬度 HBW	硬度 HV	备注 Remark	
2023-03-225-306	SOCKOLET SWE	SIZE1.2 SIZ2.0.5 2"0.5"30001B	件	5	N22066AV04	0.023	0.35	1.30	0.002	0.029	18.19	8.08							0.047	615	309	54.5	77	-	-	172/169/174	306	Ident Code: I2258437
2023-03-225-307	SOCKOLET SWE	SIZE1.2 SIZ2.0.75 2"0.75"30001B	件	5	N22066AV04	0.023	0.35	1.30	0.002	0.029	18.19	8.08							0.047	615	309	54.5	77	-	-	172/169/174	307	Ident Code: I2258438
2023-03-225-308	SOCKOLET SWE	SIZE1.3 SIZ2.0.75 3"0.75"30001B	件	10	N22066AV04	0.023	0.35	1.30	0.002	0.029	18.19	8.08							0.047	615	309	54.5	77	-	-	172/169/174	308	Ident Code: I2258445
2023-03-225-309	SOCKOLET SWE	SIZE1.3 SIZ2.1 3"1"30001B	件	5	N22066AV04	0.023	0.35	1.30	0.002	0.029	18.19	8.08							0.047	615	309	54.5	77	-	-	172/169/174	309	Ident Code: I2258446
2023-03-225-310	SOCKOLET SWE	SIZE1.4 SIZ2.0.75 4"0.75"30001B	件	5	N22066AV04	0.023	0.35	1.30	0.002	0.029	18.19	8.08							0.047	615	309	54.5	77	-	-	172/169/174	310	Ident Code: I2258477
2023-03-225-311	SOCKOLET SWE	SIZE1.6 SIZ2.0.75 6"0.75"30001B	件	5	N22066AV04	0.023	0.35	1.30	0.002	0.029	18.19	8.08							0.047	615	309	54.5	77	-	-	172/169/174	311	Ident Code: I2258478
其他检测结果(Other examination and test)												交货状态 Delivery condition						备注 Remark										
尺寸检查 Dimension Inspection	外观检查 Visual Inspection	硬度 Hardness (H13W≤201)		无损检测(NDT)		晶间腐蚀 Intergranular Corrosion Test		X射线 RT		备注 Remark		交货状态 Delivery condition						备注 Remark										
		合格 OK	合格 OK	磁粉 MT	着色 PT	超声波 UT	X射线 RT	合格 OK	-	合格 OK	PMI OK	固溶 Solution Annealing	交货状态 Delivery condition						备注 Remark									
兹兹证明上述产品的制造、检验和试验，符合上述标准规定及合同要求。												We hereby certify that the products described above have manufactured, inspected and tested in accordance with the specified standards and the contract requirements.											特种设备制造许可证编号(Manufacture License of Special Equipment): IS2732E11-2024					
检验员(Inspector):	华洋	质保工程师/QA Engineer:	李晓	签发日期(Date of issue):	2023.05.29	Mitsubishi Heavy Industries Quality Department												东洋印										

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

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

NOTES

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

CUSTOMER INSPECTOR

THIRD PARTS

QUALITY CONTROL

Laura Paganuzzi

J. Foggnini

CHERO PIPING S.P.A.

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



CERTIFICATE NR.	<b>CE/2022/1606</b>	Rev. 0	DATE <b>13/12/2022</b>	CUSTOMER ORDER REF. <b>7500107587 - 25/10/2022</b>
INTERNAL ORDER NR.	<b>OC/2022/1021</b>		DATE <b>26/10/2022</b>	CUSTOMER <b>TECNIMONT S.P.A.</b>

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

STEEL WORKS			
TEST No.	MATERIAL SPECIFICATION AND GRADE	HEAT NUMBER	BASE MATERIAL CERTIFICATE REF.
39020	ASTM A182-22 F304/F304L	365767	18/1334
46280	ASTM A182-22 F304/F304L	405025	26/1114
52765	ASTM A182-22 F304/F304L	468165	37/085
54228	ASTM A182-22 F304/F304L	W3TE	2019/015552
54285	ASTM A182-22 F304/F304L	481150	395730
55556	ASTM A182-22 F304/F304L	279384	MEST527500/2020
56611	ASTM A182-22 F304/F304L	072541	030226
57429	ASTM A182-22 F304/F304L	072956	2021/00433
57876	ASTM A182-22 F304/F304L	280455	MEST548926/2020
58313	ASTM A182-22 F304/F304L	172917	2021/023605
58416	ASTM A182-22 F304/F304L	514059	449954
58449	ASTM A182-22 F304/F304L	OJPC	2021/009174
58474	ASTM A182-22 F304/F304L	515098	452941
58602	ASTM A182-22 F304/F304L	573084	2015061497
58609	ASTM A182-22 F304/F304L	514786	452546
59054	ASTM A182-22 F304/F304L	515088	452941
59202	ASTM A182-22 F304/F304L	174369	2021/066230
59269	ASTM A182-22 F304/F304L	0TNH	2021/02547
59345	ASTM A182-22 F304/F304L	285338	MEST863112/2022
59346	ASTM A182-22 F304/F304L	287112	MEST863113/2022
59412	ASTM A182-22 F304/F304L	526509	472548
59538	ASTM A182-22 F304/F304L	174577	2022/06080
59886	ASTM A182-22 F304/F304L	174578	2022/02830
59752	ASTM A182-22 F304/F304L	174248	2021/057503
59790	ASTM A182-22 F304/F304L	287723	MEST883375/2022
59881	ASTM A182-22 F304/F304L	272546	2022/015659
59859	ASTM A182-22 F304/F304L	174037	2021/048041
60059	ASTM A182-22 F304/F304L	17VZ	2022/005128
60212	ASTM A182-22 F304/F304L	538645	492348
60858	ASTM A182-22 F304/F304L	1RWL	2022/012165
48876	ASTM A182-22 F316/F316L	273641	MEST095863/2017
55354	ASTM A182-22 F316/F316L	281487	MEST502341/2019
56532	ASTM A182-22 F316/F316L	072865	043593
58450	ASTM A182-22 F316/F316L	284588	MEST765246/2021

THIS IS TO CERTIFY THAT MATERIAL IS IN FULL COMPLIANCE TO PURCHASE ORDER AND APPLICABLE SPECIFICATIONS.

FITTING SUPPLIED ARE ACC TO ASME B16.11 MSS SP-97, MSS SP-83 AS APPLICABLE AND MARKED ACC MSS SP-25. ALL STANDARDS ARE IN LATEST 1 EDITION.

MATERIAL ACC TO ASTM IN L.E. AND ASME II ED.2021. MATERIAL ACC. TO NACE MR 01.75 ED.2015 AND PMA 2014/68/EU ANNEX 1.

VISUAL, DIMENSIONAL AND MARKING CHECK HAVE BEEN CARRIED OUT WITH SATISFACTORY RESULTS

STAINLESS STEEL FITTINGS ARE RIGIDLY AND DURABLY MANUFACTURED IN ACCORDANCE WITH LASTRA 200

CUSTOMER INSPECTOR

THIRD PARTS

## NOTES

QUALITY CONTROL

J. Fogmunti

CHERO PIPING S.P.A.



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

CUSTOMER ORDER REF.  
**7500107587 - 25/10/2022**

---

CUSTOMER  
**TECNIMONT S.P.A.**

SHEET 8/25

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

ASTM A182-22 F304/F304L										
Heat Number										
Ladle Analysis	Heat Number									
C %	0.020	C %	0.018	C %	0.018	C %	0.019	C %	0.017	
Mn %	1.500	Mn %	1.350	Mn %	1.470	Mn %	1.470	Mn %	1.320	
Si %	0.430	Si %	0.400	Si %	0.410	Si %	0.520	Si %	0.560	
P %	0.037	P %	0.035	P %	0.029	P %	0.029	P %	0.031	
S %	0.028	S %	0.029	S %	0.026	S %	0.029	S %	0.028	
Cr %	18.050	Cr %	18.110	Cr %	18.180	Cr %	18.220	Cr %	18.220	
Mo %	0.000	Mo %	0.000	Mo %	0.382	Mo %	0.450	Mo %	0.430	
Ni %	8.080	Ni %	8.030	Ni %	8.060	Ni %	8.110	Ni %	8.140	
Cr %	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
Test Temperature °C		Test Temperature °C		Test Temperature °C		Test Temperature °C		Test Temperature °C		
Tensile Test	632	Tensile Strength MPa	632							
Yield Strength MPa (0.2%)	320									
Elongation Area %	52.00									
Reduction Area %	71.00	Reduction Area %	71.00	Reduction Area %	74.00	Reduction Area %	74.00	Reduction Area %	74.70	
Scale	HBW									
Value 1	180	Value 1	169	Value 1	166	Value 1	184	Value 1	177	
Value 2	177	Value 2	170	Value 2	168	Value 2	185	Value 2	174	
Value 3	179	Value 3	173	Value 3	175	Value 3	188	Value 3	180	
Average Hardness	178.667	Average Hardness	170.667	Average Hardness	169.667	Average Hardness	185.667	Average Hardness	172.667	
Type	SOL ANN.									
Heat Treatment	Holding Temperature °C	+1.050	Holding Temperature °C	+1.080	Holding Temperature °C	+1.080	Holding Temperature °C	+1.080	Holding Temperature °C	+1.080
	Holding Time (min)	Min 1h/inch	Holding Time (min)	Min 1h/inch						
	Cooling Medium	WATER	Cooling Medium	WATER						

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

## NOTES

CUSTOMER INSPECTOR	THIRD PARTS	QUALITY CONTROL
		Laura Paganuzzi

CHERO PIPING S.P.A.



