Tecnimont S.p.A.	REPSOL POLIMEROS SA	4274_CONST ALBA PROJECT–PP AND PEL PLANTS	

MOD-ITP-XL_220 Rev.1	**RELEASE OF SPOOLS FROM WORKSHOP**	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**		

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-TEA11013-1-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-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-IA91F63-6-SP11-00494;2121-IA91F63-6-SP10-00493;2121-IA91F63-6-SP09-00492;2121-IA91F63-5-SP03-00491;2121-IA91F63-5-SP02-00490;2121-IA91F63-5-SP01-00489;2121-IA91F62-9-SP08-00479;2121-IA91F13-1-SP03-01122;2121-IA91F13-1-SP05-00996;2121-IA91F13-1-SP04-00995;2121-IA91F13-1-SP02-00994;2121-IA91F13-1-SP01-00993;1211-VA89003-1-SP02-00976;1211-VA89003-1-SP01-00975;1211-LO89006-1-SP03-00355;1211-LO89006-1-SP02-00354;1211-LO89006-1-SP01-00353;1211-DMW64001-5-SP13-03062;1211-DMW64001-5-SP12-03061;1211-DMW64001-5-SP11-03060;1211-DMW64001-1-SP02-03051;1211-DMW64001-1-SP01-03050;1127-PN52028-1-SP01-00863;1127-PN52025-1-SP02-01048;1127-PN52025-1-SP01-01047;1127-PN52024-2-SP03-00829;1127-PN52024-2-SP02-00828;1127-PN52024-1-SP01-00827;1126-LO36006-1-SP04-01053;1126-LO36006-1-SP05-01052

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 ☒ Checked & NOT Accepted ☑ Checked & Accepted **N.A.** Not Applicable **Y / N** Punch List Produced

	Date [DD-MMM-YYYY]	Name	Signature
SUBCONTRACTOR	04-12-2024	Sergio Morales Collantes	
CONTRACTOR			
COMPANY			
(Free)	04-12-2024	Riccardo Mancino	

grupoamper Network Industrial CIF B - 48977995

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 Rev.1	**RELEASE OF SPOOLS FROM WORKSHOP**	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**		

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-TEA11013-1-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-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-IA91F63-6-SP11-00494;2121-IA91F63-6-SP10-00493;2121-IA91F63-6-SP09-00492;2121-IA91F63-5-SP03-00491;2121-IA91F63-5-SP02-00490;2121-IA91F63-5-SP01-00489;2121-IA91F62-9-SP08-00479;2121-IA91F13-1-SP03-01122;2121-IA91F13-1-SP05-00996;2121-IA91F13-1-SP04-00995;2121-IA91F13-1-SP02-00994;2121-IA91F13-1-SP01-00993;1211-VA89003-1-SP02-00976;1211-VA89003-1-SP01-00975;1211-LO89006-1-SP03-00355;1211-LO89006-1-SP02-00354;1211-LO89006-1-SP01-00353;1211-DMW64001-5-SP13-03062;1211-DMW64001-5-SP12-03061;1211-DMW64001-5-SP11-03060;1211-DMW64001-1-SP02-03051;1211-DMW64001-1-SP01-03050;1127-PN52028-1-SP01-00863;1127-PN52025-1-SP02-01048;1127-PN52025-1-SP01-01047;1127-PN52024-2-SP03-00829;1127-PN52024-2-SP02-00828;1127-PN52024-1-SP01-00827;1126-LO36006-1-SP04-01053;1126-LO36006-1-SP05-01052

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

1) Painting cycle to be indicated.

2) Refer to: **4274-LZ-PC-00000214** (*COMPANY 4001008GEN-PC-214*) "*Management of Site Metallic Welding Activities*" and **4274-LZ-PC-00000215** (*COMPANY 4001008GEN-PC-215*) "*Procedure for Traceability of Piping Material*"

3) Refer to: **4274-XH-SG-00000003** (*COMPANY 45-L-45-000-2-00-80005*) "*Specification for Piping Fabrication & Erection Amendment to EC-L-51.01 and EC-L-51.02*" and **4274-XH-PQ-00000001** (*COMPANY 45-L-45-000-2-00-80081*) "*Inspection and Test Plan for Steel Piping Works*"

LEGEND OF CHECK RESULT ☒ Checked & NOT Accepted ☑ Checked & Accepted **N.A.** Not Applicable **Y / N** Punch List Produced

	Date [DD-MMM-YYYY]	Name	Signature
SUBCONTRACTOR	04-12-2024	Sergio Morales Collantes	
CONTRACTOR			
COMPANY			
(Free)	04-12-2024	Riccardo Mancino	

GRUPOAMPER Servicios Industriales CIF B - 48977995

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

REV	DATE	REVISION DESCRIPTION	DRAWN UP	CHKD UP	APP'D
00	07-11-2023	ISSUED FOR CONSTRUCTION	TG	MW	TM

LINE DATA

FLUID CODE: IA | LINE NO. 2"-IA-91F63-6C4

PIPING MATERIAL CLASS	INSULATION	WELD CLASS	HEAT TREATMENT	PAINTING CODE	P&ID No.
6C4	N / 0	M	N	NR	19-A-19-000-1-01-00001 sheet 106

Tecnimont

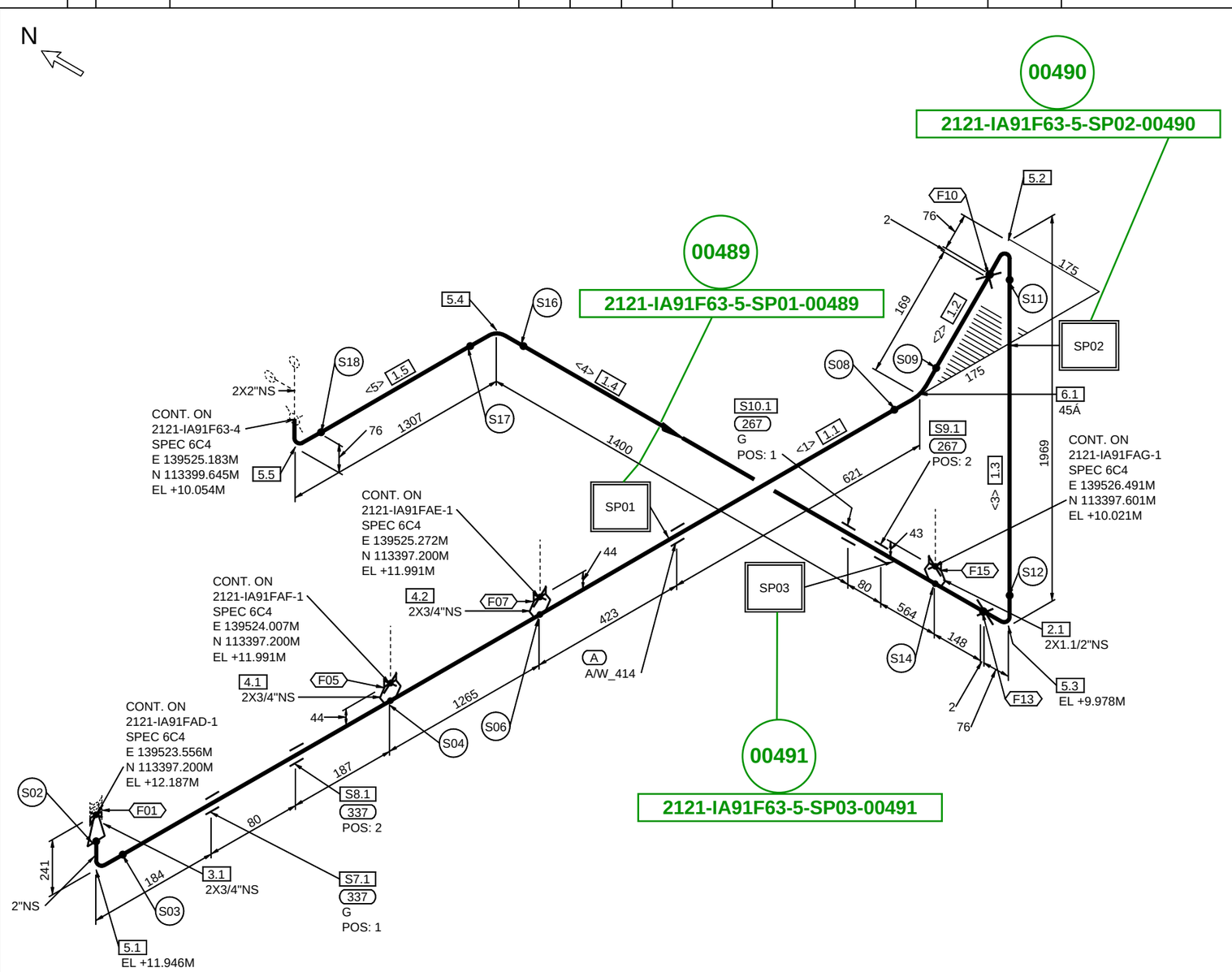
PIPING ISOMETRIC

IDENTIFICATION CODE						
Job	E C T	Area	N			
4274	XHDL	2121	IA91F63			
UNIT	19	SHEET	5	REV	00	

PLANT: SINES INDUSTRIAL COMPLEX | CLIENT REF: REPSOL POLYMEROS

REFERENCES

PIPING ASSEMBLY DRAWING	E C T N 19-L-19-000-2-00-86197 sheet 3	PIPING SUPPORT SPECIFICATION	E C T N XH-SG-00000002	PIPING STANDARD SUPPORT SUMMARY	E C T N XH-LP-00000001
PIPING ISOMETRIC LIST	E C T N XH-LD-21210001	PIPING TYPICAL INSTALLATIONS	E C T N XH-SL-00000002	WELDING SPECIFICATION	E C T N XH-SW-00000001



BILL OF MATERIALS

FABRICATION MATERIALS

PS NO	DESCRIPTION	NS (MM)	ITEM CODE	QTY.	HOLD
	PIPE				
1	PIPE - A312-TP304/304L DUAL GR BE SMLS T01AL2CV02 S-10S <PIPB04DB2210S> (L-PIP113)	2	I3364302	7.9 M	
	FITTINGS				
2	REDUCING SOCKOLET MSS-SP-97 3000# A182-F304/304L DUAL GR BE SWE - R13DNL2AV101 NREQD <SOKB450LB01413> (L-SOK04)	2X1.1/2	I2258341	1	
3	CONCENTRIC SWAGE MSS SP-95 - A403-WP304/304L DG BE PE SMLS SCH1-10S SCH2-40S R21FQL2FVZ10 <CSWB04DGR14071101> (L-CSW21)	2X3/4	I2495660	1	
4	REDUCING SOCKOLET MSS-SP-97 3000# A182-F304/304L DUAL GR BE SWE - R13DNL2AV101 NREQD <SOKB450LB01411> (L-SOK04)	2X3/4	I2258338	2	
5	90 LR ELBOW ASME B16.9 A403-WP304/304L DG BE SMLS C01DL2FV01 S-10S <90LB23DF3210S> (L-8052)	2	I2259133	5	
6	45 LR ELBOW ASME B16.9 A403-WP304/304L DG BE SMLS C02DL2FV01 S-10S <45LB23DF3210S> (L-45L28)	2	I2259145	1	

ERECTION MATERIALS

PS NO	DESCRIPTION	NS (MM)	ITEM CODE	QTY.	HOLD
	SUPPORTS				
7	SUPPORT HOR.NOT INS.PIP.N4G1	2	337	1	
8	VERTICAL STAKES WELDED TO STR. ST42 L80X80X10	2	337	1	
9	VERTICAL STAKES WELDED TO STR. ST42 L80X80X10	2	267	1	
10	SUPPORT HOR.NOT INS.PIP.N4G1	2	267	1	

CUT LIST

PIECE NO	LENGTH (MM)	SIZE (IN)
<1>	2645	2"
<2>	132	2"
<3>	1812	2"
<4>	2114	2"
<5>	1151	2"

WELD LIST

WELD NO	WELD CAT.	SIZE (IN)	WELD TYPE
F01	F	3/4"	SW
S02	S	2"	BW
S03	S	2"	BW
S04	S	3/4"	OL
F05	F	3/4"	SW
S06	S	3/4"	OL
F07	F	3/4"	SW
S08	S	2"	BW
S09	S	2"	BW
F10	F	2"	BW
S11	S	2"	BW
S12	S	2"	BW
F13	F	2"	BW
S14	S	1.1/2"	OL
F15	F	1.1/2"	SW
S16	S	2"	BW
S17	S	2"	BW
S18	S	2"	BW

BOLT LIST

BOLT NO	FLANGE SIZE(IN)	SIZE (IN)	LENGTH (MM)