CERTIFICATE NR. CE/2022/1606 - Rev. 0	DATE 13/12/2022	CUSTOMER ORDER REF. 7500107587 - 25/10/2022
INTERNAL ORDER NR. OC/2022/1021	DATE 26/10/2022	CUSTOMER TECNIMONT S.P.A.

SHEET  
21/25

TEST CERTIFICATE ACCORDING TO EN 10294 3.1 - EXTENT OF MATERIAL TEST

<i>Material Spec. and Grade</i>	<i>Heat Number</i>	<i>Procedure Number</i>	<i>Applicable Standard</i>	<i>Quantity Inspected %</i>	<i>Instrument</i>
ASTM A182-22 F504/F504L	515098	CHERO-GA-PML-8	ASTM E572	10	NITON X12-SN:95371
Serial Number	<b>515098-0001</b>		<b>515098-0002</b>		
Mn %	1.423			1.455	
Cr %	18.000			18.000	
Ni %	8.068			8.000	

PMI Test - Position 318: SOCKOLET SW S/3000 A182F304/304L 1"X2"

<i>Material Spec. and Grade</i>	<i>Heat Number</i>	<i>Procedure Number</i>	<i>Applicable Standard</i>	<i>Quantity Inspected %</i>	<i>Instrument</i>
ASTMA182-22F304F304L	174037	CHERO-CA-PM-8	ASTM E572	10	NITON XL2-SN95371
Serial Number	174037-0001		174037-0002		

8.436 N% 8.000

<i>Material Spec. and Grade</i>	<i>Heat Number</i>	<i>Procedure Number</i>	<i>Applicable Standard</i>	<i>Instrument</i>
ASTM A182-22 F504/F504L	514786	CHERO-CA-PMI-B	ASTM E572	NITON XL-2-SN:95371
Serial Number	514786-0001			

C %	18.900
Ni %	8.173

1 Test - Position 320: STOCKLET SW S/3000 A182F304/304L 1/2"x3"					
Material Spec. and Grade	Heat Number	Procedure Number	Applicable Standard	Quantity Inspected	Instrument
ASTM A182-22 F304/F304L	280455	CHERO-QA-PML-8	ASTM E572	10	NITON XL-2-SN:95371
Serial	280455-0001				

Mn %	1.84%
Cr %	18.000

Material Spec. and Grade		Heat Number	Procedure Number	Applicable Standard
ASTM A182 F304/F304L		515098	CHERO-QA-PMI-8	ASTM E572
Serial Number		515098-0001	515098-0002	515098-0003
2024				
Mn %	1.439		1.526	1.484
Cr %	18.249		18.778	18.460

BMI Test Position 222: SOCKON ET SW S/2000 A182E201/2001 11-21

BUREAU VERITAS	NOTED	REVIEWED
ITALY		
2 <sup>nd</sup> PARTY INSPECTION		
ON BEHALF OF		
TC 11		
WITNESSED		
SURVEYOR: S. NEGRINI		
D. I.T.E.		
15 DEC 2022		

104

卷之三

Laura Paganuzzi

J. Agarwali

CHERO PIPING S.P.A.

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

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

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

SHEET  
22/25

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

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

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

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

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

<i>Material Spec. and Grade</i>	<i>Heat Number</i>	<i>Procedure Number</i>	<i>Applicable Standard</i>	<i>Instrument</i>
ASTM A182-22 F304/F304L	515098	CHERO-QA-PMI-8	ASTM E572	NITON XL2-SN:95371
Serial Number	515098-0001			
Mn %	1.470			
Cr %	18.000			
Ni %	8.000			

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

<i>Material Spec. and Grade</i>	<i>Heat Number</i>	<i>Procedure Number</i>	<i>Applicable Standard</i>	<i>Instrument</i>
ASTM A182-22 F304/F304L	573084	CHERO-QA-PMI-8	ASTM E572	NITON XL2-SN:95371
Serial Number	573084-0001			
Mn %	1.313			
Cr %	18.761			
Ni %	8.153			

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

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

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

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

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

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

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

POS.	TEST No.	HEAT CODE	HEAT NUMBER	Q.TY	DESCRIPTION / MAT. REQUISIT. - TAG N. - ITEM CODE - COMPUTER CODE - UB / ENCLOSURE - NOTES
314	1	59056	E-LJ	521831	5,00 SOCKOLET SW S/3000 A182F316/316L 3/4"x4" / C/C: 12250468 - CR: MR ITEM NO.9 XH0222 - CC: R13DNL1M/107
315	1	55354	I20N	281487	5,00 SOCKOLET SW S/3000 A182F316/316L 11/12"x4" / C/C: 12250549 - CR: MR ITEM NO.10 XH0222 - CC: R13DNL1M/107
316	1	57876	I020	280455	5,00 SOCKOLET SW S/3000 A182F304/304L 11/12"x4" / C/C: 12256337 - CR: MR ITEM NO.11 XH0222 - CC: R13DNL2A/107
317	1	58474		515098	20,00 SOCKOLET SW S/3000 A182F304/304L 3/4"x2" / C/C: 12256338 - CR: MR ITEM NO.12 XH0222 - CC: R13DNL2A/107
318	1	59959	E-OE	174037	15,00 SOCKOLET SW S/3000 A182F304/304L 11"x2" / C/C: 12256339 - CR: MR ITEM NO.13 XH0222 - CC: R13DNL2A/107
319	1	588609	I160	514786	10,00 SOCKOLET SW S/3000 A182F304/304L 11/12"x2" / C/C: 12258341 - CR: MR ITEM NO.14 XH0222 - CC: R13DNL2A/107
320	1	57876	I020	280455	1,00 SOCKOLET SW S/3000 A182F304/304L 11/2"x3" / C/C: 12258414 - CR: MR ITEM NO.15 XH0222 - CC: R13DNL2A/107
321	1	59054	E-LZ	515098	25,00 SOCKOLET SW S/3000 A182F304/304L 3/4"x3" / C/C: 12258415 - CR: MR ITEM NO.16 XH0222 - CC: R13DNL2A/107
322	1	59859	E-OE	174037	5,00 SOCKOLET SW S/3000 A182F304/304L 11/2"x3" / C/C: 12258416 - CR: MR ITEM NO.17 XH0222 - CC: R13DNL2A/107
323	1	58609	I160	514786	5,00 SOCKOLET SW S/3000 A182F304/304L 11/2"x3" / C/C: 12258418 - CR: MR ITEM NO.18 XH0222 - CC: R13DNL2A/107
324	1	59054	E-LZ	515098	20,00 SOCKOLET SW S/3000 A182F304/304L 3/4"x4" / C/C: 12258477 - CR: MR ITEM NO.20 XH0222 - CC: R13DNL2A/107
325	1	588602	I21O	573084	15,00 SOCKOLET SW S/3000 A182F304/304L 11/2"x6" / C/C: 12258517 - CR: MR ITEM NO.21 XH0222 - CC: R13DNL2A/107
326	1	59412	E-MJ	526509	1,00 SOCKOLET SW S/3000 A182F304/304L 11/2"x6" / C/C: 12258517 - CR: MR ITEM NO.22 XH0222 - CC: R13DNL2A/107
327	1	58474		515098	5,00 SOCKOLET SW S/3000 A182F304/304L 3/4"x6" / C/C: 12258518 - CR: MR ITEM NO.23 XH0222 - CC: R13DNL2A/107
328	1	58449	OJPC		5,00 SOCKOLET SW S/3000 A182F304/304L 11"x6" / C/C: 12258519 - CR: MR ITEM NO.24 XH0222 - CC: R13DNL2A/107
329	1	58474		515098	10,00 SOCKOLET SW S/3000 A182F304/304L 3/4"x8" / C/C: 12258538 - CR: MR ITEM NO.25 XH0222 - CC: R13DNL2A/107
330	1	58449	OJPC		1,00 SOCKOLET SW S/3000 A182F304/304L 11/12"x6" / C/C: 12258539 - CR: MR ITEM NO.26 XH0222 - CC: R13DNL2A/107
331	1	54285		481150	1,00 SOCKOLET SW S/3000 A182F304/304L 11/12"x20" / C/C: 12258291 - CR: MR ITEM NO.27 XH0222 - CC: R13DNL2A/107
332	1	52765		468165	4,00 SOCKOLET SW S/3000 A182F304/304L 3/4"x16" / C/C: 12258314 - CR: MR ITEM NO.28 XH0222 - CC: R13DNL2A/107
333	1	59412	E-MJ	526509	5,00 SOCKOLET SW S/3000 A182F304/304L 11/2"x20" / C/C: 12258364 - CR: MR ITEM NO.29 XH0222 - CC: R13DNL2A/107
334	1	52765		468165	6,00 SOCKOLET SW S/3000 A182F304/304L 3/4"x20" / C/C: 12258355 - CR: MR ITEM NO.30 XH0222 - CC: R13DNL2A/107
335	1	54285		481150	1,00 SOCKOLET SW S/3000 A182F304/304L 11/2"x20" / C/C: 12258356 - CR: MR ITEM NO.31 XH0222 - CC: R13DNL2A/107

NOTES

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

CUSTOMER INSPECTOR

THIRD PARTS

QUALITY CONTROL

Laura Paganuzzi

J. Foggnini

CHERO PIPING S.P.A.

BUREAU VERITAS	2 <sup>nd</sup> PARTY INSPECTION ON BEHALF OF
TCT	WITNESSED <del>NOTED</del> REVIEWED
SURVEYOR: S. NEGRINI	
DATE 1/1 - 15 DEC 2022	

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

### Materials Heat Number Summary

TEST No.	MATERIAL SPECIFICATION AND GRADE	HEAT NUMBER	BASE MATERIAL CERTIFICATE REF.	STEEL WORKS
39020	ASTM A182-22 F304/F304L	365767	181/334	OLARRA
46280	ASTM A182-22 F304/F304L	406025	261114	OLARRA
52765	ASTM A182-22 F304/F304L	468165	371065	OLARRA
54228	ASTM A182-22 F304/F304L	W31TE	2019/015552	ROLDAN
54285	ASTM A182-22 F304/F304L	481150	395730	OLARRA
55556	ASTM A182-22 F304/F304L	279394	MEST/52750/02020	ACCIARIE VALBRUNA
56611	ASTM A182-22 F304/F304L	072541	030226	COGNE ACCIAI SPECIALI
57429	ASTM A182-22 F304/F304L	072996	20210/0433	COGNE ACCIAI SPECIALI
57876	ASTM A182-22 F304/F304L	280455	MEST/548926/2020	ACCIARIE VALBRUNA
58313	ASTM A182-22 F304/F304L	172917	20210/23605	COGNE ACCIAI SPECIALI
58416	ASTM A182-22 F304/F304L	514059	449964	OLARRA
58449	ASTM A182-22 F304/F304L	OJPC	2021/069174	ROLDAN S.A.
58474	ASTM A182-22 F304/F304L	515098	452941	OLARRA
58602	ASTM A182-22 F304/F304L	573084	2015/061497	COGNE ACCIAI SPECIALI
58609	ASTM A182-22 F304/F304L	514786	452546	OLARRA
59054	ASTM A182-22 F304/F304L	515098	452941	OLARRA
59202	ASTM A182-22 F304/F304L	17369	20210/56230	COGNE
59269	ASTM A182-22 F304/F304L	OTNH	2021/012547	ROLDAN S.A.
59345	ASTM A182-22 F304/F304L	286338	MEST/863/112/2022	ACCIARIE VALBRUNA
59346	ASTM A182-22 F304/F304L	287142	MEST/863/113/2022	ACCIARIE VALBRUNA
59412	ASTM A182-22 F304/F304L	526509	472548	OLARRA
59538	ASTM A182-22 F304/F304L	174577	2022/006080	COGNE
59586	ASTM A182-22 F304/F304L	174578	2022/002830	COGNE
59752	ASTM A182-22 F304/F304L	174248	2021/057503	COGNE
59790	ASTM A182-22 F304/F304L	287723	MEST/883/375/2022	ACCIARIE VALBRUNA
59881	ASTM A182-22 F304/F304L	272546	2020/166559	COGNE
59959	ASTM A182-22 F304/F304L	174037	2021/048041	COGNE
60059	ASTM A182-22 F304/F304L	1VZB	2022/005128	ROLDAN S.A.
60212	ASTM A182-22 F304/F304L	538845	492348	OLARRA
60858	ASTM A182-22 F304/F304L	1RWL	2022/012165	ROLDAN S.A.
48676	ASTM A182-22 F316/F316L	273641	MEST/095863/2017	ACCIARIE VALBRUNA
55354	ASTM A182-22 F316/F316L	281487	MEST/50234/1/2019	ACCIARIE VALBRUNA
56932	ASTM A182-22 F316/F316L	043593	072865	COGNE ACCIAI SPECIALI
58450	ASTM A182-22 F316/F316L	284568	MEST/7765246/2021	ACCIARIE VALBRUNA

### NOTES

THIS IS TO CERTIFY THAT MATERIAL IS IN FULL COMPLIANCE TO PURCHASE ORDER AND APPLICABLE SPECIFICATIONS.

FITTING SUPPLIED ARE ACC. TO ASME B16.11, MSS SP-97, MSS SP-83 AS APPLICABLE AND MARKED ACCORDING TO MS SP-25; ALL STANDARDS ARE IN LATEST EDITION.  
 MATERIAL ACC. TO ASTM IN L.E. AND ASME II ED.2021. MATERIAL ACC. TO NACE MR 01.75 ED.2015 AND PED 2014/68/UE ANNEX 1.  
 VISUAL, DIMENSIONAL AND MARKING CHECK HAVE BEEN CARRIED OUT WITH SATISFACTORY RESULTS.

CUSTOMER INSPECTOR

THIRD PARTS

QUALITY CONTROL

Laura Paganuzzi

J. Fogorudi

CHERO PIPING S.P.A.

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

*TCT*

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

ASTM A182-22 F304/F304L

Ladle Analysis	Heat Number	58609	59054	59202	59269	59345	59346	59412	59538	59566	59752	59790	59881	59959	
	C %	0.020	0.018	0.018	0.024	0.018	0.019	0.020	0.019	0.017	0.024	0.019	0.018	0.025	
	Mn %	1.470	1.350	1.471	1.770	1.720	1.460	1.260	1.330	1.320	1.260	1.770	1.340	1.350	
	Si %	0.430	0.410	0.430	0.520	0.580	0.450	0.380	0.370	0.400	0.360	0.450	0.410	1.505	
	P %	0.037	0.035	0.029	0.029	0.031	0.030	0.038	0.031	0.029	0.031	0.029	0.031	0.032	
	S %	0.028	0.029	0.026	0.022	0.029	0.022	0.029	0.028	0.027	0.024	0.026	0.020	0.023	
	Cr %	18.050	18.110	18.180	18.040	18.400	18.130	18.220	18.310	18.350	18.220	18.350	18.250	18.200	
	Mo %	0.000	0.000	0.000	0.382	0.382	0.382	0.450	0.480	0.430	0.450	0.370	0.450	0.533	
	Ni %	8.980	8.030	8.060	8.055	8.110	8.140	8.070	8.120	8.160	8.160	8.140	8.180	8.180	
	Cu %	0.087	0.091	0.080	0.089	0.076	0.087	0.089	0.087	0.081	0.082	0.081	0.084	0.085	
Tensile Test	Test Temperature °C	+20	-20	+20	+20	+20	+20	+20	+20	+20	+20	+20	+20	+20	
	Tensile Strength MPa (0.2%)	632	620	619	431	632	615	666	613	611	623	615	620	611	
	Yield Strength MPa (0.2%)	320	348	290	375	332	374	420	282	277	284	308	379	192	
	Elongation %	52.00	55.00	53.60	56.00	52.00	50.00	48.80	53.80	51.50	55.40	52.00	59.30	55.50	
	Reduction Area %	71.00	74.00	75.20	80.40	74.00	67.00	70.70	74.20	75.50	78.30	68.00	79.30	78.50	
	Scale HBW	180	169	166	184	177	169	200	170	171	169	180	186	177	
Hardness Test	Value 1	177	170	168	185	180	174	200	170	172	177	184	189	179	
	Value 2	179	173	175	188	180	175	208	166	178	177	186	192	184	
	Average Hardness	178.667	170.667	169.667	185.667	179.000	172.667	202.667	168.667	173.667	174.333	183.333	189.000	181.333	
	Type SOL ANN.	SOL ANN.	SOL ANN.	SOL ANN.	SOL ANN.	SOL ANN.	SOL ANN.	SOL ANN.	SOL ANN.	SOL ANN.	SOL ANN.	SOL ANN.	SOL ANN.	<150	
Heat Treatment	Heating Rates °C/h	+1050	+1.080	+1.080	+1.040	+1.040	+1.040	+1.060	+1.080	+1.080	+1.080	+1.080	+1.080	+1.080	
	Holding Temperature °C	Min 1h/mm	Min 1h/inch	0.30	Min 1h/inch	WATER	WATER	WATER							
	Cooling Media														

BUREAU VERITAS ITALY	
2 <sup>nd</sup> PARTY INSPECTION ON BEHALF OF	
<i>T.C.M.</i>	
WITNESSED	NOTED
REVIEWED	
SURVEYOR: S. NEGRINI	
D.O.T.E. 45 DEC 2022	

02/12/2024

NOTES

A182 F316H: GRAIN SIZE < 6

CUSTOMER INSPECTOR	THIRD PARTS	QUALITY CONTROL
Laura Paganuzzi		

J. Foggnini

CHERO PIPING S.p.A.