INCH METER

PIPE NS (IN)	CL LENGTH (M)
2	16.2
0.75	0.2

ISOMETRIC NO. 4274-SP-XH-DL-2121-IA91F63-5-IS00 | SPOOLING REV NO. 00

On behalf of Tecnimont/R
Piping Supervisor
R. Mancino
03.dec.24

Sergio Morales
Date: 11-11-24

RECEIVED
14 / 12 / 2023

AUTHORISED FOR CONSTRUCTION
SIGNED FOR CONSTRUCTION IS SHOWN ON ISO LIST FOR RELEVANT PIPING AREA

MECWIDE ENGINEERING CHALLENGES | TG | PCL 22635 | IFC | 07-11-2023 | 00

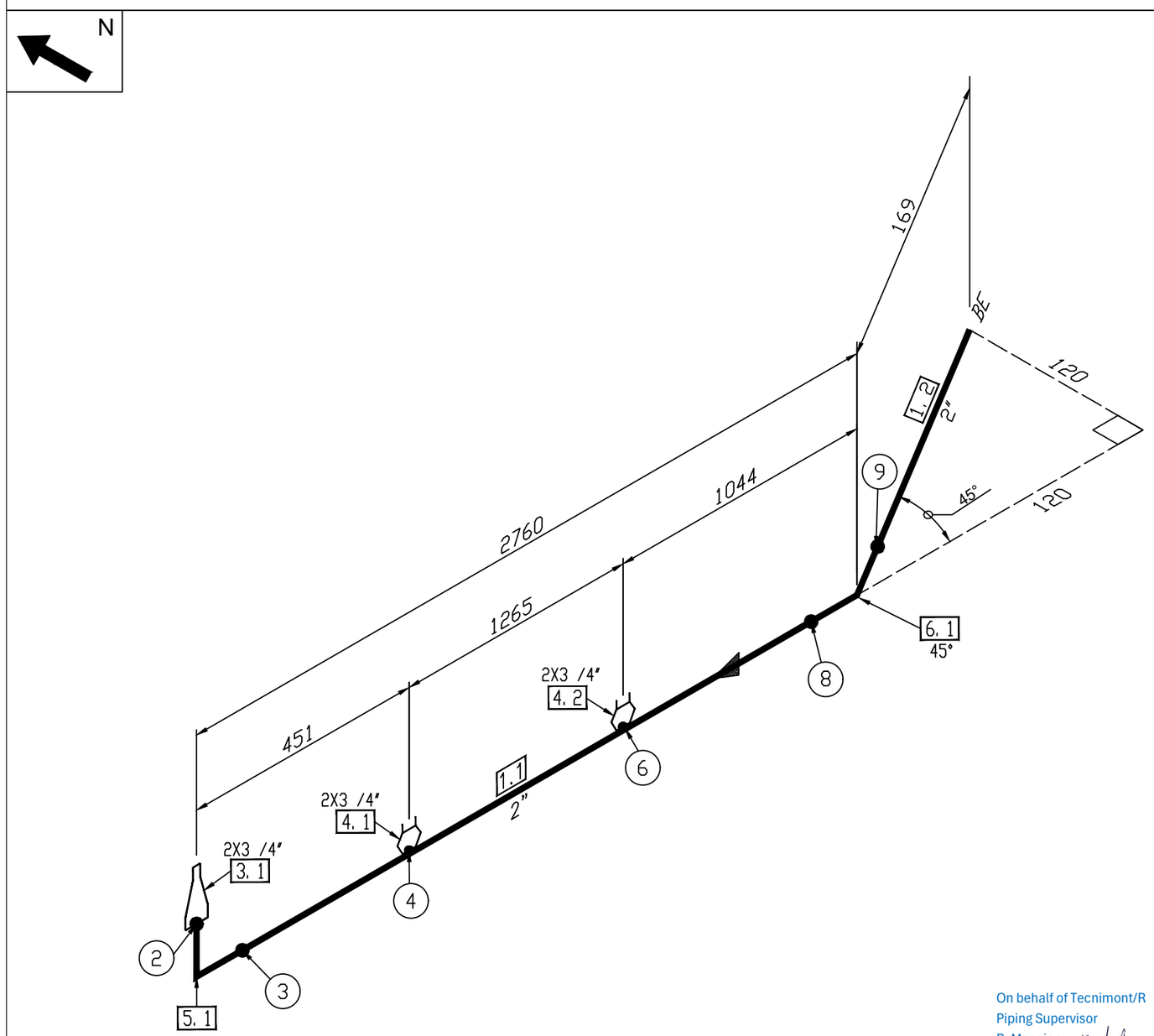
LEGENDS

JOINT TYPE	HMEL TYPE OF JOINT	JOINT TYPE	HMEL TYPE OF JOINT	JOINT TYPE	HMEL TYPE OF JOINT	JOINT TYPE	HMEL TYPE OF JOINT
BW	G	SW	S	LET	LET	SOB	B
FW	S	SIB	B	LF	RF	SOF	S
L4	RF	SLW	S	MTW	M	THD	TH

Notes.
1 DENOTES PARTS LIST NO
PIPE SUPPORT A = RESTING SUPPORT G = GUIDE F = AXIAL RESTRAINT B = GUIDE + STOP M = SPRING
WHERE A WITHOUT NUMBERING IS INDICATED THIS MEANS THAT THERE IS A REST DIRECTLY ON STEEL STRUCTURE

PROJECT: LOW LINEAL DENSITY POLYETHILENE (PEL) AND POLYPROPYLENE (PP) FOR PROJECT - ALBA PROJECT

LINES 1.1/2" AND SMALLER SHALL BE SUPPORTED IN FIELD IF NOT OTHERWISE INDICATED | ALL DIMENSION AND PROPER CONFIGURATION FOR LINES NPS 1.1/2" AND SMALLER SHALL BE CHECKED IN FIELD BEFORE CONSTRUCTION
FOR THE COMPONENT MARKED AS FIELD WELDED,ONE WELDED FOR ADJUSTMENT OF INLINE COMPONENT MUST BE LEFT | GUSSETING TO BE IMPLEMENTED BY MECHANICAL SUBCONTRACTOR AS PER SPECIFICATION 4048-XH-SG-00000000004
FIELD WELD SYMBOL FOR ADJUSTMENT OF IN-LINE COMPONENT WHERE MARKED | FOR LINE DATA AND TESTING CONDITIONS REFER TO LINE LIST 4048-XH-LL-10-0000-00001



BILL OF MATERIAL

PIPE

ITEM	LONGUEUR	DIAMÉTRE	SCH/mm	DESCRIPTION / MATÉRIEL	ITEM CODE
1.1	2,645	2"	S-10S	PIPE - A312-TP304/304L DUAL GR SMLS, BExBE	I3364302
1.2	0,132	2"	S-10S	PIPE - A312-TP304/304L DUAL GR SMLS, BExBE	I3364302

WELD FITTINGS

ITEM	QT	DIAMÉTRE	SCH/PRESS.	DESCRIPTION / MATÉRIEL	ITEM CODE
3.1	1	2" x 3/4"	S-10S x S-40S	CONCENTRIC SWAGE MSS SP-95 A403-WP304/304L DG BE x PE SMLS	I2495660
5.1	1	2"	S-10S	90 LR ELBOW ASME B16.9 A403-WP304/304L DG BE SMLS	I2259133
6.1	1	2"	S-10S	45 LR ELBOW ASME B16.9 A403-WP304/304L DG BE SMLS	I2259145

FORGINGS

ITEM	QT	DIAMÉTRE	SCH/PRESS.	DESCRIPTION / MATÉRIEL	ITEM CODE
4.1	1	2" x 3/4"	3000#	REDUCING SOCKOLET MSS-SP-97 A182-F304/304L DUAL GR BE SWE	I2258338
4.2	1	2" x 3/4"	3000#	REDUCING SOCKOLET MSS-SP-97 A182-F304/304L DUAL GR BE SWE	I2258338

On behalf of Tecnimont/R
Piping Supervisor
R. Mancino
03.dec.24

Sergio Morales

Date: 11-11-24

Weld Map Sticker

P2308S 00489

2121-IA91F63-5-SP01-00489

boccard
Alliance for success
Boccard Portugal, Lda.

Rev.	Date	DRW	Check 1	Check 2		
					Marking Color:	GREEN
					Weld Class:	6C4-M
00	04/03/2024	AOM	MCM	PCO	Paint System:	NA

Construction Code:	ASME B31.3	% RT -	YES	% UT -	NO	Hydro:	NO	ID Cleaning:	YES	Piece Mark	Ref. Drawing	Job #	Spool #	Project
Acc Criteria:	ASME B31.3	% PT -	YES	% FE -	NO	PWHT:	NO	OD Cleaning:	YES	2121-IA91F63-5-SP01-00489	2121-IA91F63-5	P2308S	00489	REPSOL PROJETO ALBA NERVION
Metal Tag:	YES	% MT -	NO	% PMI -	YES	BHN% -	NO	Tolerances:	ASME B31.3					

F324-302-0

Spool Material List

Contract : P2308 **Client** NERVION

Job : P2308S **Project** ALBA

Job	Spool	Piece Mark	Drawing	Rev
P2308S	00489	2121-IA91F63-5-SP01-00489	2121-IA91F63-5	00

Item No / Tag No / ID No	Qty	Size1	Sch1	Size2	Sch2	Description	Heat No / MTR No / Folder No	Unit Weight Kgs	Weight Kgs
1.1 40391	2,645	2.0000	S10S	0.0000	NA	PIPE, SEAMLESS, A312-TP304L	NY231216AS15 0391	3,93	10,39
1.2 40391	,132	2.0000	S10S	0.0000	NA	PIPE, SEAMLESS, A312-TP304L	S-23594 0357	3,93	0,52
6.1 42790	1	2.0000	S10S	0.0000	NA	45 ELL, SEAMLESS, A403-WP304L	JSG2310018 0457	0,24	0,24
5.1 42965	1	2.0000	S10S	0.0000	NA	90 LR ELL, SEAMLESS, A403-WP304L	NY230506AT08 0462	0,49	0,49
4.2 88696	1	2.0000	NA	0.7500	NA	SOCKOLET, 3000#, A182-F304L	N220606AV04 0297	0,15	0,15
4.1 88696	1	2.0000	NA	0.7500	NA	SOCKOLET, 3000#, A182-F304L	N220606AV04 0297	0,15	0,15
3.1 135932	1	2.0000	S10S	0.7500	S40S	CONC SWAGE NIPPLE, LEB-SEP, A403-WP304L	N220606AV04 0510	1,02	1,02

On behalf of Tecnimont/R
Piping Supervisor
R. Mancino
03.dec.24

Number of Items : **7** Total Weight : **12,97**

	QA	Client
Signature	QA / QC	Sergio Morales Date: 11-11-24
Date	2024-11-08 16:03:53	

PANTALONE SRL Doc. N° 2024-BDDTC-0002369 Data 17.06.2024 Rif. Vs. Ordine 7500122623 TECNIMONT SPA COLATA NY231216A QTA 106,400

ITEM 1 DESCRIZIONE TUBO SS RICOTTO INOX A 312TP304L mm. 60,32 x 2,77 Sch 10S

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

CERTIFICATO DI COLLAUDO
WORK TEST CERTIFICATE

EN 10204/3.1 DIN 50049/3.1
NR. BD24016251
DEL 11/06/24

Delivery Note

NR. BD24016251
DEL 11/06/24

CLIENTE: **PANTALONE S.R.L.**
CUSTOMER
VIA DON PRIMO MAZZOLARI, 21 - Z.I. SELVAIEZZI
66100 CHIETI (CHIETI SCALO) CH

RIF. DDT **BD24016251**

ANALISI CHIMICA - CHEMICAL COMPOSITION

COLATA *HEAT NO.*	QTA' *Q.TY*	CODICE *CODE*	DESCRIZIONE *DESCRIPTION*	MATERIALE *MATERIAL*	C% *C%*	Si% *Si%*	Mn% *Mn%*	S% *S%*	P% *P%*	Ni% *Ni%*	Cr% *Cr%*	Mo% *Mo%*	Al% *Al%*	Cu% *Cu%*	Ti% *Ti%*	N% *N%*
			Ns. Ordine Cliente Nr. OC24017381 del 11/06/24													
			Vs. Ordine Cliente Nr. 2024-BOF-0001035 del 11/06/24													
NY231216AS15	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
NY231216AS15	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.

PANTALONE SRL Doc. N° 2024-BDDTC-0002369 Data 17.06.2024 Rif. Vs. Ordine 7500122623 TECNIMONT SPA COLATA NY231216A QTA 106,400

ITEM 1 DESCRIZIONE TUBO SS RICOTTO INOX A 312TP304L mm. 60,32 x 2,77 Sch 10S

TECNICATRE
Stainless Steel Experience

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

CERTIFICATO DI COLLAUDO
WORK TEST CERTIFICATE

EN 10204/3.1 DIN 50049/3.1
NR. BD24016251
DEL 11/06/24

Delivery Note

NR. BD24016251
DEL 11/06/24

CLIENTE: **PANTALONE S.R.L.**
CUSTOMER
VIA DON PRIMO MAZZOLARI, 21 - Z.I. SELVAIEZZI
66100 CHIETI (CHIETI SCALO) CH

RIF. DDT **BD24016251**

CARATTERISTICHE MECCANICHE - MECHANICAL TEST

COLATA Heat no.	SNERVAMENTO yield point - N/mm2	ROTTURA tensile - N/mm2	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

TECNICATRE
TECNICA TRE SRL

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.

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

12 7500118753 N.PRO: 4274 - PP+PE SINES (PORTUGAL) EPC

Inv. No. 356

REGD. OFFICE :
'Suraj House',
Opp. Usmanpura Garden, Ashram Road,
Ahmedabad - 380 014. Gujarat (INDIA)
Tel. : 0091-79-2754 0720 / 2754 0721
Fax : 0091-79-2754 0722
Email : suraj@surajgroup.com

SURAJ LIMITED

(AN ISO 9001 : 2015 COMPANY)
(AN ISO 14001 : 2015 COMPANY)
(AN ISO 45001 : 2018 COMPANY)
(AN PED 2014/68/EU APPROVED COMPANY)

F / QA / 24 REV. NO. 10

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

INSPECTION CERTIFICATE

In Accordance with EN 10204/3.1

Customer: Commerciale Tubi Acciaio S.P.A. **T.C No** : 680 **Date:** 26.03.2022

Product : Austenitic S.S Seamless Cold Finish,Solution Annealed,Pickled & Passivated Pipes. **P.O.No** : OS-0000175 **Date:** 14.10.2021

W.O.No : 2122/OEP400035 **Date:** 16.10.2021

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

Chemical Analysis %

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

Mechanical Test

Heat No.	Required				Gauge Width	Flattening Test	Hardness Test	Impact Test	IGC Test
	Tensile strength Mpa	Yield strength Rp0.2% Mpa	Yield strength Rp 1 % Mpa	Elongation % GL 5.65√A					
MAX	690	--	--	--			Max-90 HRB	100 Joule Min.(AVG)	ASTM A-262 Practice"E" & ISO 3651-2 Method "A"
MIN	515	205	230	40					
S-23594	624.31	316.22	322.57	55.21	25.40	Satisfactory	76-78	N/A	Satisfactory
	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 requirment 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.**

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

SURAJ LTD. THOL

Prepared by

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

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

MATERIAL TEST CERTIFICATE
EN10204 3.1

MANUFACTURER: Yingkou Guangming Pipeline Industry Co.,Ltd

MATERIAL: ASTM A403 WP304/304L

P.O NO: 1179/2023/OF

DIMENSION: ASME B16.9

WORK NO: GMPFCP2312363

CUSTOMER: Chero Piping S.p.A.

DATE: April.10th,2024

PAGE NO: 17/29

NO.	POS .No.	CHERO CODE	COMMESSA	PRODUCT&SIZE	QUANTITY	MFG NO. (HEAT NO.)	CHEMICAL COMPOSITION%									
								C	Si	Mn	P	S	Ni	Cr	Mo	Cu	Other
							MIN						8.00	18.00	--	--	--
					PCS		MAX	0.030	1.00	2.00	0.045	0.030	12.00	20.00	--	--	--
62	130	C45LRB1XB 000I.ZZW	OC/2023/90 3/1110	SIZE: 2 - SCHED.S-10S 45 LR ELBOW A403-WP304/304L DG BE SMLS ASME B16.9	5	JSG2310018		0.024	0.51	1.24	0.025	0.012	8.17	18.45	--	--	--
63	140	C45LRB1XB 000N.ZZW	OC/2023/90 3/1120	SIZE: 3 - SCHED.S-10S 45 LR ELBOW A403-WP304/304L DG BE SMLS ASME B16.9	5	JSG2310019		0.027	0.54	1.22	0.026	0.015	8.11	18.43	--	--	--
64	150	C45LRB1XB 000R.ZZW	OC/2023/90 3/1140	SIZE: 6 - SCHED.S-10S 45 LR ELBOW A403-WP304/304L DG BE SMLS ASME B16.9	7	JSG2312024		0.027	0.47	1.24	0.028	0.013	8.26	18.41	--	--	--
65	160	C45LRB1XB 000W-W.ZZW	OC/2023/90 3/1420	SIZE: 14 - SCHED.S-10S 45 LR ELBOW A403-WP304/304L-WX DG BE - ASME B16.9	3	JSB2312106		0.025	0.44	1.40	0.023	0.003	8.02	18.40	--	--	--

NO.	POS .No.	CHERO CODE	COMMESSA	PHYSICAL TEST						VISUAL INSPECTION	DIMENSION INSPECTION	PMI TESTING
				CHARGE NO	STANDARD	YIELD STRENGTH	TENSILE STRENGTH	ELONGATION	HARDNESS			
						MPA(N/mm2)	MPA(N/mm2)	%	HB			
					MIN	170	485	28				
					MAX				--			
62	130	C45LRB1XB 000I.ZZW	OC/2023/90 3/1110	JSG2310018		250	660	52	--	GOOD	GOOD	OK
63	140	C45LRB1XB 000N.ZZW	OC/2023/90 3/1120	JSG2310019		256	665	54	--	GOOD	GOOD	OK
64	150	C45LRB1XB 000R.ZZW	OC/2023/90 3/1140	JSG2312024		273	674	62	--	GOOD	GOOD	OK
65	160	C45LRB1XB 000W-W.ZZW	OC/2023/90 3/1420	JSB2312106		279	638	56	--	GOOD	GOOD	OK

NOTE:

1.HEAT TREATMENT: SOLUTION ANNEALED TEMPERATURE 1050℃X0.5HR.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.