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

DATE  
13/12/2022  
INTERNAL ORDER REF.  
7500107587 - 25/10/2022

DATE  
26/10/2022  
CUSTOMER  
TECNIMONT S.p.A.

SHEET  
21/25

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

Material Spec. and Grade	Heat Number	Procedure Number	Applicable Standard	Instrument
ASTM A182-22 F304/F304L	515098	CHERO-QA-PMI-B	ASTM E572	NITON XL2-SN:95371
Serial Number	515098-0001			
Mn %	1.423		1.455	
Cr %	18.000		18.000	
Ni %	8.068		8.000	

#### PML Test - Position 318: STOCKOLET SW S/3000 A182F304/304L 1"x2"

Material Spec. and Grade	Heat Number	Procedure Number	Applicable Standard	Instrument
ASTM A182-22 F304/F304L	174037	CHERO-QA-PMI-B	ASTM E572	NITON XL2-SN:95371
Serial Number	174037-0001			
Mn %	1.317		1.319	
Cr %	18.000		18.000	
Ni %	8.436		8.000	

#### PML Test - Position 319: STOCKOLET SW S/3000 A182F304/304L 11/2"x2"

Material Spec. and Grade	Heat Number	Procedure Number	Applicable Standard	Instrument
ASTM A182-22 F304/F304L	514786	CHERO-QA-PMI-B	ASTM E572	NITON XL2-SN:95371
Serial Number	514786-0001			
Mn %	1.539			
Cr %	18.000			
Ni %	8.173			

#### PML Test - Position 320: STOCKOLET SW S/3000 A182F304/304L 1/2"x3"

Material Spec. and Grade	Heat Number	Procedure Number	Applicable Standard	Instrument
ASTM A182-22 F304/F304L	280455	CHERO-QA-PMI-B	ASTM E572	NITON XL2-SN:95371
Serial Number	280455-0001			
Mn %	1.846			
Cr %	18.000			
Ni %	8.120			

#### PML Test - Position 321: STOCKOLET SW S/3000 A182F304/304L 3/4"x3"

Material Spec. and Grade	Heat Number	Procedure Number	Applicable Standard	Instrument
ASTM A182-22 F304/F304L	515098	CHERO-QA-PMI-B	ASTM E572	NITON XL2-SN:95371
Serial Number	515098-0001			
Mn %	1.439		1.526	
Cr %	18.249		18.778	
Ni %	8.000		8.000	

#### PML Test - Position 322: STOCKOLET SW S/3000 A182F304/304L 1"x3"

Material Spec. and Grade	Heat Number	Procedure Number	Applicable Standard	Instrument
ASTM A182-22 F304/F304L	515098	CHERO-QA-PMI-B	ASTM E572	NITON XL2-SN:95371
Serial Number	515098-0002			
Mn %	1.439		1.526	
Cr %	18.249		18.778	
Ni %	8.000		8.000	

#### PML Test - Position 323: STOCKOLET SW S/3000 A182F304/304L 1/2"x3"

Material Spec. and Grade	Heat Number	Procedure Number	Applicable Standard	Instrument
ASTM A182-22 F304/F304L	515098	CHERO-QA-PMI-B	ASTM E572	NITON XL2-SN:95371
Serial Number	515098-0003			
Mn %	1.439		1.526	
Cr %	18.249		18.778	
Ni %	8.000		8.000	

#### PML Test - Position 324: STOCKOLET SW S/3000 A182F304/304L 3/4"x3"

Material Spec. and Grade	Heat Number	Procedure Number	Applicable Standard	Instrument
ASTM A182-22 F304/F304L	515098	CHERO-QA-PMI-B	ASTM E572	NITON XL2-SN:95371
Serial Number	515098-0004			
Mn %	1.439		1.526	
Cr %	18.249		18.778	
Ni %	8.000		8.000	

J. Fogorzi  
CHERO PIPING S.p.A.

NOTES  
CUSTOMER INSPECTOR  
THIRD PARTS  
QUALITY CONTROL  
Laura Paganuzzi



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

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

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

SHEET  
22/25

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

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

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

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

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

<i>Material Spec. and Grade</i>	<i>Heat Number</i>	<i>Procedure Number</i>	<i>Applicable Standard</i>	<i>Instrument</i>
ASTM A182-22 F304/F304L	515098	CHERO-QA-PMI-8	ASTM E572	NITON XL2-SN:95371
Serial Number	515098-0001	515098-0002		
Mn %	1.470			
Cr %	18.000			
Ni %	8.000			

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

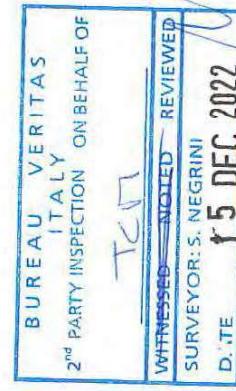
<i>Material Spec. and Grade</i>	<i>Heat Number</i>	<i>Procedure Number</i>	<i>Applicable Standard</i>	<i>Instrument</i>
ASTM A182-22 F304/F304L	573084	CHERO-QA-PMI-8	ASTM E572	NITON XL2-SN:95371
Serial Number	573084-0001	573084-0002		
Mn %	1.313			
Cr %	18.761			
Ni %	8.153			

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

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

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

<i>Customer Inspector</i>	<i>Notes</i>	<i>Third Parts</i>	<i>Quality Control</i>
Laura Paganuzzi			J. Fogassi



## Welding and QC Report Per Spool

Client : NERVION

Revision : 01

Project : ALBA

Piece Mark : 2121-IA91F13-1-SP05-00996

Spec : 6C4-M

Weld No.	Type	Dia	Sch	Weld Proc.	1st Pass	1st MTR	Final Pass	Final MTR	Dim	Date DIM	Visual	Date Visual	PT	Date PT	MT	Date MT	PMI	Date PMI	Ferite	Date Ferrite	Control									
																					PWHT	Date PWHT	BHN	Date BHN	Ultra	Date UT	Xray	Date Xray		
0029	SOL	1	XS	MW.28_SBR	AH	03-10-2024	4712055	AH	03-10-2024	4712055			001081	07-10-2024	000233	07-10-2024			001108	07-10-2024										
0031	SOL	1,5	XS	MW.28_SBR	AH	03-10-2024	4712055	AH	03-10-2024	4712055			001081	07-10-2024	000233	07-10-2024			001108	07-10-2024										
0033	SOL	1,5	XS	MW.26_SBR	AH	01-10-2024	4712055	AH	01-10-2024	4712055			001081	07-10-2024	000233	07-10-2024			001108	07-10-2024										
0035	SOL	1,5	XS	MW.26_SBR	AH	01-10-2024	4712055	AH	01-10-2024	4712055			001081	07-10-2024	000233	07-10-2024			001108	07-10-2024										
0037	SOL	0,75	XS	MW.26_SBR	BC	04-10-2024	4712055	BC	04-10-2024	4712055			001081	07-10-2024	000233	07-10-2024			001108	07-10-2024										
0040	BW	2	S10S	MW.26_BW	CA	04-10-2024	4712055	CA	04-10-2024	4712055			001081	07-10-2024					001108	07-10-2024										

Notes:

On behalf of Tecnimont  
QC Welding InspectorGABRIEL BOCCARD  
02/12/2024ISO 9001:2015  
VTP/IMTR/01/01/2024  
Level 1