Tuan Quan

Prime 4 OBO TCM

2024.4.17

CHIEF OF INSPECTION DEPARTMENT

MATERIAL TEST CERTIFICATE
EN10204 3.1

MANUFACTURER: Yingkou Guangming Pipeline Industry Co.,Ltd

MATERIAL: ASTM A403 WP304/304L

P.O NO: 1179/2023/OF

DIMENSION: ASME B16.9

WORK NO: GMPFCP2312363

CUSTOMER: Chero Piping S.p.A.

DATE: April.10th,2024

PAGE NO: 20/29

NO.	POS .No.	CHERO CODE	COMMESSA	PRODUCT&SIZE	QUANTITY	MFG NO. (HEAT NO.)	CHEMICAL COMPOSITION%									
								C	Si	Mn	P	S	Ni	Cr	Mo	Cu	Other
							MIN						8.00	18.00	--	--	--
					PCS		MAX	0.030	1.00	2.00	0.045	0.030	12.00	20.00	--	--	--
74	310	C90LRB1XB 000I.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	18.08	--	--	--
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	18.43	--	--	--
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	18.36	--	--	--
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	18.41	--	--	--

NO.	POS .No.	CHERO CODE	COMMESSA	PHYSICAL TEST						VISUAL INSPECTION	DIMENSION INSPECTION	PMI TESTING
				CHARGE NO	STANDARD	YIELD STRENGTH	TENSILE STRENGTH	ELONGATION	HARDNESS			
						MPA(N/mm2)	MPA(N/mm2)	%	HB			
					MIN	170	485	28				
					MAX				--			
74	310	C90LRB1XB 000I.ZZW	OC/2023/90 3/1040	NY230506AT08		299	611	51	--	GOOD	GOOD	OK
75	320	C90LRB1XB 000N.ZZW	OC/2023/90 3/1060	JSG2310019		256	665	54	--	GOOD	GOOD	OK
76	330	C90LRB1XB 000P.ZZW	OC/2023/90 3/1080	JSG2312020		279	680	66	--	GOOD	GOOD	OK
77	340	C90LRB1XB 000R.ZZW	OC/2023/90 3/1090	JSG2312024		273	674	62	Yuan Quan	GOOD	GOOD	OK

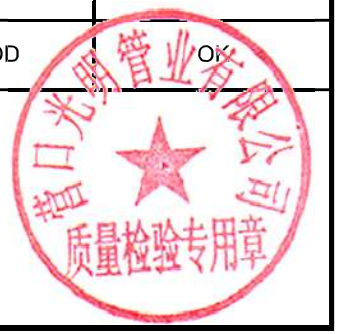
NOTE:

1.HEAT TREATMENT: SOLUTION ANNEALED TEMPERATURE 1050℃X0.5HR.COOLING IN WATER.

Prime 4 OBO TCM
2024.4.17

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



江阴中南重工有限公司

Jiangyin Zhongnan Heavy Industries Co.,Ltd.

产品质量证明书 Quality Certificate EN10204-3.1

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 F304/304L 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	单位 Unit	数量 Q'ty	炉 号 Heat No:	化学成分 Chemical Composition (%)														机械性能 Mechanical Properties							硬 度 Hardness HBW	备 注 Remark
						C	Si	Mn	S	P	Cr	Ni	Ti	Mo	V	Cu	Nb	Al	N	CE	抗拉强度 R_m(Mpa)	屈服强度 $R_{p0.2}$(Mpa)	延伸率 A%	断面收缩率 Z%	冲击试验 (J) Impact Test Report 0°C (10*10*55mm)				
2024-01-435-198	REDUCING SOCKOLET SWE	SIZE1:2" SIZE2:0.75" 3000LB	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: I2258338
2024-01-435-199	REDUCING SOCKOLET SWE	SIZE1:2" SIZE2:1" 3000LB	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: I2258339
2024-01-435-200	REDUCING SOCKOLET SWE	SIZE1:2" SIZE2:1.5" 3000LB	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: I2258341
2024-01-435-201	REDUCING SOCKOLET SWE	SIZE1:3" SIZE2:0.75" 3000LB	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: I2258415
2024-01-435-202	REDUCING SOCKOLET SWE	SIZE1:4" SIZE2:0.75" 3000LB	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: I2258477
2024-01-435-203	REDUCING SOCKOLET SWE	SIZE1:4" SIZE2:1.5" 3000LB	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: I2258480

其他检测结果(Other examination and test)

尺寸检查 Dimension Inspection	外观检查 Visual Inspection	便 度 Hardness (HBW≤201)	无损检测(NDT)				晶间腐蚀 Intergranular Corrosion Test	备 注 Remark	交货状态 Delivery condition	其他(others)：
			磁粉 MT	着色 PT	超声波 UT	X射线 RT				
合格 OK	合格 OK	合格 OK	-	合格 OK	-	-	合格 OK	PMI OK	固溶 Solution Annealing	

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

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

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

检验部门（章）
Stamp of Quality Department

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

江阴中南重工有限公司

Jiangyin Zhongnan Heavy Industries Co.,Ltd.

产品质量证明书 Quality Certificate EN10204-3.1

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.)：2024-01-435-56

材质(Material)： ASTM A403-2022 WP304/304L　　产品执行标准(Product standards)： MSS SP-95-2018

生产批号 Batch No.	产品名称 Designation	规格型号 Dimension	单位 Unit	数量 Q'ty	炉 号 Heat No:	化学成分 Chemical Composition (%)															机械性能 Mechanical Properties							硬 度 Hardness HBW	备 注 Remark
						C	Si	Mn	S	P	Cr	Ni	Ti	Mo	V	Cu	Nb	Al	N	CE	抗拉强度 R_m(Mpa)	屈服强度 $R_{p0.2}$(Mpa)	延伸率 A%	断面收缩率 Z%	冲击试验 (J) Impact Test Report 0°C (10*10*55mm)				
2024-01-435-130	ECCENTRIC SWAGE	SIZE1:2 SCHED.1 S-10S SIZE2:0.75 SCHED.2 S-40S	PCS	3	N220606AV04	0.021	0.38	1.34	0.003	0.032	18.29	8.11									579	265	57.5	-	-	-	-	160/162/158	Ident Code: I2495783
2024-01-435-131	ECCENTRIC SWAGE	SIZE1:4 SCHED.1 S-10S SIZE2:1 SCHED.2 S-40S	PCS	1	N220606AV04	0.021	0.38	1.34	0.003	0.032	18.29	8.11									579	265	57.5	-	-	-	-	160/162/158	Ident Code: I2495810
2024-01-435-132	ECCENTRIC SWAGE	SIZE1:2 SCHED.1 S-40S SIZE2:1 SCHED.2 S-80S	PCS	2	N220605AV04	0.021	0.38	1.34	0.003	0.032	18.29	8.11									579	265	57.5	-	-	-	-	160/162/158	Ident Code: I2496327
2024-01-435-154	CONCENTRIC SWAGE	SIZE1:2 SCHED.1 S-10S SIZE2:0.75 SCHED.2 S-40S	PCS	7	N220606AV04	0.021	0.38	1.34	0.003	0.032	18.29	8.11									579	265	57.5	-	-	-	-	160/162/158	Ident Code: I2495660
2024-01-435-160	CONCENTRIC SWAGE	SIZE1:4 SCHED.1 S-10S SIZE2:1 SCHED.2 S-40S	PCS	3	N220606AV04	0.021	0.38	1.34	0.003	0.032	18.29	8.11									579	265	57.5	-	-	-	-	160/162/158	Ident Code: I2495688
2024-01-435-162	ECCENTRIC SWAGE	SIZE1:2 SCHED.1 S-80S SIZE2:1 SCHED.2 S-80S	PCS	3	N220606AV04	0.021	0.38	1.34	0.003	0.032	18.29	8.11									579	265	57.5	-	-	-	-	160/162/158	Ident Code: I2506804

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 (HBW≤201)	无损检测(NDT) 磁粉 MT	着色 PT	超声波 UT	X射线 RT	晶间腐蚀 Intergranular Corrosion Test	备 注 Remark	交货状态 Delivery condition	其他(others)：
合格 OK	合格 OK	合格 OK	-	合格 OK	-	-	合格 OK	PMI OK	固溶 Solution Annealing	

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

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

检验员(Inspector)：	张君	质保工程师(QA Engineer)：	薛凯	签发日期(Date of issue)：	2024.04.22	检验部门（章） Stamp of Quality Department

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

Welding and QC Report Per Spool

Contract : P2308 | Drawing : 2121-IA91F63-5 | Job : P2308S | Material : Stainless Steel 304, 316, 317

Client : NERVION | Revision : 00 | Spool : 00489 | Spec : 6C4-M

Project : ALBA | Piece Mark : 2121-IA91F63-5-SP01-00489

Weld data					Welding							Control																							
Weld No.	Type	Dia	Sch /Thk	Weld Proc.	1st Pass	Pass 1	1st MTR	Final Pass	Final Pass	Final MTR	Dim	Date DIM	Visual	Date Visual	PT	Date PT	MT	Date MT	PMI	Date PMI	Ferite	Date Ferrite	PWHT	Date PWHT	BHN	Date BHN	Ultra	Date UT	Xray	Date Xray						
0002	BW	2	S10S	MW.26_BW	AH	30-09-2024	4712055	AH	30-09-2024	4712055			001194	31-10-2024					001250	31-10-2024																
0003	BW	2	S10S	MW.26_BW	BC	29-10-2024	4712055	BC	29-10-2024	4712055			001194	31-10-2024					001250	31-10-2024																
0004	SOL	0,75	S10S	MW.26_SBR	BC	28-10-2024	4712055	BC	28-10-2024	4712055			001194	31-10-2024	000236	31-10-2024			001250	31-10-2024																
0006	SOL	0,75	S10S	MW.26_SBR	BC	25-10-2024	4712055	BC	25-10-2024	4712055			001194	31-10-2024	000236	31-10-2024			001250	31-10-2024																
0008	BW	2	S10S	MW.26_BW	BC	29-10-2024	4712055	BC	29-10-2024	4712055			001194	31-10-2024					001250	31-10-2024																
0009	BW	2	S10S	MW.26_BW	AH	30-09-2024	4712055	AH	30-09-2024	4712055			001194	31-10-2024					001250	31-10-2024																

On behalf of Tecnimont
QC Welding Inspector
(R)
03/12/2024

Notes:

	Boccard Portugal QC	Client
Signature	QA / QC	Sergio Morales Date: 11-11-24
Date	08-11-2024 16:03:53	

Shop QC Inspection Report

P2308-001238

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

Job number: P2308S
Spool Nº: 00489
Piece Mark: 2121-IA91F63-5-SP01-00489

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

Control Date: 31-10-2024

Remarks: The results refer to the controlled items

Actions / Tasks List	Required Yes	Required No	Done/ Identified
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: 31-10-2024
Signature

QA/QC Inspection: RAIMUNDO, MARIANA
Date: 08-11-2024 16:03:53
Signature

Customer Inspection:
Sergio Morales
Date: 11-11-24

03/12/2024 On behalf of Tecnimont
QC Welding Inspector
(R)

Visual Examination Report (Welds)

P2308-001194

Contract : P2308
Client : NERVION
Project : ALBA

Job number: P2308S
Spool Nº: 00489
Piece Mark: 2121-IA91F63-5-SP01-00489

Material: Stainless Steel 304, 316, 317
Procedure & Instructions: 4274-LZ-VD-FW31010370QAC04 - Rev: 1
Testing Date: 31-10-2024

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. (ºF/ºC)	Accepted	Rejected	Defect	Technique Used	Comments
Weld No.	Weld Desc.	Welder						
0002	2.0000 S10S BW-Buttweld Straight (MW.26_BW)	AH	15	X			Direct	
0003	2.0000 S10S BW-Buttweld Straight (MW.26_BW)	BC	15	X			Direct	
0004	0.7500 S10S SOL-Sockolet to Header Weld (MW.26_SBR)	BC	15	X			Direct	
0006	0.7500 S10S SOL-Sockolet to Header Weld (MW.26_SBR)	BC	15	X			Direct	
0008	2.0000 S10S BW-Buttweld Straight (MW.26_BW)	BC	15	X			Direct	
0009	2.0000 S10S BW-Buttweld Straight (MW.26_BW)	AH	15	X			Direct	

Sketch / Photo:

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

Test Performed by: MATOS, MARCO (N2 VT/PT)
Date: 31-10-2024
Signature

QA/QC Inspection: RAIMUNDO, MARIANA
Date: 08-11-2024 16:03:53
Signature

Customer Inspection:
Sergio Morales
Date: 11-11-24

03/12/2024 On behalf of Tecnimont
QC Welding Inspector
(R)

Liquid Penetrant Examination Report

P2308-000236

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

Job number: P2308S
Spool Nº: 00489
Piece Mark: 2121-IA91F63-5-SP01-00489

Material: Stainless Steel 304, 316, 317
Procedure / Instruction reference: 4274-LZ-VD-FW3101037OQAC03
Testing Date: 31-10-2024

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 (ºF/ºC	Dwell Time (min) Penetrant	Cleaner	Developer	Lighting	Examin Time	Accepted yes	No	Indication	Remarks
0004	0.7500 S10S SOL-Sockolet to Header Weld (MW.26_SBR)	BC	15	20 m	-	10 m	-	-	X			
0006	0.7500 S10S 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
Porosity	P	Slag	S	Lack of Cleanup	LC	Crater Crack	CC

Crack CR

Test Performed by: MARCO (N2 VT/PT), MATOS
Date: 31-10-2024
Signature

QA/QC Inspection: RAIMUNDO, MARIANA
Date: 31-10-2024
Signature

Customer Inspection:
Sergio Morales
Date: 11-11-24

03/12/2024
On behalf of Tecnimont
QC Welding Inspector
(R)

Positive Material Identification Report (PMI)

P2308-001250

Client : NERVION
Contract : P2308 / Project : ALBA

Job number: P2308S
Spool Nº: 00489
Piece Mark: 2121-IA91F63-5-SP01-00489
Material: Stainless Steel 304, 316, 317

Procedure / Instruction reference: 4274-LZ-VD-FW31010370QAC11 - Rev: 1
PMI Equipment : Niton XL3t800 Serial Nº 32735 (FP01)
Equipment Deviation : + - 5%
Testing Date: 31-10-2024

Remarks: The results refer to the controlled items

Weld / Item No	Description	Longitudinal Reading number	Chemical Elements										Accepted	Rejected	Comments
			%Ti	%Mo	%Cu	%Ni	%Fe	%Mn	%Cr	%Nb	%Al	%V			
0002	2.0000 S10S BW-Buttweld Straight (MW.26_BW)	15	0	0	0	9	69	1	18	0	0	0	X		
0003	2.0000 S10S BW-Buttweld Straight (MW.26_BW)	14	0	0	0	9	69	1	19	0	0	0	X		
0004	0.7500 S10S SOL-Sockolet to Header Weld (MW.26_SBR)	13	0	0	0	9	69	1	19	0	0	0	X		
0006	0.7500 S10S SOL-Sockolet to Header Weld (MW.26_SBR)	12	0	0	0	9	69	1	19	0	0	0	X		
0008	2.0000 S10S BW-Buttweld Straight (MW.26_BW)	11	0	0	0	9	69	1	19	0	0	0	X		
0009	2.0000 S10S BW-Buttweld Straight (MW.26_BW)	10	0	0	0	9	69	1	18	0	0	0	X		
1.1	2.0000 S10S PIPE, SEAMLESS, A312-TP304L (NY231216AS15)	5	0	0	0	8	71	1	18	0	0	0	X		
1.2	2.0000 S10S PIPE, SEAMLESS, A312-TP304L (S-23594)	9	0	0	0	7	71	1	18	0	0	0	X		
3.1	2.0000 S10S 0.7500 S40S CONC SWAGE NIPPLE, LEB-SEP, A403-WP304L (N220606AV04)	3	0	0	0	7	72	1	17	0	0	0	X		
4.1	2.0000 NA 0.7500 NA SOCKOLET, 3000#, A182-F304L (N220606AV04)	6	0	0	0	7	71	1	18	0	0	0	X		
4.2	2.0000 NA 0.7500 NA SOCKOLET, 3000#, A182-F304L (N220606AV04)	7	0	0	0	7	71	1	18	0	0	0	X		
5.1	2.0000 S10S 90 LR ELL, SEAMLESS, A403-WP304L (NY230506AT08)	4	0	0	0	8	71	1	17	0	0	0	X		
6.1	2.0000 S10S 45 ELL, SEAMLESS, A403-WP304L (JSG2310018)	8	0	0	0	8	71	1	17	0	0	0	X		

03/12/2024
On behalf of Tecnimont
QC Welding Inspector
(R)

Test Performed by: GONCALVES(QA), J. (N2 PT/RT)
Date: 31-10-2024
Signature

QA/QC Inspection: RAIMUNDO, MARIANA
Date: 08-11-2024 16:03:53
Signature

Customer Inspection:
Date: Sergio Morales
Date: 11-11-24
Signature

Boccard Portugal, Lda
Zona Industrial de Montalvo, Lote 3
Constância, Portugal2250-999

Certificate of PMI Reading

XL3t-32735

Reading No	15
Mode	ALLOY
Time	2024-10-31 11:06
Duration	11.58
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	:	0.047
Pd	< LOD	:	0.034
Ag	< LOD	:	0.236
Al	< LOD	:	80.000
Mo	0.042	±	0.007
Nb	0.009	±	0.004
Zr	< LOD	:	0.003
Bi	< LOD	:	0.016
Pb	< LOD	:	0.020
Se	< LOD	:	0.008
W	< LOD	:	0.072
Zn	< LOD	:	0.031
Cu	< LOD	:	0.140
Ni	9.000	±	0.275
Co	< LOD	:	0.444
Fe	69.914	±	0.411
Mn	1.647	±	0.186
Cr	18.846	±	0.240
V	< LOD	:	0.115
Ti	< LOD	:	0.137

Sergio Morales

Date: 11-11-24

03/12/2024

On behalf of Tecnimont
QC Welding Inspector

(R)

Boccard Portugal, Lda
Zona Industrial de Montalvo, Lote 3
Constância, Portugal2250-999

Certificate of PMI Reading

XL3t-32735

Reading No	14
Mode	ALLOY
Time	2024-10-31 11:06
Duration	12.15
Sequence	Final
Alloy1	304SS : 0.00
Alloy2	No Match : *2.10
Flags	
SAMPLE	
HEAT	
LOT	
BATCH	
MISC	
NOTE	

	%	±	Error
Sb	< LOD	:	0.034
Sn	< LOD	:	0.046
Pd	< LOD	:	0.032
Ag	< LOD	:	0.155
Al	< LOD	:	80.000
Mo	0.045	±	0.007
Nb	< LOD	:	0.007
Zr	< LOD	:	0.003
Bi	< LOD	:	0.008
Pb	< LOD	:	0.012
Se	< LOD	:	0.006
W	< LOD	:	0.069
Zn	< LOD	:	0.032
Cu	< LOD	:	0.134
Ni	9.115	±	0.270
Co	< LOD	:	0.434
Fe	69.337	±	0.403
Mn	1.706	±	0.184
Cr	19.396	±	0.237
V	< LOD	:	0.115
Ti	< LOD	:	0.134

Sergio Morales

Date: 11-11-24

03/12/2024

On behalf of Tecnimont
QC Welding Inspector

(R)

Boccard Portugal, Lda
Zona Industrial de Montalvo, Lote 3
Constância, Portugal2250-999

Certificate of PMI Reading

XL3t-32735

Reading No	13
Mode	ALLOY
Time	2024-10-31 11:06
Duration	12.60
Sequence	Final
Alloy1	304SS : 0.40
Alloy2	No Match : *2.14
Flags	
SAMPLE	
HEAT	
LOT	
BATCH	
MISC	
NOTE	

	%	±	Error
Sb	< LOD	:	0.038
Sn	< LOD	:	0.046
Pd	< LOD	:	0.037
Ag	< LOD	:	0.125
Al	< LOD	:	80.000
Mo	0.046	±	0.008
Nb	0.009	±	0.004
Zr	< LOD	:	0.004
Bi	< LOD	:	0.013
Pb	< LOD	:	0.003
Se	< LOD	:	0.009
W	< LOD	:	0.088
Zn	< LOD	:	0.023
Cu	< LOD	:	0.150
Ni	9.250	±	0.293
Co	< LOD	:	0.470
Fe	69.177	±	0.434
Mn	1.935	±	0.201
Cr	19.151	±	0.254
V	< LOD	:	0.118
Ti	< LOD	:	0.145

Sergio Morales

Date: 11-11-24

03/12/2024

On behalf of Tecnimont

QC Welding Inspector

(R)

Boccard Portugal, Lda
Zona Industrial de Montalvo, Lote 3
Constância, Portugal2250-999

Certificate of PMI Reading

XL3t-32735

Reading No	12
Mode	ALLOY
Time	2024-10-31 11:05
Duration	11.59
Sequence	Final
Alloy1	304SS : 1.32
Alloy2	321SS : 1.44
Flags	
SAMPLE	
HEAT	
LOT	
BATCH	
MISC	
NOTE	

	%	±	Error
Sb	< LOD	:	0.043
Sn	< LOD	:	0.051
Pd	< LOD	:	0.038
Ag	< LOD	:	0.188
Al	< LOD	:	80.000
Mo	0.039	±	0.008
Nb	< LOD	:	0.008
Zr	< LOD	:	0.004
Bi	< LOD	:	0.002
Pb	< LOD	:	0.027
Se	< LOD	:	0.008
W	< LOD	:	0.090
Zn	< LOD	:	0.036
Cu	< LOD	:	0.147
Ni	9.129	±	0.300
Co	< LOD	:	0.482
Fe	69.131	±	0.448
Mn	1.930	±	0.207
Cr	19.182	±	0.263
V	< LOD	:	0.132
Ti	< LOD	:	0.170

Sergio Morales

Date: 11-11-24

03/12/2024

On behalf of Tecnimont

QC Welding Inspector

(R)

Boccard Portugal, Lda
Zona Industrial de Montalvo, Lote 3
Constância, Portugal2250-999

Certificate of PMI Reading

XL3t-32735

Reading No	11
Mode	ALLOY
Time	2024-10-31 11:05
Duration	11.81
Sequence	Final
Alloy1	304SS : 0.64
Alloy2	No Match : 1.74
Flags	
SAMPLE	
HEAT	
LOT	
BATCH	
MISC	
NOTE	

	%	±	Error
Sb	< LOD	:	0.034
Sn	< LOD	:	0.047
Pd	< LOD	:	0.032
Ag	< LOD	:	0.199
Al	< LOD	:	80.000
Mo	0.036	±	0.007
Nb	< LOD	:	0.007
Zr	< LOD	:	0.003
Bi	< LOD	:	0.014
Pb	< LOD	:	0.015
Se	< LOD	:	0.010
W	< LOD	:	0.071
Zn	< LOD	:	0.025
Cu	< LOD	:	0.133
Ni	9.265	±	0.278
Co	< LOD	:	0.440
Fe	69.382	±	0.412
Mn	1.710	±	0.188
Cr	19.199	±	0.242
V	< LOD	:	0.124
Ti	< LOD	:	0.151

On behalf of Tecnimont
QC Welding Inspector

03/12/2024

Sergio Morales

Date: 11-11-24

(R)

Boccard Portugal, Lda
Zona Industrial de Montalvo, Lote 3
Constância, Portugal2250-999

Certificate of PMI Reading

XL3t-32735

Reading No	10
Mode	ALLOY
Time	2024-10-31 11:05
Duration	11.93
Sequence	Final
Alloy1	304SS : 0.12
Alloy2	No Match : *2.10
Flags	
SAMPLE	
HEAT	
LOT	
BATCH	
MISC	
NOTE	

	%	±	Error
Sb	< LOD	:	0.036
Sn	< LOD	:	0.045
Pd	< LOD	:	0.034
Ag	< LOD	:	0.171
Al	< LOD	:	80.000
Mo	0.050	±	0.007
Nb	< LOD	:	0.007
Zr	< LOD	:	0.003
Bi	< LOD	:	0.008
Pb	< LOD	:	0.012
Se	< LOD	:	0.007
W	< LOD	:	0.076
Zn	< LOD	:	0.030
Cu	< LOD	:	0.138
Ni	9.112	±	0.272
Co	< LOD	:	0.441
Fe	69.531	±	0.406
Mn	1.618	±	0.182
Cr	18.884	±	0.236
V	0.153	±	0.064
Ti	< LOD	:	0.140

Sergio Morales

Date: 11-11-24

03/12/2024

On behalf of Tecnimont

QC Welding Inspector

(R)

Boccard Portugal, Lda
Zona Industrial de Montalvo, Lote 3
Constância, Portugal2250-999

Certificate of PMI Reading

XL3t-32735

Reading No	5
Mode	ALLOY
Time	2024-10-31 11:03
Duration	11.59
Sequence	Final
Alloy1	304SS : 1.18
Alloy2	321SS : 1.53
Flags	
SAMPLE	
HEAT	
LOT	
BATCH	
MISC	
NOTE	

	%	±	Error
Sb	< LOD	:	0.039
Sn	< LOD	:	0.049
Pd	< LOD	:	0.034
Ag	< LOD	:	0.162
Al	< LOD	:	80.000
Mo	< LOD	:	0.010
Nb	< LOD	:	0.005
Zr	< LOD	:	0.003
Bi	< LOD	:	0.012
Pb	< LOD	:	0.013
Se	< LOD	:	0.007
W	< LOD	:	0.086
Zn	< LOD	:	0.031
Cu	< LOD	:	0.137
Ni	8.026	±	0.273
Co	< LOD	:	0.463
Fe	71.377	±	0.426
Mn	1.672	±	0.191
Cr	18.047	±	0.243
V	< LOD	:	0.127
Ti	< LOD	:	0.159

03/12/2024

Sergio Morales

Date: 11-11-24

On behalf of Tecnimont
QC Welding Inspector

(R)

Boccard Portugal, Lda
Zona Industrial de Montalvo, Lote 3
Constância, Portugal2250-999

Certificate of PMI Reading

XL3t-32735

Reading No	9
Mode	ALLOY
Time	2024-10-31 11:05
Duration	12.04
Sequence	Final
Alloy1	304SS : 1.50
Alloy2	301SS : 1.70
Flags	
SAMPLE	
HEAT	
LOT	
BATCH	
MISC	
NOTE	

	%	±	Error
Sb	< LOD	:	0.036
Sn	< LOD	:	0.047
Pd	< LOD	:	0.033
Ag	< LOD	:	0.142
Al	< LOD	:	80.000
Mo	0.190	±	0.013
Nb	< LOD	:	0.008
Zr	< LOD	:	0.004
Bi	< LOD	:	0.013
Pb	< LOD	:	0.004
Se	< LOD	:	0.011
W	< LOD	:	0.093
Zn	< LOD	:	0.035
Cu	0.265	±	0.078
Ni	7.881	±	0.268
Co	< LOD	:	0.456
Fe	71.492	±	0.416
Mn	1.497	±	0.186
Cr	18.024	±	0.239
V	0.128	±	0.063
Ti	< LOD	:	0.138

Sergio Morales

Date: 11-11-24

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

(R)

Boccard Portugal, Lda
Zona Industrial de Montalvo, Lote 3
Constância, Portugal2250-999

Certificate of PMI Reading

XL3t-32735

Reading No	3
Mode	ALLOY
Time	2024-10-31 11:03
Duration	11.53
Sequence	Final
Alloy1	301SS : 1.57
Alloy2	No Match : 2.10
Flags	
SAMPLE	
HEAT	
LOT	
BATCH	
MISC	
NOTE	

	%	±	Error
Sb	< LOD	:	0.037
Sn	< LOD	:	0.049
Pd	< LOD	:	0.037
Ag	< LOD	:	0.143
Al	< LOD	:	80.000
Mo	0.078	±	0.009
Nb	0.012	±	0.004
Zr	< LOD	:	0.005
Bi	< LOD	:	0.010
Pb	< LOD	:	0.014
Se	< LOD	:	0.007
W	< LOD	:	0.086
Zn	< LOD	:	0.029
Cu	0.192	±	0.075
Ni	7.942	±	0.270
Co	< LOD	:	0.455
Fe	72.099	±	0.418
Mn	1.417	±	0.185
Cr	17.822	±	0.239
V	< LOD	:	0.125
Ti	< LOD	:	0.135