02/12/2024

02/12/2024

02/12/2024

02/12/2024

02/12/2024

02/12/2024

02/12/2024

02/12/2024

02/12/2024

02/12/2024

02/12/2024

02/12/2024

02/12/2024

02/12/2024

02/12/2024

02/12/2024

02/12/2024

02/12/2024

02/12/2024

02/12/2024

02/12/2024

02/12/2024

02/12/2024

02/12/2024

02/12/2024

02/12/2024

02/12/2024

02/12/2024

02/12/2024

02/12/2024

02/12/2024

02/12/2024

02/12/2024

02/12/2024

02/12/2024

02/12/2024

02/12/2024

02/12/2024

02/12/2024

02/12/2024

02/12/2024

02/12/2024

02/12/2024

02/12/2024

02/12/2024

02/12/2024

02/12/2024

02/12/2024

02/12/2024

02/12/2024

02/12/2024

02/12/2024

02/12/2024

02/12/2024

02/12/2024

02/12/2024

02/12/2024

02/12/2024

02/12/2024

02/12/2024

02/12/2024

02/12/2024

02/12/2024

02/12/2024

02/12/2024

02/12/2024

02/12/2024

02/12/2024

02/12/2024

02/12/2024

02/12/2024

02/12/2024

02/12/2024

02/12/2024

02/12/2024

02/12/2024

02/12/2024

02/12/2024

02/12/2024

02/12/2024

02/12/2024

02/12/2024

02/12/2024

02/12/2024

02/12/2024

02/12/2024

02/12/2024

02/12/2024

02/12/2024

02/12/2024

02/12/2024

02/12/2024

02/12/2024

02/12/2024

02/12/2024

02/12/2024

02/12/2024

02/12/2024

02/12/2024

02/12/2024

02/12/2024

02/12/2024

02/12/2024

02/12/2024

02/12/2024

02/12/2024

02/12/2024

02/12/2024

02/12/2024

02/12/2



# Shop QC Inspection Report

P2308-001119

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

Job number: P2308S  
 Spool N°: 00996  
 Piece Mark: 2121-IA91F13-1-SP05-00996

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

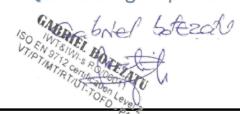
Control Date: 07-10-2024

Remarks: The results refer to the controlled items

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

Comments:

Performed by: MATOS, MARCO (N2 VT/PT)  Date: 07-10-2024  Signature 	QA/QC Inspection: RAIMUNDO, MARIANA  Date: 04-11-2024 09:03:09  Signature 	Customer Inspection:  <b>Sergio Morales</b>  Date: 06-11-24  
--	---	--

02/12/2024 On behalf of Tecnimont  
QC Welding Inspector


GABRIEL BONET  
INTERNAUTA SRL  
VTP/TMTR/CL-TOPD



# Visual Examination Report (Welds)

P2308-001081

Contract : P2308

Job number: P2308S

Material: Stainless Steel 304, 316, 317

Client : NERVION

Spool Nº: 00996

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

Project : ALBA

Piece Mark: 2121-IA91F13-1-SP05-00996

Testing Date: 07-10-2024

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.	Identification		Welder	Temp. (°F/°C)	Accepted	Rejected	Defect	Technique Used	Comments
0029	1.0000 XS SOL-Sockolet to Header Weld (MW.28_SBR)	AH	17	X					Direct	
0031	1.5000 XS SOL-Sockolet to Header Weld (MW.28_SBR)	AH	17	X					Direct	
0033	1.5000 XS SOL-Sockolet to Header Weld (MW.26_SBR)	AH	17	X					Direct	
0035	1.5000 XS SOL-Sockolet to Header Weld (MW.26_SBR)	AH	17	X					Direct	
0037	0.7500 XS SOL-Sockolet to Header Weld (MW.26_SBR)	BC	17	X					Direct	
0040	2.0000 S10S BW-Buttweld Straight (MW.26_BW)	CA	17	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: 07-10-2024

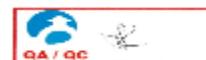
Date: 04-11-2024 09:03:09

Sergio Morales

Signature



Signature

On behalf of tecnimont  
02/12/2024 QC Welding Inspector



# Liquid Penetrant Examination Report

P2308-000233

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

Job number: P2308S

Spool N°: 00996

Piece Mark: 2121-IA91F13-1-SP05-00996

Material: Stainless Steel 304, 316, 317

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

Testing Date: 07-10-2024

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				
0029	1.0000 XS SOL-Sockolet to Header Weld (MW.28_SBR)	AH	17	20 m	-	10 m	-	-	<input checked="" type="checkbox"/> X	<input type="checkbox"/>	
0031	1.5000 XS SOL-Sockolet to Header Weld (MW.28_SBR)	AH	17	20 m	-	10 m	-	-	<input checked="" type="checkbox"/> X	<input type="checkbox"/>	
0033	1.5000 XS SOL-Sockolet to Header Weld (MW.26_SBR)	AH	17	20 m	-	10 m	-	-	<input checked="" type="checkbox"/> X	<input type="checkbox"/>	
0035	1.5000 XS SOL-Sockolet to Header Weld (MW.26_SBR)	AH	17	20 m	-	10 m	-	-	<input checked="" type="checkbox"/> X	<input type="checkbox"/>	
0037	0.7500 XS SOL-Sockolet to Header Weld (MW.26_SBR)	BC	17	20 m	-	10 m	-	-	<input checked="" type="checkbox"/> 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: 07-10-2024

Date: 07-10-2024

**Sergio Morales**

Signature



Signature

**Date: 06-11-24**On behalf of Tecnimont  
QC Welding Inspector

02/12/2024

04-11-2024 09:30:41  
Page 1 / 1



# Positive Material Identification Report (PMI)

P2308-001108

Client : NERVION

Contract : P2308 / Project : ALBA

Remarks: The results refer to the controlled items

Job number: P2308S

Spool N°: 00996

Piece Mark: 2121-IA91F13-1-SP05-00996

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			
0029	1.0000 XS SOL-Sockolet to Header Weld (MW.28_SBR)	452	0	0	0	9	69	1	18	0	0	0	X		
0031	1.5000 XS SOL-Sockolet to Header Weld (MW.28_SBR)	453	0	0	0	9	69	1	19	0	0	0	X		
0033	1.5000 XS SOL-Sockolet to Header Weld (MW.26_SBR)	454	0	0	0	9	68	1	19	0	0	0	X		
0035	1.5000 XS SOL-Sockolet to Header Weld (MW.26_SBR)	455	0	0	0	9	69	1	19	0	0	0	X		
0037	0.7500 XS SOL-Sockolet to Header Weld (MW.26_SBR)	456	0	0	0	9	68	1	19	0	0	0	X		
0040	2.0000 S10S BW-Buttweld Straight (MW.26_BW)	457	0	0	0	8	69	1	18	0	0	0	X		
1.7	2.0000 S10S PIPE, SEAMLESS, A312-TP304L (S-23594)	446	0	0	0	7	71	1	17	0	0	0	X		
2.6	2.0000 NA 1.5000 NA SOCKOLET, 3000#, A182-F304L (514786)	450	0	0	0	7	70	1	17	0	0	0	X		
2.7	2.0000 NA 1.5000 NA SOCKOLET, 3000#, A182-F304L (514786)	449	0	0	0	7	71	1	17	0	0	0	X		
2.8	2.0000 NA 1.5000 NA SOCKOLET, 3000#, A182-F304L (514786)	448	0	0	0	8	71	1	17	0	0	0	X		
3.3	2.0000 NA 1.0000 NA SOCKOLET, 3000#, A182-F304L (174037)	451	0	0	0	8	71	1	17	0	0	0	X		
4.2	2.0000 NA 0.7500 NA SOCKOLET, 3000#, A182-F304L (N220606AV04)	447	0	0	0	7	71	1	18	0	0	0	X		
7.1	2.0000 S10S WN FLG, RAISED FACE, 150#, A182-F304L (N230210AT03)	445	0	0	0	8	71	1	18	0	0	0	X		

On behalf of Tecnimont  
QC Welding Inspector

GABRIEL BOFFERI  
ISO 9001 & IWS  
Tecnimont  
02/12/2024

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

Customer Inspection:

Sergio Morales

Date: 07-10-2024

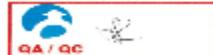
Date: 04-11-2024 09:03:09

Date:

Signature



Signature



Signature

Date: 06-11-24



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

## Certificate of PMI Reading

XL3t-32735

Reading No	452
Mode	ALLOY
Time	2024-10-07 13:54
Duration	10.35
Sequence	Final
Alloy1	304SS : 0.03
Alloy2	No Match : *2.10
Flags	
SAMPLE	
HEAT	
LOT	
BATCH	
MISC	
NOTE	