03/12/2024

Sergio Morales

Date: 11-11-24

On behalf of Tecnimont
QC Welding Inspector

(R)

Boccard Portugal, Lda
Zona Industrial de Montalvo, Lote 3
Constância, Portugal2250-999

Certificate of PMI Reading

XL3t-32735

Reading No	6
Mode	ALLOY
Time	2024-10-31 11:04
Duration	11.36
Sequence	Final
Alloy1	304SS : 1.86
Alloy2	No Match : 2.44
Flags	
SAMPLE	
HEAT	
LOT	
BATCH	
MISC	
NOTE	

	%	±	Error
Sb	< LOD	:	0.037
Sn	< LOD	:	0.046
Pd	< LOD	:	0.036
Ag	< LOD	:	0.152
Al	< LOD	:	80.000
Mo	0.037	±	0.007
Nb	< LOD	:	0.007
Zr	< LOD	:	0.003
Bi	< LOD	:	0.002
Pb	< LOD	:	0.016
Se	< LOD	:	0.010
W	< LOD	:	0.081
Zn	< LOD	:	0.027
Cu	0.158	±	0.073
Ni	7.910	±	0.270
Co	0.553	±	0.232
Fe	71.262	±	0.421
Mn	1.605	±	0.189
Cr	18.112	±	0.242
V	0.164	±	0.066
Ti	< LOD	:	0.146

03/12/2024

Sergio Morales

Date: 11-11-24

On behalf of Tecnimont
QC Welding Inspector

(R)

Boccard Portugal, Lda
Zona Industrial de Montalvo, Lote 3
Constância, Portugal2250-999

Certificate of PMI Reading

XL3t-32735

Reading No	7
Mode	ALLOY
Time	2024-10-31 11:04
Duration	11.60
Sequence	Final
Alloy1	304SS : 1.82
Alloy2	No Match : *2.30
Flags	
SAMPLE	
HEAT	
LOT	
BATCH	
MISC	
NOTE	

	%	±	Error
Sb	< LOD	:	0.038
Sn	< LOD	:	0.045
Pd	< LOD	:	0.035
Ag	< LOD	:	0.178
Al	< LOD	:	80.000
Mo	0.045	±	0.007
Nb	< LOD	:	0.005
Zr	< LOD	:	0.002
Bi	< LOD	:	0.012
Pb	< LOD	:	0.009
Se	< LOD	:	0.007
W	< LOD	:	0.086
Zn	< LOD	:	0.033
Cu	0.170	±	0.072
Ni	7.805	±	0.265
Co	0.467	±	0.229
Fe	71.183	±	0.414
Mn	1.565	±	0.187
Cr	18.448	±	0.240
V	< LOD	:	0.123
Ti	< LOD	:	0.126

Sergio Morales

Date: 11-11-24

03/12/2024

On behalf of Tecnimont

QC Welding Inspector

(R)

Boccard Portugal, Lda
Zona Industrial de Montalvo, Lote 3
Constância, Portugal2250-999

Certificate of PMI Reading

XL3t-32735

Reading No	4
Mode	ALLOY
Time	2024-10-31 11:03
Duration	11.01
Sequence	Final
Alloy1	321SS : 1.63
Alloy2	301SS : 1.82
Flags	
SAMPLE	
HEAT	
LOT	
BATCH	
MISC	
NOTE	

	%	±	Error
Sb	< LOD	:	0.039
Sn	< LOD	:	0.047
Pd	< LOD	:	0.036
Ag	< LOD	:	0.169
Al	< LOD	:	80.000
Mo	0.028	±	0.007
Nb	< LOD	:	0.007
Zr	< LOD	:	0.003
Bi	< LOD	:	0.019
Pb	< LOD	:	0.006
Se	< LOD	:	0.009
W	< LOD	:	0.091
Zn	< LOD	:	0.032
Cu	< LOD	:	0.142
Ni	8.052	±	0.280
Co	< LOD	:	0.473
Fe	71.641	±	0.432
Mn	1.637	±	0.193
Cr	17.718	±	0.246
V	< LOD	:	0.132
Ti	< LOD	:	0.161

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

Sergio Morales

Date: 11-11-24

(R)

Boccard Portugal, Lda
Zona Industrial de Montalvo, Lote 3
Constância, Portugal2250-999

Certificate of PMI Reading

XL3t-32735

Reading No	8
Mode	ALLOY
Time	2024-10-31 11:04
Duration	12.12
Sequence	Final
Alloy1	304SS : 1.73
Alloy2	301SS : 1.75
Flags	
SAMPLE	
HEAT	
LOT	
BATCH	
MISC	
NOTE	

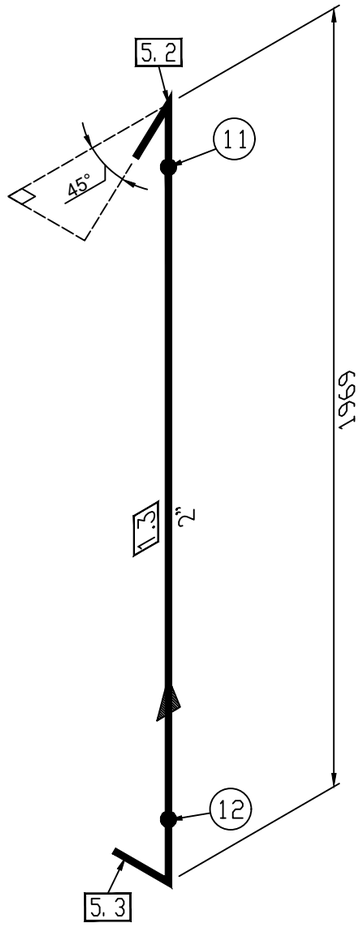
	%	±	Error
Sb	< LOD	:	0.037
Sn	< LOD	:	0.044
Pd	< LOD	:	0.035
Ag	< LOD	:	0.166
Al	< LOD	:	80.000
Mo	< LOD	:	0.009
Nb	< LOD	:	0.006
Zr	< LOD	:	0.003
Bi	< LOD	:	0.016
Pb	< LOD	:	0.012
Se	< LOD	:	0.008
W	< LOD	:	0.080
Zn	< LOD	:	0.032
Cu	< LOD	:	0.130
Ni	8.028	±	0.264
Co	< LOD	:	0.446
Fe	71.961	±	0.408
Mn	1.394	±	0.180
Cr	17.822	±	0.233
V	0.152	±	0.064
Ti	< LOD	:	0.145

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

(R)

Sergio Morales
Date: 11-11-24

N



BILL OF MATERIAL

PIPE

ITEM	LONGUEUR	DIAMÉTRE	SCH/mm	DESCRIPTION / MATÉRIEL	ITEM CODE
1.3	1,813	2"	S-10S	PIPE - A312-TP304/304L DUAL GR SMLS, BExBE	I3364302

WELD FITTINGS

ITEM	QT	DIAMÉTRE	SCH/PRESS.	DESCRIPTION / MATÉRIEL	ITEM CODE
5.2	1	2"	S-10S	90 LR ELBOW ASME B16.9 A403-WP304/304L DG BE SMLS	I2259133
5.3	1	2"	S-10S	90 LR ELBOW ASME B16.9 A403-WP304/304L DG BE SMLS	I2259133

Rev.	Date	DRW	Check 1	Check 2		
					Marking Color:	GREEN
					Weld Class:	6C4-M
00	04/03/2024	AOM	MCM	PCO	Paint System:	NA

On behalf of Tecnimont/R
Piping Supervisor
R. Mancino
03.dec.24

Sergio Morales

Date: 11-11-24

Weld Map Sticker

P2308S 00490

2121-IA91F63-5-SP02-00490

boccard
Alliance for success
Boccard Portugal, Lda.

Construction Code:	ASME B31.3	% RT -	YES	% UT -	NO	Hydro:	NO	ID Cleaning:	YES	Piece Mark	Ref. Drawing	Job #	Spool #	Project
Acc Criteria:	ASME B31.3	% PT -	YES	% FE -	NO	PWHT:	NO	OD Cleaning:	YES	2121-IA91F63-5-SP02-00490	2121-IA91F63-5	P2308S	00490	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
P2308S	00490	2121-IA91F63-5-SP02-00490	2121-IA91F63-5	00

Item No / Tag No / ID No	Qty	Size1	Sch1	Size2	Sch2	Description	Heat No / MTR No / Folder No	Unit Weight Kgs	Weight Kgs
1.3 40391	1,813	2.0000	S10S	0.0000	NA	PIPE, SEAMLESS, A312-TP304L	S-23594 0357	3,93	7,13
5.2 42965	1	2.0000	S10S	0.0000	NA	90 LR ELL, SEAMLESS, A403-WP304L	M220696 0410	0,49	0,49
5.3 42965	1	2.0000	S10S	0.0000	NA	90 LR ELL, SEAMLESS, A403-WP304L	M220696 0410	0,49	0,49

On behalf of Tecnimont/R
Piping Supervisor
R. Mancino
03.dec.24

Number of Items : 3 Total Weight : 8,11

	QA	Client
Signature	QA / QC	Sergio Morales Date: 11-11-24
Date	2024-10-09 13:48:00	

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

12 7500118753 N.PRO: 4274 - PP+PE SINES (PORTUGAL) EPC

Inv. No. 356

REGD. OFFICE :
'Suraj House',
Opp. Usmanpura Garden, Ashram Road,
Ahmedabad - 380 014. Gujarat (INDIA)
Tel. : 0091-79-2754 0720 / 2754 0721
Fax : 0091-79-2754 0722
Email : suraj@surajgroup.com

SURAJ LIMITED

(AN ISO 9001 : 2015 COMPANY)
(AN ISO 14001 : 2015 COMPANY)
(AN ISO 45001 : 2018 COMPANY)
(AN PED 2014/68/EU APPROVED COMPANY)

F / QA / 24 REV. NO. 10

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

INSPECTION CERTIFICATE

In Accordance with EN 10204/3.1

Customer: Commerciale Tubi Acciaio S.P.A. **T.C No** : 680 **Date:** 26.03.2022

Product : Austenitic S.S Seamless Cold Finish,Solution Annealed,Pickled & Passivated Pipes. **P.O.No** : OS-0000175 **Date:** 14.10.2021

W.O.No : 2122/OEP400035 **Date:** 16.10.2021

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

Chemical Analysis %

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

Mechanical Test

Heat No.	Required				Gauge Width	Flattening Test	Hardness Test	Impact Test	IGC Test
	Tensile strength Mpa	Yield strength Rp0.2% Mpa	Yield strength Rp 1 % Mpa	Elongation % GL 5.65√A					
MAX	690	--	--	--			Max-90 HRB	100 Joule Min.(AVG)	ASTM A-262 Practice"E" & ISO 3651-2 Method "A"
MIN	515	205	230	40					
S-23594	624.31	316.22	322.57	55.21	25.40	Satisfactory	76-78	N/A	Satisfactory
	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 requirment 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.**

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

SURAJ LTD. THOL

Prepared by

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

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

Customer: TECNIMONT S.p.A.

Description: CURVE 90° LR 2" SCH.10/S SEAMLESS 1259133

Heat num. or Pcs. marking: M220696 - Qty.71,00

Order: 7500118979 - 26.01.24 - Item n.: 61 - Project: 4274 - PP+PE Shnes (Portugal) EPC - Our ref.: OCVEIT20240000474

Protocol: CTCERC20240000104 * CERTIFIED TRUE COPY * Issued 03-04-2024

CTCERT20230000328 6.1.0001

INSPECTION CERTIFICATE

Page (頁) : 3

Cert. to RACCORTUBI S.P.A

S.P. UNITED INDUSTRY SDN. BHD.
(COMPANY NO. 368524 W)
P.T. 741/745, KAWASAN PERUSAHAAN NILAI,
71800 NILAI, NEGERI SEMBILAN DARUL KHUSUS, MALAYSIA.
TEL: 606-7993577, 7993676, 7993677 FAX: 606-7994366
E-mail: contactus@spunited.com.my

LRQA CERTIFIED ISO 9001
Approval No:ISO9001-0065006
PED Cert No:0343/PED/MUM/101003/3

Order No.: 22TEC003 (注文番号)

Date (日付) : JUNE 22, 2023

P.O. No. : 00000150 S

Certificate No. : 23-06-1169 (書類番号)

Product (形状)	Product Specification (規格)	Specification for Pipe (Raw Material) (材料規格)
STAINLESS STEEL 90 DEG LONG RADIUS ELBOW (SEAMLESS)	ASTM A403-2022 / ASME SA403-2019 / ASME B16.9-2018 MSS SP-43-2019 / ASME BPVC II PART A-2019 WP-S 304/304L	ASTM A312 TP 304/304L

*	Size (寸法)	Dimension in mm (寸法) Outside Dia (外径)	Dimension in mm (寸法) Thickness (厚さ)	Heat No. (溶解番号)	Quantity (数量)	Surface Inspection (外観検査)	Dimension Inspection (寸法検査)	S. P. I. Code No.	Manufacturing Method
1	2"x10S	60.33	2.77	M220696	500	GOOD	GOOD	24812000	COLD FORMED

YS=Yield Strength (0.2%), EL=Elongation, H=Hardness Test
TS= Tensile Strength, GL=Gauge Length, HT=Hydrostatic Test

Chemical Composition of Pipe (Raw Material) % (化学成分) (材料)

*	Raw Pipe Heat No.	C x 100	Si x 100	Mn x 100	P x 1000	S x 1000	Ni x 100	Cr x 100	Mo x 100	
1	L220330	2.3	35.8	138	38	1	804	1817		
Specification		MAX 3.0	MAX 100	MAX 200	MAX 45	MAX 30	800 1100	1800 2000		

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

Type of Specimen (試験片)	YS Mpa (耐力)	TS Mpa (引張強さ)	EL% (伸び) (GL:50mm)	EL% (伸び) Standard (規格値)	Flattening Test (へん平試験)	HT Mpa (水圧試験)	Hardness Test HRB	
	230	540	56		GOOD	GOOD	79	
	MIN 205	MIN 515	MIN 28					

Remarks * Hardness acc. to NACE MR0175 / ISO 15156-3: 2015, MR0103:2015
INTERGRANULAR CORROSION TEST (ASTM A262/E) - OK. PMI CHECK GOOD. ISO 9001 / EN 10204-3.1 PED 2014/68/EU ANNEX I SECTION 4.3
HEAT TREATMENT 1050 DEGREE CELCIUS QUENCHED IN WATER WITHIN 1 MINUTES TO BELOW 40°C.
MATERIAL WAS MANUFACTURED, SAMPLED, TESTED AND INSPECTED IN ACCORDANCE WITH INDICATED SPECIFICATIONS AND WAS FOUND TO MEET THE REQUIREMENTS. NO WELD REPAIR WAS PERFORMED AND ALL ITEMS SUPPLIED ARE FREE OF WELD REPAIR.
MATERIAL IS FREE OF MERCURY CONTAMINATION AND RADIOACTIVITY.