	%	±	Error
Sb	< LOD	:	0.035
Sn	< LOD	:	0.050
Pd	< LOD	:	0.038
Ag	< LOD	:	0.163
Al	< LOD	:	80.000
Mo	0.090	±	0.010
Nb	< LOD	:	0.008
Zr	< LOD	:	0.003
Bi	< LOD	:	0.002
Pb	< LOD	:	0.006
Se	< LOD	:	0.006
W	< LOD	:	0.089
Zn	< LOD	:	0.022
Cu	< LOD	:	0.154
Ni	9.147	±	0.298
Co	< LOD	:	0.476
Fe	69.753	±	0.441
Mn	1.836	±	0.203
Cr	18.774	±	0.257
V	< LOD	:	0.120
Ti	< LOD	:	0.144

Sergio Morales



Date: 06-11-24

On behalf of Tecnimont

QC Welding Inspector

GABRIEL BOEUF  
ISO EN 9613-2 Quality Management System  
VTPP/PMTG/TG/TG/CE/LE/EN  
DRAFT - Page 2

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

## Certificate of PMI Reading

XL3t-32735

Reading No	453
Mode	ALLOY
Time	2024-10-07 13:55
Duration	11.26
Sequence	Final
Alloy1	304SS : 0.07
Alloy2	No Match : *2.09
Flags	
SAMPLE	
HEAT	
LOT	
BATCH	
MISC	
NOTE	

	%	±	Error
Sb	< LOD	:	0.040
Sn	< LOD	:	0.052
Pd	< LOD	:	0.038
Ag	< LOD	:	0.160
Al	< LOD	:	80.000
Mo	0.074	±	0.010
Nb	< LOD	:	0.009
Zr	< LOD	:	0.006
Bi	< LOD	:	0.004
Pb	< LOD	:	0.016
Se	< LOD	:	0.007
W	< LOD	:	0.088
Zn	< LOD	:	0.029
Cu	< LOD	:	0.157
Ni	9.303	±	0.306
Co	< LOD	:	0.482
Fe	69.180	±	0.452
Mn	1.719	±	0.207
Cr	19.349	±	0.266
V	< LOD	:	0.130
Ti	< LOD	:	0.157

Sergio Morales

Date: 06-11-24



On behalf of Tecnimont

QC Welding Inspector

GABRIEL BONFILATO  
INTERNAUTIC SRL - CONSULTORES EN LIDERAZGO  
ISO 9001:2015 CERTIFIED - TORONTO - CANADA

02/12/2024

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

## Certificate of PMI Reading

XL3t-32735

Reading No	454
Mode	ALLOY
Time	2024-10-07 13:55
Duration	10.03
Sequence	Final
Alloy1	304SS : 0.61
Alloy2	No Match : *2.19
Flags	
SAMPLE	
HEAT	
LOT	
BATCH	
MISC	
NOTE	

	%	±	Error
Sb	< LOD	:	0.039
Sn	< LOD	:	0.053
Pd	< LOD	:	0.038
Ag	< LOD	:	0.195
Al	< LOD	:	80.000
Mo	0.074	±	0.010
Nb	0.015	±	0.005
Zr	< LOD	:	0.005
Bi	< LOD	:	0.002
Pb	< LOD	:	0.030
Se	< LOD	:	0.007
W	< LOD	:	0.080
Zn	< LOD	:	0.038
Cu	< LOD	:	0.156
Ni	9.150	±	0.303
Co	< LOD	:	0.491
Fe	68.850	±	0.452
Mn	1.961	±	0.209
Cr	19.148	±	0.265
V	< LOD	:	0.130
Ti	< LOD	:	0.158

Sergio Morales



Date: 06-11-24

02/12/2024 On behalf of Tecnimont  
QC Welding Inspector

GABRIEL BOCCARD  
ISO EN 9612 Certified Welder  
VIP/PTM/THT-TORO - PA

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

## Certificate of PMI Reading

XL3t-32735

---

Reading No	455
Mode	ALLOY
Time	2024-10-07 13:55
Duration	10.78
Sequence	Final
Alloy1	304SS : 0.00
Alloy2	No Match : *2.11
Flags	
SAMPLE	
HEAT	
LOT	
BATCH	
MISC	
NOTE	

---

	%	±	Error
Sb	< LOD	:	0.038
Sn	< LOD	:	0.050
Pd	< LOD	:	0.037
Ag	< LOD	:	0.160
Al	< LOD	:	80.000
Mo	0.079	±	0.010
Nb	< LOD	:	0.008
Zr	< LOD	:	0.004
Bi	< LOD	:	0.017
Pb	< LOD	:	0.014
Se	< LOD	:	0.006
W	< LOD	:	0.087
Zn	< LOD	:	0.035
Cu	< LOD	:	0.154
Ni	9.336	±	0.299
Co	< LOD	:	0.479
Fe	69.221	±	0.441
Mn	1.605	±	0.199
Cr	19.210	±	0.258
V	< LOD	:	0.117
Ti	< LOD	:	0.127

---

Sergio Morales

Date: 06-11-24



02/12/2024

On behalf of Tecnimont  
QC Welding Inspector

GABRIEL BOFFA JUNIOR  
ISO 9001:2015  
VTPP/PTT/TOT-TOP-D-PA  
Leverkusen

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

## Certificate of PMI Reading

XL3t-32735

Reading No	456
Mode	ALLOY
Time	2024-10-07 13:55
Duration	11.05
Sequence	Final
Alloy1	304SS : 0.83
Alloy2	No Match : 1.67
Flags	
SAMPLE	
HEAT	
LOT	
BATCH	
MISC	
NOTE	

	%	±	Error
Sb	< LOD	:	0.034
Sn	< LOD	:	0.047
Pd	< LOD	:	0.034
Ag	< LOD	:	0.157
Al	< LOD	:	80.000
Mo	0.054	±	0.008
Nb	< LOD	:	0.007
Zr	< LOD	:	0.003
Bi	< LOD	:	0.002
Pb	< LOD	:	0.024
Se	< LOD	:	0.007
W	< LOD	:	0.084
Zn	< LOD	:	0.035
Cu	< LOD	:	0.148
Ni	9.368	±	0.291
Co	< LOD	:	0.461
Fe	68.918	±	0.431
Mn	1.741	±	0.197
Cr	19.386	±	0.254
V	0.138	±	0.067
Ti	< LOD	:	0.159

Sergio Morales  
Date: 06-11-24



02/12/2024  
On behalf of Tecnimont

QC Welding Inspector

GARIBEL BOFF JAU  
ISO 9712 Certified Welder  
VTPR MATTOLETTA LTD PA

Type text here

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

## Certificate of PMI Reading

XL3t-32735

---

Reading No	457
Mode	ALLOY
Time	2024-10-07 13:56
Duration	10.50
Sequence	Final
Alloy1	304SS : 0.12
Alloy2	No Match : *2.09
Flags	
SAMPLE	
HEAT	
LOT	
BATCH	
MISC	
NOTE	

---

	%	±	Error
Sb	< LOD	:	0.041
Sn	< LOD	:	0.052
Pd	< LOD	:	0.043
Ag	< LOD	:	0.187
Al	< LOD	:	80.000
Mo	0.093	±	0.011
Nb	< LOD	:	0.009
Zr	< LOD	:	0.005
Bi	< LOD	:	0.006
Pb	< LOD	:	0.013
Se	< LOD	:	0.010
W	< LOD	:	0.096
Zn	< LOD	:	0.039
Cu	0.179	±	0.087
Ni	8.808	±	0.317
Co	< LOD	:	0.517
Fe	69.649	±	0.478
Mn	1.778	±	0.218
Cr	18.949	±	0.279
V	< LOD	:	0.146
Ti	< LOD	:	0.166

02/12/2024

---

Sergio Morales



Date: 06-11-24

On behalf of Tecnimont  
QC Welding Inspector



Type text here

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

## Certificate of PMI Reading

XL3t-32735

Reading No	446
Mode	ALLOY
Time	2024-10-07 13:49
Duration	9.80
Sequence	Final
Alloy1	301SS : 1.60
Alloy2	No Match : *2.25
Flags	
SAMPLE	
HEAT	
LOT	
BATCH	
MISC	
NOTE	

	%	±	Error
Sb	< LOD	:	0.041
Sn	< LOD	:	0.054
Pd	< LOD	:	0.038
Ag	< LOD	:	0.132
Al	< LOD	:	80.000
Mo	0.084	±	0.010
Nb	< LOD	:	0.008
Zr	< LOD	:	0.004
Bi	< LOD	:	0.013
Pb	< LOD	:	0.015
Se	< LOD	:	0.008
W	< LOD	:	0.087
Zn	< LOD	:	0.041
Cu	0.298	±	0.089
Ni	7.968	±	0.298
Co	< LOD	:	0.502
Fe	71.997	±	0.461
Mn	1.435	±	0.204
Cr	17.697	±	0.262
V	< LOD	:	0.134
Ti	< LOD	:	0.156

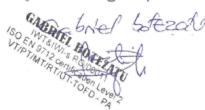
On behalf of Tecnimont  
QC Welding Inspector

Sergio Morales



Date: 06-11-24

02/12/2024



GABRIEL BOFFEL SOTEO  
ISO 9609-1:2017 certified welding inspector  
T/IR/NMT/R/D/T-1709-D-24

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

## Certificate of PMI Reading

XL3t-32735

Reading No	450
Mode	ALLOY
Time	2024-10-07 13:53
Duration	10.80
Sequence	Final
Alloy1	304SS : 1.59
Alloy2	301SS : 1.75
Flags	
SAMPLE	
HEAT	
LOT	
BATCH	
MISC	
NOTE	

	%	±	Error
Sb	< LOD	:	0.041
Sn	< LOD	:	0.051
Pd	< LOD	:	0.034
Ag	< LOD	:	0.167
Al	< LOD	:	80.000
Mo	0.315	±	0.018
Nb	0.031	±	0.006
Zr	< LOD	:	0.004
Bi	< LOD	:	0.009
Pb	< LOD	:	0.017
Se	< LOD	:	0.009
W	< LOD	:	0.100
Zn	< LOD	:	0.037
Cu	0.449	±	0.090
Ni	7.990	±	0.279
Co	< LOD	:	0.470
Fe	70.903	±	0.431
Mn	1.693	±	0.196
Cr	17.940	±	0.248
V	< LOD	:	0.132
Ti	< LOD	:	0.155

Sergio Morales



Date: 06-11-24

On behalf of Tecnimont

QC Welding Inspector

GABRIEL MARELLATO  
ISO 9606-2012 Certified Welder  
VTP/PMTR/UT/TO/PA

02/12/2024

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

## Certificate of PMI Reading

XL3t-32735

Reading No	449
Mode	ALLOY
Time	2024-10-07 13:53
Duration	10.58
Sequence	Final
Alloy1	301SS : 1.36
Alloy2	No Match : 1.94
Flags	
SAMPLE	
HEAT	
LOT	
BATCH	
MISC	
NOTE	

	%	±	Error
Sb	< LOD	:	0.043
Sn	< LOD	:	0.052
Pd	< LOD	:	0.035
Ag	< LOD	:	0.215
Al	< LOD	:	80.000
Mo	0.312	±	0.018
Nb	0.044	±	0.007
Zr	< LOD	:	0.004
Bi	< LOD	:	0.013
Pb	< LOD	:	0.002
Se	< LOD	:	0.009
W	< LOD	:	0.105
Zn	< LOD	:	0.041
Cu	0.503	±	0.094
Ni	7.861	±	0.283
Co	< LOD	:	0.478
Fe	71.327	±	0.439
Mn	1.496	±	0.197
Cr	17.954	±	0.253
V	< LOD	:	0.121
Ti	< LOD	:	0.150

Sergio Morales

Date: 06-11-24



On behalf of Tecnimont  
QC Welding Inspector

GABRIEL BARRETO  
ISO EN 9609-1  
VTPR/TM/TUTU/TOD - PA

02/12/2024

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

## Certificate of PMI Reading

XL3t-32735

Reading No	448
Mode	ALLOY
Time	2024-10-07 13:53
Duration	10.60
Sequence	Final
Alloy1	321SS : 1.74
Alloy2	No Match : *1.91
Flags	
SAMPLE	
HEAT	
LOT	
BATCH	
MISC	
NOTE	

	%	±	Error
Sb	< LOD	:	0.048
Sn	< LOD	:	0.063
Pd	< LOD	:	0.046
Ag	< LOD	:	0.199
Al	< LOD	:	80.000
Mo	0.390	±	0.022
Nb	0.044	±	0.008
Zr	< LOD	:	0.007
Bi	< LOD	:	0.018
Pb	< LOD	:	0.015
Se	< LOD	:	0.011
W	< LOD	:	0.124
Zn	< LOD	:	0.049
Cu	0.522	±	0.107
Ni	8.545	±	0.322
Co	< LOD	:	0.526
Fe	71.052	±	0.481
Mn	1.596	±	0.215
Cr	17.096	±	0.271
V	< LOD	:	0.129
Ti	< LOD	:	0.179

Sergio Morales

Date: 06-11-24



02/12/2024 On behalf of Tecnimont

QC Welding Inspector

GABRIEL BOCCARD  
ISO EN 1090-2 Certified Welder  
VIPTIMAR TOT-TOPO-PA  
L1002

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

## Certificate of PMI Reading

XL3t-32735

Reading No	451
Mode	ALLOY
Time	2024-10-07 13:53
Duration	11.46
Sequence	Final
Alloy1	301SS : *1.94
Alloy2	304SS : *2.06
Flags	
SAMPLE	
HEAT	
LOT	
BATCH	
MISC	
NOTE	

	%	±	Error
Sb	< LOD	:	0.067
Sn	< LOD	:	0.069
Pd	< LOD	:	0.064
Ag	< LOD	:	0.116
Al	< LOD	:	80.000
Mo	0.481	±	0.027
Nb	0.022	±	0.008
Zr	< LOD	:	0.007
Bi	< LOD	:	0.009
Pb	< LOD	:	0.020
Se	< LOD	:	0.014
W	0.195	±	0.094
Zn	< LOD	:	0.052
Cu	0.530	±	0.116
Ni	8.257	±	0.342
Co	< LOD	:	0.566
Fe	71.083	±	0.525
Mn	1.314	±	0.226
Cr	17.532	±	0.296
V	< LOD	:	0.147
Ti	< LOD	:	0.187

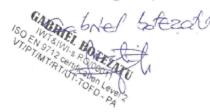
Sergio Morales

Date: 06-11-24



02/12/2024 On behalf of Tecnimont

QC Welding Inspector



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

## Certificate of PMI Reading

XL3t-32735

Reading No	447
Mode	ALLOY
Time	2024-10-07 13:49
Duration	12.38
Sequence	Final
Alloy1	304SS : 1.49
Alloy2	No Match : 2.09
Flags	
SAMPLE	
HEAT	
LOT	
BATCH	
MISC	
NOTE	

	%	±	Error
Sb	< LOD	:	0.046
Sn	< LOD	:	0.054
Pd	< LOD	:	0.042
Ag	< LOD	:	0.171
Al	< LOD	:	80.000
Mo	0.043	±	0.008
Nb	< LOD	:	0.008
Zr	< LOD	:	0.004
Bi	< LOD	:	0.002
Pb	< LOD	:	0.026
Se	< LOD	:	0.009
W	< LOD	:	0.106
Zn	< LOD	:	0.043
Cu	< LOD	:	0.163
Ni	7.890	±	0.298
Co	< LOD	:	0.509
Fe	71.329	±	0.465
Mn	1.586	±	0.208
Cr	18.140	±	0.267
V	0.193	±	0.076
Ti	< LOD	:	0.159

Sergio Morales  
Date: 06-11-24



On behalf of Tecnimont  
QC Welding Inspector

GABRIEL RODRIGUES  
INSTRUMENTATION & LEVENS  
VTP/TM/TCT/UT-TOD - PR

02/12/2024

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

## Certificate of PMI Reading

XL3t-32735

Reading No	445
Mode	ALLOY
Time	2024-10-07 13:49
Duration	10.79
Sequence	Final
Alloy1	304SS : 0.24
Alloy2	No Match : *2.10
Flags	
SAMPLE	
HEAT	
LOT	
BATCH	
MISC	
NOTE	

	%	±	Error
Sb	< LOD	:	0.043
Sn	< LOD	:	0.051
Pd	< LOD	:	0.040
Ag	< LOD	:	0.144
Al	< LOD	:	80.000
Mo	0.048	±	0.008
Nb	< LOD	:	0.007
Zr	< LOD	:	0.004
Bi	< LOD	:	0.015
Pb	< LOD	:	0.003
Se	< LOD	:	0.009
W	< LOD	:	0.100
Zn	< LOD	:	0.036
Cu	< LOD	:	0.158
Ni	8.310	±	0.296
Co	< LOD	:	0.492
Fe	71.493	±	0.452
Mn	1.351	±	0.199
Cr	18.135	±	0.260
V	< LOD	:	0.136
Ti	< LOD	:	0.146