We herewith certify that the above products meet the requirements of the relevant standard and of the customer order.
(上記の製品は,当該規格及び,で注文の要求事項に適合するてとを証明します.)

Head of QA/QC Dept.
質量/品質管理課長

Welding and QC Report Per Spool

Contract : P2308 | Drawing : 2121-IA91F63-5 | Job : P2308S | Material : Stainless Steel 304, 316, 317

Client : NERVION | Revision : 00 | Spool : 00490 | Spec : 6C4-M

Project : ALBA | Piece Mark : 2121-IA91F63-5-SP02-00490

Weld data					Welding							Control																							
Weld No.	Type	Dia	Sch /Thk	Weld Proc.	1st Pass	Pass 1	1st MTR	Final Pass	Final Pass	Final MTR	Dim	Date DIM	Visual	Date Visual	PT	Date PT	MT	Date MT	PMI	Date PMI	Ferite	Date Ferrite	PWHT	Date PWHT	BHN	Date BHN	Ultra	Date UT	Xray	Date Xray						
0011	BW	2	S10S	MW.26_BW	AE	11-07-2024	4712055	AE	11-07-2024	4712055			000875	29-08-2024					000922	14-09-2024																
0012	BW	2	S10S	MW.26_BW	AE	12-07-2024	4712055	AE	12-07-2024	4712055			000875	29-08-2024					000922	14-09-2024																

On behalf of Tecnimont
QC Welding Inspector

03/12/2024 (R)

Notes:

	Boccard Portugal QC	Client
Signature	QA / QC	Sergio Morales Date: 11-11-24
Date	09-10-2024 13:48:00	

Shop QC Inspection Report

P2308-000907

Client : NERVION
Job number: P2308S
Contract : P2308 / Project : ALBA
Spool Nº: 00490
Material: Stainless Steel 304, 316, 317
Piece Mark: 2121-IA91F63-5-SP02-00490

Procedure / Instruction reference: 20.2 IT 011 MF 324 - Rev: A
Control Date: 29-08-2024

Remarks: The results refer to the controlled items

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

Comments:

Performed by: MATOS, MARCO (N2 VT/PT)
Date: 29-08-2024
Signature

QA/QC Inspection: RAIMUNDO, MARIANA
Date: 09-10-2024 13:48:00
Signature

Customer Inspection:
Sergio Morales
Date: 11-11-24

On behalf of Tecnimont
QC Welding Inspector
03/12/2024
(R)

Visual Examination Report (Welds)

P2308-000875

Contract : P2308
Client : NERVION
Project : ALBA

Job number: P2308S
Spool Nº: 00490
Piece Mark: 2121-IA91F63-5-SP02-00490

Material: Stainless Steel 304, 316, 317
Procedure & Instructions: 4274-LZ-VD-FW31010370QAC04 - Rev: 1
Testing Date: 29-08-2024

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

Identification			Temp. (ºF/ºC)	Accepted	Rejected	Defect	Technique Used	Comments
Weld No.	Weld Desc.	Welder						
0011	2.0000 S10S BW-Buttweld Straight (MW.26_BW)	AE	26	X			Direct	
0012	2.0000 S10S BW-Buttweld Straight (MW.26_BW)	AE	26	X			Direct	

Sketch / Photo:

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

Test Performed by: MATOS, MARCO (N2 VT/PT)
Date: 29-08-2024
Signature

QA/QC Inspection: RAIMUNDO, MARIANA
Date: 09-10-2024 13:48:00
Signature

Customer Inspection:
Sergio Morales
Date: 11-11-24

On behalf of Tecnimont
QC Welding Inspector
03/12/2024
(R)

Positive Material Identification Report (PMI)

P2308-000922

Client : NERVION
Contract : P2308 / Project : ALBA

Job number: P2308S
Spool Nº: 00490
Piece Mark: 2121-IA91F63-5-SP02-00490
Material: Stainless Steel 304, 316, 317

Procedure / Instruction reference: 4274-LZ-VD-FW31010370QAC11 - Rev: 1
PMI Equipment : Niton XL3t800 Serial Nº 32735 (FP01)
Equipment Deviation : + - 5%
Testing Date: 14-09-2024

Remarks: The results refer to the controlled items

Weld / Item No	Description	Reading number	Longitudinal	Chemical Elements										Accepted	Rejected	Comments
				%Ti	%Mo	%Cu	%Ni	%Fe	%Mn	%Cr	%Nb	%Al	%V			
0011	2.0000 S10S BW-Buttweld Straight (MW.26_BW)	388		0	0	0	8	69	1	19	0	0	0	X		
0012	2.0000 S10S BW-Buttweld Straight (MW.26_BW)	390		0	0	0	9	69	1	18	0	0	0	X		
1.3	2.0000 S10S PIPE, SEAMLESS, A312-TP304L (S-23594)	389		0	0	0	8	71	1	17	0	0	0	X		
5.2	2.0000 S10S 90 LR ELL, SEAMLESS, A403-WP304L (M220696)	386		0	0	0	8	70	1	18	0	0	0	X		
5.3	2.0000 S10S 90 LR ELL, SEAMLESS, A403-WP304L (M220696)	387		0	0	0	8	71	1	17	0	0	0	X		

On behalf of Tecnimont
QC Welding Inspector
(R)
03/12/2024

Test Performed by: GONCALVES(QA), J. (N2 PT/RT)
Date: 14-09-2024
Signature

QA/QC Inspection: RAIMUNDO, MARIANA
Date: 09-10-2024 13:48:00
Signature

Customer Inspection:
Date: Sergio Morales
Date: 11-11-24
Signature

Boccard Portugal, Lda
Zona Industrial de Montalvo, Lote 3
Constância, Portugal2250-999

Certificate of PMI Reading

XL3t-32735

Reading No	388
Mode	ALLOY
Time	2024-09-14 10:29
Duration	7.08
Sequence	Final
Alloy1	304SS : 0.00
Alloy2	No Match : *2.08
Flags	
SAMPLE	
HEAT	
LOT	
BATCH	
MISC	
NOTE	

	%	±	Error
Sb	< LOD	:	0.046
Sn	< LOD	:	0.056
Pd	< LOD	:	0.042
Ag	< LOD	:	0.126
Al	< LOD	:	80.000
Mo	0.042	±	0.009
Nb	< LOD	:	0.010
Zr	< LOD	:	0.004
Bi	< LOD	:	0.018
Pb	< LOD	:	0.020
Se	< LOD	:	0.009
W	< LOD	:	0.097
Zn	< LOD	:	0.040
Cu	< LOD	:	0.177
Ni	8.998	±	0.361
Co	< LOD	:	0.585
Fe	69.660	±	0.540
Mn	1.538	±	0.243
Cr	19.274	±	0.318
V	< LOD	:	0.165
Ti	< LOD	:	0.178

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

Sergio Morales
Date: 11-11-24

(R)

Boccard Portugal, Lda
Zona Industrial de Montalvo, Lote 3
Constância, Portugal2250-999

Certificate of PMI Reading

XL3t-32735

Reading No	390
Mode	ALLOY
Time	2024-09-14 10:30
Duration	7.32
Sequence	Final
Alloy1	304SS : 1.26
Alloy2	No Match : *2.49
Flags	
SAMPLE	
HEAT	
LOT	
BATCH	
MISC	
NOTE	

	%	±	Error
Sb	< LOD	:	0.051
Sn	< LOD	:	0.056
Pd	< LOD	:	0.044
Ag	< LOD	:	0.168
Al	< LOD	:	80.000
Mo	0.036	±	0.009
Nb	< LOD	:	0.008
Zr	< LOD	:	0.005
Bi	< LOD	:	0.008
Pb	< LOD	:	0.018
Se	< LOD	:	0.013
W	< LOD	:	0.112
Zn	< LOD	:	0.036
Cu	< LOD	:	0.178
Ni	9.251	±	0.361
Co	< LOD	:	0.589
Fe	69.117	±	0.535
Mn	1.711	±	0.243
Cr	18.989	±	0.312
V	< LOD	:	0.157
Ti	< LOD	:	0.172

On behalf of Tecnimont
QC Welding Inspector

GABRIEL IONELATU
INVESTIV.s.r.l. Bucuresti
ISO EN ISO 9712 certification Level 2
VT/PT/MT/RT/UT-TOFD - PA

03/12/2024

(R)

Sergio Morales

Date: 11-11-24

Boccard Portugal, Lda
Zona Industrial de Montalvo, Lote 3
Constância, Portugal2250-999

Certificate of PMI Reading

XL3t-32735

Reading No	389
Mode	ALLOY
Time	2024-09-14 10:30
Duration	8.73
Sequence	Final
Alloy1	304SS : 1.88
Alloy2	No Match : *1.90
Flags	
SAMPLE	
HEAT	
LOT	
BATCH	
MISC	
NOTE	

	%	±	Error
Sb	< LOD	:	0.044
Sn	< LOD	:	0.053
Pd	< LOD	:	0.036
Ag	< LOD	:	0.205
Al	< LOD	:	80.000
Mo	0.042	±	0.008
Nb	< LOD	:	0.008
Zr	< LOD	:	0.004
Bi	< LOD	:	0.016
Pb	< LOD	:	0.018
Se	< LOD	:	0.006
W	< LOD	:	0.099
Zn	< LOD	:	0.041
Cu	0.244	±	0.089
Ni	8.267	±	0.312
Co	< LOD	:	0.521
Fe	71.543	±	0.477
Mn	1.477	±	0.212
Cr	17.740	±	0.272
V	0.166	±	0.075
Ti	< LOD	:	0.144

Sergio Morales

Date: 11-11-24

03/12/2024

On behalf of Tecnimont
QC Welding Inspector

(R)

Boccard Portugal, Lda
Zona Industrial de Montalvo, Lote 3
Constância, Portugal2250-999

Certificate of PMI Reading

XL3t-32735

Reading No	386
Mode	ALLOY
Time	2024-09-14 10:14
Duration	7.90
Sequence	Final
Alloy1	304SS : 0.82
Alloy2	No Match : *2.25
Flags	
SAMPLE	
HEAT	
LOT	
BATCH	
MISC	
NOTE	

	%	±	Error
Sb	< LOD	:	0.054
Sn	< LOD	:	0.057
Pd	< LOD	:	0.045
Ag	< LOD	:	0.186
Al	< LOD	:	80.000
Mo	0.145	±	0.015
Nb	< LOD	:	0.010
Zr	< LOD	:	0.005
Bi	< LOD	:	0.017
Pb	< LOD	:	0.029
Se	< LOD	:	0.007
W	< LOD	:	0.119
Zn	< LOD	:	0.044
Cu	0.289	±	0.101
Ni	8.302	±	0.344
Co	< LOD	:	0.576
Fe	70.819	±	0.526
Mn	1.560	±	0.236
Cr	18.139	±	0.302
V	< LOD	:	0.144
Ti	< LOD	:	0.184

Sergio Morales

Date: 11-11-24

03/12/2024

On behalf of Tecnimont

QC Welding Inspector

(R)

Boccard Portugal, Lda
Zona Industrial de Montalvo, Lote 3
Constância, Portugal2250-999

Certificate of PMI Reading

XL3t-32735

Reading No	387
Mode	ALLOY
Time	2024-09-14 10:29
Duration	6.60
Sequence	Final
Alloy1	304SS : 0.68
Alloy2	No Match : 1.88
Flags	
SAMPLE	
HEAT	
LOT	
BATCH	
MISC	
NOTE	

	%	±	Error
Sb	< LOD	:	0.052
Sn	< LOD	:	0.063
Pd	< LOD	:	0.049
Ag	< LOD	:	0.124
Al	< LOD	:	80.000
Mo	< LOD	:	0.009
Nb	< LOD	:	0.009
Zr	< LOD	:	0.005
Bi	< LOD	:	0.010
Pb	< LOD	:	0.016
Se	< LOD	:	0.009
W	< LOD	:	0.087
Zn	< LOD	:	0.049
Cu	< LOD	:	0.179
Ni	8.311	±	0.370
Co	< LOD	:	0.615
Fe	71.591	±	0.565
Mn	1.400	±	0.250
Cr	18.066	±	0.325
V	0.212	±	0.094
Ti	< LOD	:	0.198

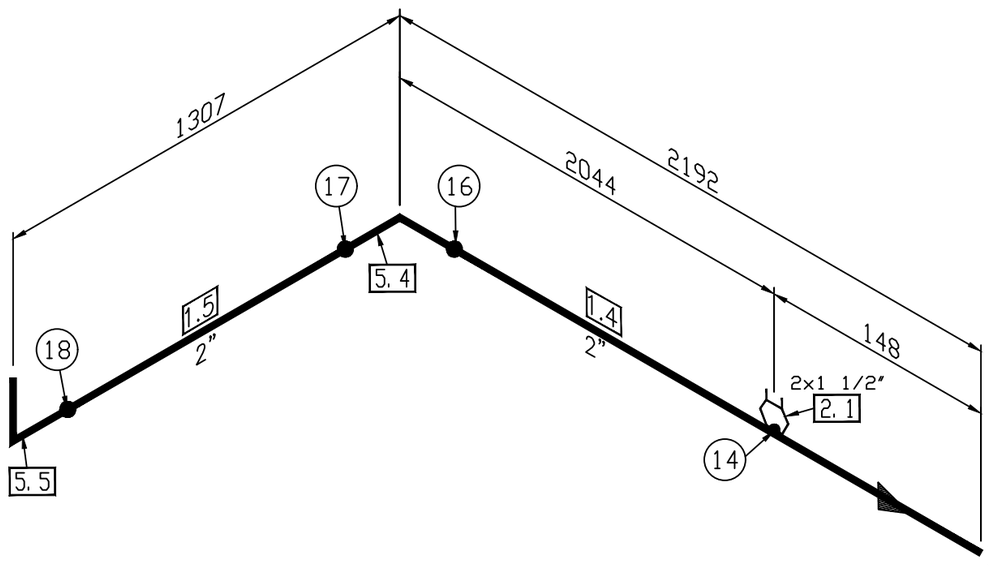
03/12/2024

On behalf of Tecnimont
QC Welding Inspector

Sergio Morales

Date: 11-11-24

(R)



BILL OF MATERIAL

PIPE

ITEM	LONGUEUR	DIAMÉTRE	SCH/mm	DESCRIPTION / MATÉRIEL	ITEM CODE
1.4	2,114	2"	S-10S	PIPE - A312-TP304/304L DUAL GR SMLS, BExBE	I3364302
1.5	1,151	2"	S-10S	PIPE - A312-TP304/304L DUAL GR SMLS, BExBE	I3364302

WELD FITTINGS

ITEM	QT	DIAMÉTRE	SCH/PRESS.	DESCRIPTION / MATÉRIEL	ITEM CODE
5.4	1	2"	S-10S	90 LR ELBOW ASME B16.9 A403-WP304/304L DG BE SMLS	I2259133
5.5	1	2"	S-10S	90 LR ELBOW ASME B16.9 A403-WP304/304L DG BE SMLS	I2259133

FORGINGS

ITEM	QT	DIAMÉTRE	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

On behalf of Tecnimont/R
Piping Supervisor
R. Mancino
03.dec.24

Sergio Morales

Date: 11-11-24

Weld Map Sticker

P2308S 00491

2121-IA91F63-5-SP03-00491

boccard
Alliance for success
Boccard Portugal, Lda.

Rev.	Date	DRW	Check 1	Check 2		
					Marking Color:	GREEN
					Weld Class:	6C4-M
00	04/03/2024	AOM	MCM	PCO	**Paint System:**	NA

Construction Code:	ASME B31.3	**% RT -**	YES	**% UT -**	NO	**Hydro:**	NO	**ID Cleaning:**	YES	2121-IA91F63-5-SP03-00491	2121-IA91F63-5	P2308S	00491	REPSOL PROJETO ALBA NERVION
Acc Criteria:	ASME B31.3	**% PT -**	YES	**% FE -**	NO	**PWHT:**	NO	**OD Cleaning:**	YES					
Metal Tag:	YES	**% MT -**	NO	**% PMI -**	YES	**BHN% -**	NO	**Tolerances:**	ASME B31.3					

Piece Mark	Ref. Drawing	Job #	Spool #	Project

Spool Material List

Contract : P2308 Client NERVION

Job : P2308S Project ALBA

Job	Spool	Piece Mark	Drawing	Rev
P2308S	00491	2121-IA91F63-5-SP03-00491	2121-IA91F63-5	00

Item No / Tag No / ID No	Qty	Size1	Sch1	Size2	Sch2	Description	Heat No / MTR No / Folder No	Unit Weight Kgs	Weight Kgs
1.4 40391	2,114	2.0000	S10S	0.0000	NA	PIPE, SEAMLESS, A312-TP304L	NY231216AS15 0391	3,93	8,31
1.5 40391	1,151	2.0000	S10S	0.0000	NA	PIPE, SEAMLESS, A312-TP304L	NY231216AS15 0391	3,93	4,52
5.4 42965	1	2.0000	S10S	0.0000	NA	90 LR ELL, SEAMLESS, A403-WP304L	NY230506AT08 0462	0,49	0,49
5.5 42965	1	2.0000	S10S	0.0000	NA	90 LR ELL, SEAMLESS, A403-WP304L	NY230506AT08 0462	0,49	0,49
2.1 85701	1	2.0000	NA	1.5000	NA	SOCKOLET, 3000#, A182-F304L	514786 0301	0,45	0,45

On behalf of Tecnimont/R
Piping Supervisor
R. Mancino
03.dec.24

Number of Items : 5 Total Weight : 14,26

	QA	Client
Signature	QA / QC	Sergio Morales Date: 11-11-24
Date	2024-10-15 14:42:51	

PANTALONE SRL Doc. N° 2024-BDDTC-0002369 Data 17.06.2024 Rif. Vs. Ordine 7500122623 TECNIMONT SPA COLATA NY231216A QTA 106,400

ITEM 1 DESCRIZIONE TUBO SS RICOTTO INOX A 312TP304L mm. 60,32 x 2,77 Sch 10S

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

CERTIFICATO DI COLLAUDO
WORK TEST CERTIFICATE

EN 10204/3.1 DIN 50049/3.1
NR. BD24016251
DEL 11/06/24

Delivery Note

NR. BD24016251
DEL 11/06/24

CLIENTE: **PANTALONE S.R.L.**
CUSTOMER
VIA DON PRIMO MAZZOLARI, 21 - Z.I. SELVAIEZZI
66100 CHIETI (CHIETI SCALO) CH

RIF. DDT **BD24016251**

ANALISI CHIMICA - CHEMICAL COMPOSITION

COLATA *HEAT NO.*	QTA' *Q.TY*	CODICE *CODE*	DESCRIZIONE *DESCRIPTION*	MATERIALE *MATERIAL*	C% *C%*	Si% *Si%*	Mn% *Mn%*	S% *S%*	P% *P%*	Ni% *Ni%*	Cr% *Cr%*	Mo% *Mo%*	Al% *Al%*	Cu% *Cu%*	Ti% *Ti%*	N% *N%*
			Ns. Ordine Cliente Nr. OC24017381 del 11/06/24													
			Vs. Ordine Cliente Nr. 2024-BOF-0001035 del 11/06/24													
NY231216AS15	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
NY231216AS15	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.

PANTALONE SRL Doc. N° 2024-BDDTC-0002369 Data 17.06.2024 Rif. Vs. Ordine 7500122623 TECNIMONT SPA COLATA NY231216A QTA 106,400

ITEM 1 DESCRIZIONE TUBO SS RICOTTO INOX A 312TP304L mm. 60,32 x 2,77 Sch 10S

TECNICATRE
Stainless Steel Experience

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

CERTIFICATO DI COLLAUDO
WORK TEST CERTIFICATE

EN 10204/3.1 DIN 50049/3.1
NR. BD24016251
DEL 11/06/24

Delivery Note

NR. BD24016251
DEL 11/06/24

CLIENTE: **PANTALONE S.R.L.**
CUSTOMER
VIA DON PRIMO MAZZOLARI, 21 - Z.I. SELVAIEZZI
66100 CHIETI (CHIETI SCALO) CH

RIF. DDT **BD24016251**

CARATTERISTICHE MECCANICHE - MECHANICAL TEST

COLATA Heat no.	SNERVAMENTO yield point - N/mm2	ROTTURA tensile - N/mm2	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

TECNICATRE
TECNICA TRE SRL

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

P.O NO: 1179/2023/OF

DIMENSION: ASME B16.9

WORK NO: GMPFCP2312363

CUSTOMER: Chero Piping S.p.A.

DATE: April.10th,2024

PAGE NO: 20/29

NO.	POS .No.	CHERO CODE	COMMESSA	PRODUCT&SIZE	QUANTITY	MFG NO. (HEAT NO.)	CHEMICAL COMPOSITION%									
								C	Si	Mn	P	S	Ni	Cr	Mo	Cu	Other
							MIN						8.00	18.00	--	--	--
					PCS		MAX	0.030	1.00	2.00	0.045	0.030	12.00	20.00	--	--	--
74	310	C90LRB1XB 000I.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	18.08	--	--	--
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	18.43	--	--	--
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	18.36	--	--	--
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	18.41	--	--	--

NO.	POS .No.	CHERO CODE	COMMESSA	PHYSICAL TEST						VISUAL INSPECTION	DIMENSION INSPECTION	PMI TESTING
				CHARGE NO	STANDARD	YIELD STRENGTH	TENSILE STRENGTH	ELONGATION	HARDNESS			
						MPA(N/mm2)	MPA(N/mm2)	%	HB			
					MIN	170	485	28				
					MAX				--			
74	310	C90LRB1XB 000I.ZZW	OC/2023/90 3/1040	NY230506AT08		299	611	51	--	GOOD	GOOD	OK
75	320	C90LRB1XB 000N.ZZW	OC/2023/90 3/1060	JSG2310019		256	665	54	--	GOOD	GOOD	OK
76	330	C90LRB1XB 000P.ZZW	OC/2023/90 3/1080	JSG2312020		279	680	66	--	GOOD	GOOD	OK
77	340	C90LRB1XB 000R.ZZW	OC/2023/90 3/1090	JSG2312024		273	674	62	Yuan Quan	GOOD	GOOD	OK

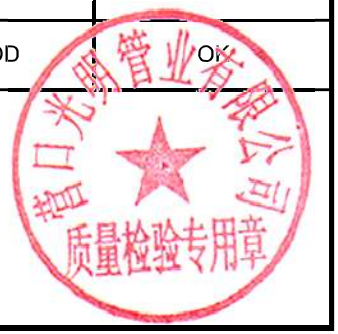
NOTE:

1.HEAT TREATMENT: SOLUTION ANNEALED TEMPERATURE 1050℃X0.5HR.COOLING IN WATER.

Prime 4 OBO TCM
2024.4.17

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



CHERO PIPING S.p.A.

CERTIFICATE NR.	DATE	CUSTOMER ORDER REF.	SHEET
CE/2022/1606 - Rev. 0	13/12/2022	7500107587 - 25/10/2022	3/25
INTERNAL ORDER NR.	**DATE**	**CUSTOMER**	
OC/2022/1021	26/10/2022	TECNIMONT 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" / *CIC: I2250468 - CR: MR ITEM NO.9* *XH0222 - CC: R13DNL1MV101*
315 1	55354	I20N	281487	5,00	SOCKOLET SW S/3000 A182F316/316L 11/2"x4" / *CIC: I2250549 - CR: MR ITEM NO.10* *XH0222 - CC: R13DNL1MV101*
316 1	57876	I02O	280455	5,00	SOCKOLET SW S/3000 A182F304/304L 1/2"x2" / *CIC: I2258337 - CR: MR ITEM NO.11* *XH0222 - CC: R13DNL2AV101*
317 1	58474		515098	20,00	SOCKOLET SW S/3000 A182F304/304L 3/4"x2" / *CIC: I2258338 - CR: MR ITEM NO.12* *XH0222 - CC: R13DNL2AV101*
318 1	59959	E-OE	174037	15,00	SOCKOLET SW S/3000 A182F304/304L 1"x2" / *CIC: I2258339 - CR: MR ITEM NO.13* *XH0222 - CC: R13DNL2AV101*
319 1	58609	I16O	514786	10,00	SOCKOLET SW S/3000 A182F304/304L 11/2"x2" / *CIC: I2258341 - CR: MR ITEM NO.14* *XH0222 - CC: R13DNL2AV101*
320 1	57876	I02O	280455	1,00	SOCKOLET SW S/3000 A182F304/304L 1/2"x3" / *CIC: I2258414 - CR: MR ITEM NO.15* *XH0222 - CC: R13DNL2AV101*
321 1	59054	E-LZ	515098	25,00	SOCKOLET SW S/3000 A182F304/304L 3/4"x3" / *CIC: I2258415 - CR: MR ITEM NO.16* *XH0222 - CC: R13DNL2AV101*
322 1	59959	E-OE	174037	5,00	SOCKOLET SW S/3000 A182F304/304L 1"x3" / *CIC: I2258416 - CR: MR ITEM NO.17* *XH0222 - CC: R13DNL2AV101*
323 1	58609	I16O	514786	5,00	SOCKOLET SW S/3000 A182F304/304L 11/2"x3" / *CIC: I2258418 - CR: MR ITEM NO.18* *XH0222 - CC: R13DNL2AV101*
324 1	59054	E-LZ	515098	20,00	SOCKOLET SW S/3000 A182F304/304L 3/4"x4" / *CIC: I2258477 - CR: MR ITEM NO.20* *XH0222 - CC: R13DNL2AV101*
325 1	58602	I21O	573084	15,00	SOCKOLET SW S/3000 A182F304/304L 11/2"x4" / *CIC: I2258480 - CR: MR ITEM NO.21* *XH0222 - CC: R13DNL2AV101*
326 1	59412	E-MJ	526509	1,00	SOCKOLET SW S/3000 A182F304/304L 1/2"x6" / *CIC: I2258517 - CR: MR ITEM NO.22* *XH0222 - CC: R13DNL2AV101*
327 1	58474		515098	5,00	SOCKOLET SW S/3000 A182F304/304L 3/4"x6" / *CIC: I2258518 - CR: MR ITEM NO.23* *XH0222 - CC: R13DNL2AV101*
328 1	58449		OJPC	5,00	SOCKOLET SW S/3000 A182F304/304L 1"x6" / *CIC: I2258519 - CR: MR ITEM NO.24* *XH0222 - CC: R13DNL2AV101*
329 1	58474		515098	10,00	SOCKOLET SW S/3000 A182F304/304L 3/4"x8" / *CIC: I2258538 - CR: MR ITEM NO.25* *XH0222 - CC: R13DNL2AV101*
330 1	58449		OJPC	1,00	SOCKOLET SW S/3000 A182F304/304L 1"x8" / *CIC: I2258539 - CR: MR ITEM NO.26* *XH0222 - CC: R13DNL2AV101*
331 1	54285		481150	1,00	SOCKOLET SW S/3000 A182F304/304L 1"x12" / *CIC: I2258291 - CR: MR ITEM NO.27* *XH0222 - CC: R13DNL2AV101*
332 1	52765		468165	4,00	SOCKOLET SW S/3000 A182F304/304L 3/4"x16" / *CIC: I2258314 - CR: MR ITEM NO.28* *XH0222 - CC: R13DNL2AV101*
333 1	59412	E-MJ	526509	5,00	SOCKOLET SW S/3000 A182F304/304L 1/2"X20" / *CIC: I2258354 - CR: MR ITEM NO.29* *XH0222 - CC: R13DNL2AV101*
334 1	52765		468165	6,00	SOCKOLET SW S/3000 A182F304/304L 3/4"x20" / *CIC: I2258355 - CR: MR ITEM NO.30* *XH0222 - CC: R13DNL2AV101*
335 1	54285		481150	1,00	SOCKOLET SW S/3000 A182F304/304L 1"x20" / *CIC: I2258356 - CR: MR ITEM NO.31* *XH0222 - CC: R13DNL2AV101*

BUREAU VERITAS
ITALY
2nd PARTY INSPECTION ON BEHALF OF
TCM
WITNESSED ~~NOTED~~ REVIEWED
SURVEYOR: S. NEGRINI
DATE 14 - 15 DEC 2022

NOTES	CUSTOMER INSPECTOR	THIRD PARTS	QUALITY CONTROL
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 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.			Laura Paganuzzi L. Paganuzzi CHERO PIPING S.P.A.

CHERO PIPING S.p.A.

CERTIFICATE NR.	DATE	CUSTOMER ORDER REF.	SHEET
CE/2022/1606 - Rev. 0	13/12/2022	7500107587 - 25/10/2022	5/25
INTERNAL ORDER NR.	DATE	CUSTOMER	
OC/2022/1021	26/10/2022	TECNIMONT S.P.A.	