02/12/2024

Sergio Morales



Date: 06-11-24

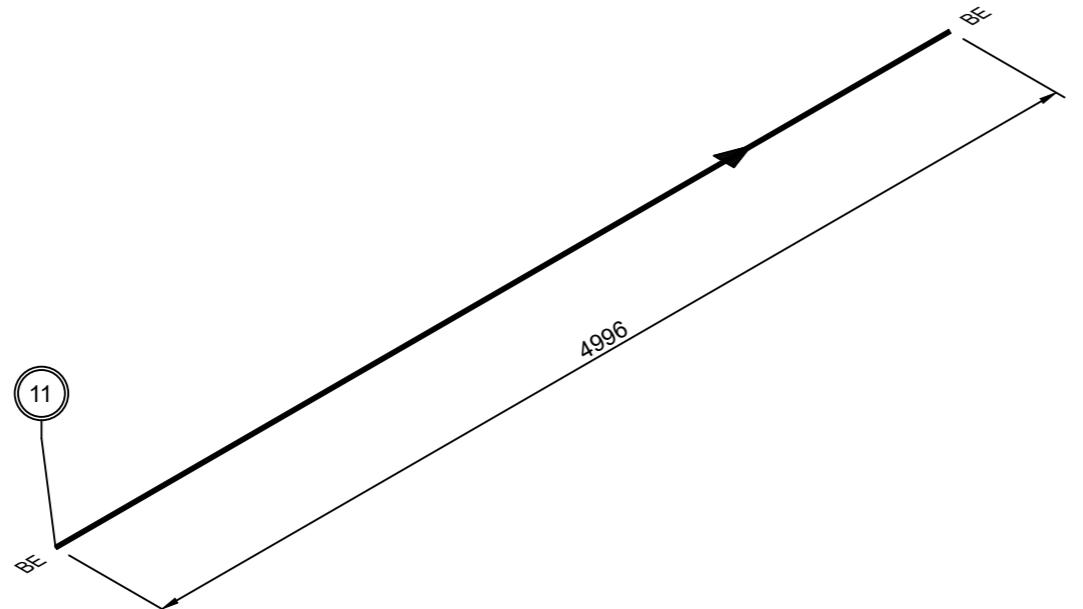
On behalf of Tecnimont  
QC Welding Inspector

GARRETT BOCCARD  
ISO EN 9712 Certified Inspector  
VTP/TM/TUT-T/TDF - PA

Type text here



N



On behalf of Tecnímont/R  
Piping Supervisor  
R. Mancino  
02-12-24 

Rev.	Date	DRW	Check 1	Check 2	
					<b>Marking Color:</b> GREEN
					<b>Weld Class:</b> 6C4-M
01	25/09/2024	RHA	AZA		<b>Paint System:</b> NR

Sergio Morales

Date: 06-11-24

# Spool Material List

Contract : P2308

Client NERVION

Job : P2308S

Project ALBA

Job	Spool	Piece Mark	Drawing	Rev					
Item No	Qty	Size1	Sch1	Size2	Sch2	Description	Heat No	Unit	Weight
Tag No							MTR No	Weight	Kgs
ID No							Folder No		
P2308S	01122	2121-IA91F13-1-SP03-01122	2121-IA91F13-1	01					
1.3	4,996	2.0000	S10S	0.0000	NA	PIPE, SEAMLESS, A312-TP304L	NY231216AS15 0391	3,93	19,63
40391									

On behalf of Tecnimont/R

Piping Supervisor

R. Mancino

02-12-24



Number of Items : 1

Total Weight :

19,63

Signature	QA	Client
		Sergio Morales Date: 06-11-24
Date	2024-10-08 16:12:02	

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

**ANALISI CHIMICA - CHEMICAL COMPOSITION**

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

Note - Notes

Firma  
Signature

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

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

**CARATTERISTICHE MECCANICHE - MECHANICAL TEST**

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

Note - Notes

Firma  
Signature

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



Contract : P2300

Drawing : 2121-IA91F13-1

## Welding and QC Report Per Spool

Job : P2300S

Material : Stainless Steel 304, 316, 317

Client : NERVION

Revision : 01

Project : ALBA

Piece Mark : 2121-IA91F13-1-SP03-01122

Spec : 6C4-M

Weld data				Welding												Control														
Weld No.	Type	Dia	Sch	Weld /Thk	1st Proc.	Pass	1st Pass	MTR	Final Pass	Final MTR	Dim	Date DIM	Visual	Date Visual	PT	Date PT	MT	Date MT	PMI	Date PMI	Ferite	Date Ferrite	PWHT	Date PWHT	BHN	Date BHN	Ultra	Date UT	Xray	Date Xray
0011	SP	2	S10S									001068	04-10-2024																	

Notes:

---



---



---



---

On behalf of Tecnimont  
QC Welding Inspector

GABRIEL BOCCARD  
ISO EN 9712 Certified Welding Inspector  
VT/PVT/MRT/UT-TOFD-PA

02/12/2024

Signature

Date



# Shop QC Inspection Report

P2308-001103

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

Job number: P2308S  
 Spool N°: 01122  
 Piece Mark: 2121-IA91F13-1-SP03-01122

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

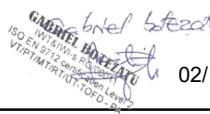
Control Date: 04-10-2024

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

Comments:

Performed by: MATOS, MARCO (N2 VT/PT)  Date: 04-10-2024  Signature 	QA/QC Inspection: RAIMUNDO, MARIANA  Date: 08-10-2024 16:12:02  Signature 	Customer Inspection: <b>Sergio Morales</b>  <b>Date: 06-11-24</b> 
--	---	---

On behalf of Tecnimont  
QC Welding Inspector


02/12/2024

# Visual Examination Report (Welds)

P2308-001068

Contract : P2308

Job number: P2308S

Material: Stainless Steel 304, 316, 317

Client : NERVION

Spool Nº: 01122

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

Project : ALBA

Piece Mark: 2121-IA91F13-1-SP03-01122

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

## Identification

Temp.  
(°F/°C)

Accepted

Rejected

Defect

Technique  
Used

Comments

Weld No.

Weld Desc.

Welder

0011 2.0000 S10S SP-Pipe/Fitting Without Weld ()

20

X

Sketch / Photo:

## Defects

Clustered Porosity CP

Porosity P

Unibmly Porosity UP

Slag S

Cap

C

Undercut

UC

Lack of Cleanup

LC

Hollow in Cap

W

Crack

CR

Surface

SU

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

QA/QC Inspection: RAIMUNDO, MARIANA

Customer Inspection:

Date: 04-10-2024

Date: 08-10-2024 16:12:02

Sergio Morales

Signature



Signature


02/12/2024 On behalf of Tecnimont  
QC Welding Inspector

GABRIEL BONIZZATO  
boccard  
ISO EN 9712 Certified Level 2  
VT/PT/MT/RT/UT-TODF-PA

Type text here



# Positive Material Identification Report (PMI)

P2308-001102

Client : NERVION  
 Contract : P2308 / Project : ALBA

Remarks: The results refer to the controlled items

Job number: P2308S

Spool N°: 01122

Piece Mark: 2121-IA91F13-1-SP03-01122

Material:

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			
1.3	2.0000 S10S PIPE, SEAMLESS, A312-TP304L (NY231216AS15)	284	0	0	0	7	72	1	17	0	0	0	<input checked="" type="checkbox"/> X	<input type="checkbox"/>	

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

Date: 07-10-2024

Signature



Date: 08-10-2024 16:12:02

Signature



Customer Inspection:

Sergio Morales

Date:



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

## Certificate of PMI Reading

XL3t-32735

Reading No	284
Mode	ALLOY
Time	2024-10-07 11:39
Duration	11.55
Sequence	Final
Alloy1	301SS : 1.23
Alloy2	No Match : 2.14
Flags	
SAMPLE	
HEAT	
LOT	
BATCH	
MISC	
NOTE	

	%	±	Error
Sb	< LOD	:	0.037
Sn	< LOD	:	0.046
Pd	< LOD	:	0.035
Ag	< LOD	:	0.203
Al	< LOD	:	80.000
Mo	0.020	±	0.006
Nb	< LOD	:	0.006
Zr	< LOD	:	0.005
Bi	< LOD	:	0.006
Pb	< LOD	:	0.013
Se	< LOD	:	0.005
W	< LOD	:	0.069
Zn	< LOD	:	0.027
Cu	< LOD	:	0.134
Ni	7.849	±	0.267
Co	< LOD	:	0.454
Fe	72.147	±	0.411
Mn	1.348	±	0.183
Cr	17.914	±	0.237
V	< LOD	:	0.125
Ti	< LOD	:	0.146

02/12/2024

Sergio Morales



Date: 06-11-24

On behalf of Tecnimont  
QC Welding Inspector

GABRIEL RODRIGUES  
ISO 9001/2015 Registered Quality System  
VTP-TM/T/UT-T-QFO-PA  
Level 2