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	181334	OLARRA
46280	ASTM A182-22 F304/F304L	406025	261114	OLARRA
52765	ASTM A182-22 F304/F304L	468165	371085	OLARRA
54228	ASTM A182-22 F304/F304L	W3TE	2019/015552	ROLDAN
54285	ASTM A182-22 F304/F304L	481150	395730	OLARRA
55556	ASTM A182-22 F304/F304L	279394	MEST527500/2020	ACCIAIERIE VALBRUNA
56611	ASTM A182-22 F304/F304L	072541	030226	COGNE ACCIAI SPECIALI
57429	ASTM A182-22 F304/F304L	072996	202100433	COGNE ACCIAI SPECIALI
57876	ASTM A182-22 F304/F304L	280455	MEST548926/2020	ACCIAIERIE VALBRUNA
58313	ASTM A182-22 F304/F304L	172917	2021023605	COGNE ACCIAI SPECIALI
58416	ASTM A182-22 F304/F304L	514059	449954	OLARRA
58449	ASTM A182-22 F304/F304L	OJPC	2021/009174	ROLDAN S.A.
58474	ASTM A182-22 F304/F304L	515098	452941	OLARRA
58602	ASTM A182-22 F304/F304L	573084	2015061497	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	174369	2021056230	COGNE
59269	ASTM A182-22 F304/F304L	0TNH	2021/012547	ROLDAN S.A.
59345	ASTM A182-22 F304/F304L	285338	MEST863112/2022	ACCIAIERIE VALBRUNA
59346	ASTM A182-22 F304/F304L	287142	MEST863113/2022	ACCIAIERIE VALBRUNA
59412	ASTM A182-22 F304/F304L	526509	472548	OLARRA
59538	ASTM A182-22 F304/F304L	174577	2022006080	COGNE
59586	ASTM A182-22 F304/F304L	174578	2022002830	COGNE
59752	ASTM A182-22 F304/F304L	174248	2021057503	COGNE
59790	ASTM A182-22 F304/F304L	287723	MEST883375/2022	ACCIAIERIE VALBRUNA
59881	ASTM A182-22 F304/F304L	272546	2022015659	COGNE
59959	ASTM A182-22 F304/F304L	174037	2021048041	COGNE
60059	ASTM A182-22 F304/F304L	1VZB	2022/005128	ROLDAN S.A.
60212	ASTM A182-22 F304/F304L	538645	492348	OLARRA
60858	ASTM A182-22 F304/F304L	1RWL	2022/012165	ROLDAN S.A.
48676	ASTM A182-22 F316/F316L	273641	MEST095863/2017	ACCIAIERIE VALBRUNA
55354	ASTM A182-22 F316/F316L	281487	MEST502341/2019	ACCIAIERIE VALBRUNA
56932	ASTM A182-22 F316/F316L	072865	043593	COGNE ACCIAI SPECIALI
58450	ASTM A182-22 F316/F316L	284588	MEST765246/2021	ACCIAIERIE VALBRUNA

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

NOTES	CUSTOMER INSPECTOR	THIRD PARTS	QUALITY CONTROL
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 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.			Laura Paganuzzi L. Paganuzzi CHERO PIPING S.P.A.

CHERO PIPING S.p.A.

CERTIFICATE NR.	DATE	CUSTOMER ORDER REF.	SHEET
CE/2022/1606 - Rev. 0	13/12/2022	7500107587 - 25/10/2022	8/25
INTERNAL ORDER NR.	**DATE**	**CUSTOMER**	
OC/2022/1021	26/10/2022	TECNIMONT S.P.A.	

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

		ASTM A182-22 F304/F304L													
		58609	59054	59202	59269	59345	59346	59412	59538	59586	59752	59790	59881	59959	60059
Ladle Analysis	Heat Number	514786	515098	174369	0TNH	285338	287142	526509	174577	174578	174248	287723	272546	174037	1VZB
	C %	0,020	0,018	0,018	0,024	0,018	0,019	0,020	0,019	0,017	0,019	0,024	0,019	0,018	0,025
	Mn %	1,500	1,470	1,350	1,471	1,770	1,720	1,460	1,320	1,330	1,260	1,770	1,340	1,350	1,505
	Si %	0,430	0,400	0,410	0,430	0,520	0,560	0,450	0,380	0,370	0,400	0,590	0,450	0,410	0,410
	P %	0,037	0,035	0,029	0,029	0,031	0,030	0,038	0,031	0,031	0,029	0,031	0,032	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	0,024	0,023
	Cr %	18,050	18,110	18,180	18,180	18,040	18,400	18,130	18,220	18,220	18,310	18,350	18,270	18,250	18,200
	Mo %	0,000			0,382				0,450	0,480	0,430		0,370	0,450	0,533
	Ni %	8,080	8,030	8,060	8,055	8,110	8,140	8,070	8,120	8,110	8,160	8,160	8,140	8,180	8,055
	Cu %				0,376				0,480	0,420			0,430	0,440	0,453
	N %	0,087	0,091	0,080	0,089	0,076	0,087	0,089	0,087	0,081	0,082	0,081	0,084	0,080	0,085
Tensile Test	Test Temperature °C	+20	+20	+20	+20	+20	+20	+20	+20	+20	+20	+20	+20	+20	+20
	Tensile Strength MPa	632	620	619	431	632	615	666	613	611	623	615	620	625	611
	Yield Strength MPa (0,2%)	320	348	290	375	332	374	420	282	277	284	308	379	281	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	57,00
	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	70,00
Hardness Test	Scale	HBW	HBW	HBW	HBW	HBW	HBW	HBW	HBW	HBW	HBW	HBW	HBW	HBW	HBW
	Value 1	180	169	166	184	177	169	200	170	171	169	180	186	180	177
	Value 2	177	170	168	185	180	174	200	170	172	177	184	189	180	179
	Value 3	179	173	175	188	180	175	208	166	178	177	186	192	184	182
	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	179,333
Heat Treatment	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.	SOL. ANN.
	Heating Rates °C/h				<150										<150
	Holding Temperature °C	+1.050	+1.080	+1.080	+1.080	+1.040	+1.040	+1.060	+1.080	+1.080	+1.080	+1.080	+1.080	+1.080	+1.080
	Holding Time hh:mm	Min 1h/inch	Min 1h/inch		0:30	Min 1h/inch	Min 1h/inch	Min 1h/inch		Min 1h/inch	0:20	Min 1h/inch	1:00	Min 1h/inch	1:00
	Cooling Media	WATER	WATER	WATER	WATER	WATER	WATER	WATER	WATER	WATER	WATER	WATER	WATER	WATER	WATER

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

NOTES	CUSTOMER INSPECTOR	THIRD PARTS	QUALITY CONTROL
A182 F316H: GRAIN SIZE < 6			Laura Paganuzzi L. Paganuzzi CHERO PIPING S.P.A.

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

Material Spec. and Grade	Heat Number	Procedure Number	Applicable Standard	Quantity Inspected %	Instrument
ASTM A182-22 F304/F304L	515098	CHERO-QA-PMI-8	ASTM E572	10	NITON XL2-SN:95371

Serial Number	515098-0001	515098-0002
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"

Material Spec. and Grade	Heat Number	Procedure Number	Applicable Standard	Quantity Inspected %	Instrument
ASTM A182-22 F304/F304L	174037	CHERO-QA-PMI-8	ASTM E572	10	NITON XL2-SN:95371

Serial Number	174037-0001	174037-0002
Mn %	1.317	1.319
Cr %	18.000	18.000
Ni %	8.436	8.000

PMI Test - Position 319: SOCKOLET SW S/3000 A182F304/304L 11/2"x2"

Material Spec. and Grade	Heat Number	Procedure Number	Applicable Standard	Quantity Inspected %	Instrument
ASTM A182-22 F304/F304L	514786	CHERO-QA-PMI-8	ASTM E572	10	NITON XL2-SN:95371

Serial Number	514786-0001
Mn %	1.539
Cr %	18.000
Ni %	8.173

PMI Test - Position 320: SOCKOLET 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-PMI-8	ASTM E572	10	NITON XL2-SN:95371

Serial Number	280455-0001
Mn %	1.846
Cr %	18.000
Ni %	8.120

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

Material Spec. and Grade	Heat Number	Procedure Number	Applicable Standard	Quantity Inspected %	Instrument
ASTM A182-22 F304/F304L	515098	CHERO-QA-PMI-8	ASTM E572	10	NITON XL2-SN:95371

Serial Number	515098-0001	515098-0002	515098-0003
Mn %	1.439	1.526	1.484
Cr %	18.249	18.778	18.460
Ni %	8.000	8.000	8.000

PMI Test - Position 322: SOCKOLET SW S/3000 A182F304/304L 1"x3"

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

NOTES	CUSTOMER INSPECTOR	THIRD PARTS	QUALITY CONTROL
			Laura Paganuzzi L. Paganuzzi CHERO PIPING S.P.A.

CHERO PIPING S.p.A.

CERTIFICATE NR.	DATE	CUSTOMER ORDER REF.	SHEET
CE/2022/1606 - Rev. 0	13/12/2022	7500107587 - 25/10/2022	22/25
INTERNAL ORDER NR.	DATE	CUSTOMER	
OC/2022/1021	26/10/2022	TECNIMONT S.P.A.	

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

Material Spec. and Grade	Heat Number	Procedure Number	Applicable Standard	Quantity Inspected %	Instrument
ASTM A182-22 F304/F304L	174037	CHERO-QA-PMI-8	ASTM E572	10	NITON XL2-SN:95371

Serial Number	174037-0001
Mn %	1.352
Cr %	18.898
Ni %	8.325

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

Material Spec. and Grade	Heat Number	Procedure Number	Applicable Standard	Quantity Inspected %	Instrument
ASTM A182-22 F304/F304L	514786	CHERO-QA-PMI-8	ASTM E572	10	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"

Material Spec. and Grade	Heat Number	Procedure Number	Applicable Standard	Quantity Inspected %	Instrument
ASTM A182-22 F304/F304L	515098	CHERO-QA-PMI-8	ASTM E572	10	NITON XL2-SN:95371

Serial Number	515098-0001	515098-0002
Mn %	1.470	1.516
Cr %	18.000	18.000
Ni %	8.000	8.146

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

Material Spec. and Grade	Heat Number	Procedure Number	Applicable Standard	Quantity Inspected %	Instrument
ASTM A182-22 F304/F304L	573084	CHERO-QA-PMI-8	ASTM E572	10	NITON XL2-SN:95371

Serial Number	573084-0001	573084-0002
Mn %	1.313	1.286
Cr %	18.761	18.634
Ni %	8.153	8.036

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

Material Spec. and Grade	Heat Number	Procedure Number	Applicable Standard	Quantity Inspected %	Instrument
ASTM A182-22 F304/F304L	526509	CHERO-QA-PMI-8	ASTM E572	10	NITON XL2-SN:95371

Serial Number	526509-0001
Mn %	1.470
Cr %	18.000
Ni %	8.000

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

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

NOTES	CUSTOMER INSPECTOR	THIRD PARTS	QUALITY CONTROL
			Laura Paganuzzi L. Paganuzzi CHERO PIPING S.P.A.

Welding and QC Report Per Spool

Contract : P2308 | Drawing : 2121-IA91F63-5 | Job : P2308S | Material : Stainless Steel 304, 316, 317

Client : NERVION | Revision : 00 | Spool : 00491 | Spec : 6C4-M

Project : ALBA | Piece Mark : 2121-IA91F63-5-SP03-00491

Weld data					Welding							Control																							
Weld No.	Type	Dia	Sch /Thk	Weld Proc.	1st Pass	Pass 1	1st MTR	Final Pass	Final Pass	Final MTR	Dim	Date DIM	Visual	Date Visual	PT	Date PT	MT	Date MT	PMI	Date PMI	Ferite	Date Ferrite	PWHT	Date PWHT	BHN	Date BHN	Ultra	Date UT	Xray	Date Xray						
0014	SOL	1,5	S10S	MW.26_SBR	AE	20-09-2024	4712055	AE	20-09-2024	4712055			001094	09-10-2024	000217	09-10-2024			001143	14-10-2024																
0016	BW	2	S10S	MW.26_BW	CA	04-10-2024	4712055	CA	04-10-2024	4712055			001094	09-10-2024					001143	14-10-2024																
0017	BW	2	S10S	MW.26_BW	AY	03-09-2024	4712055	AY	03-09-2024	4712055			001094	09-10-2024					001143	14-10-2024																
0018	BW	2	S10S	MW.26_BW	AY	03-09-2024	4712055	AY	03-09-2024	4712055			001094	09-10-2024					001143	14-10-2024									000347	11-10-2024						

On behalf of Tecnimont
QC Welding Inspector

03/12/2024

(R)

Notes:

	Boccard Portugal QC	Client
Signature	QA / QC	Sergio Morales Date: 11-11-24
Date	15-10-2024 14:42:51	

Shop QC Inspection Report

P2308-001134

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

Job number: P2308S
Spool Nº: 00491
Piece Mark: 2121-IA91F63-5-SP03-00491

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 Yes	Required No	Done/ Identified
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: 09-10-2024
Signature

QA/QC Inspection: RAIMUNDO, MARIANA
Date: 15-10-2024 14:42:51
Signature

Customer Inspection:
Sergio Morales
Date: 11-11-24

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

(R)

Visual Examination Report (Welds)

P2308-001094

Contract : P2308
Client : NERVION
Project : ALBA

Job number: P2308S
Spool Nº: 00491
Piece Mark: 2121-IA91F63-5-SP03-00491

Material: Stainless Steel 304, 316, 317
Procedure & Instructions: 4274-LZ-VD-FW31010370QAC04 - Rev: 1
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. (ºF/ºC)	Accepted	Rejected	Defect	Technique Used	Comments
Weld No.	Weld Desc.	Welder						
0014	1.5000 S10S SOL-Sockolet to Header Weld (MW.26_SBR)	AE	20	X			Direct	
0016	2.0000 S10S BW-Buttweld Straight (MW.26_BW)	CA	20	X			Direct	
0017	2.0000 S10S BW-Buttweld Straight (MW.26_BW)	AY	20	X			Direct	
0018	2.0000 S10S BW-Buttweld Straight (MW.26_BW)	AY	20	X			Direct	

Sketch / Photo:

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

Test Performed by: MATOS, MARCO (N2 VT/PT)
Date: 09-10-2024
Signature: QA/QC

QA/QC Inspection: RAIMUNDO, MARIANA
Date: 15-10-2024 14:42:51
Signature: QA / QC

Customer Inspection:
Sergio Morales
Date: 11-11-24

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

(R)

Liquid Penetrant Examination Report

P2308-000217

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

Job number: P2308S
Spool Nº: 00491
Piece Mark: 2121-IA91F63-5-SP03-00491

Material: Stainless Steel 304, 316, 317
Procedure / Instruction reference: 4274-LZ-VD-FW3101037OQAC03
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 Description	Welder	Tem (ºF/ºC	Dwell Time (min) Penetrant	Cleaner	Developer	Lighting	Examin Time	Accepted yes	No	Indication	Remarks
0014	1.5000 S10S SOL-Sockolet to Header Weld (MW.26_SBR)	AE	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: MARCO (N2 VT/PT), MATOS
Date: 09-10-2024
Signature: QA/QC

QA/QC Inspection: RAIMUNDO, MARIANA
Date: 09-10-2024
Signature: QA / QC

Customer Inspection:
Sergio Morales
Date: 11-11-24

03/12/2024
On behalf of Tecnimont
QC Welding Inspector
(R)

Positive Material Identification Report (PMI)

P2308-001143

Client : NERVION
Contract : P2308 / Project : ALBA

Job number: P2308S
Spool Nº: 00491
Piece Mark: 2121-IA91F63-5-SP03-00491
Material: Stainless Steel 304, 316, 317

Procedure / Instruction reference: 4274-LZ-VD-FW31010370QAC11 - Rev: 1
PMI Equipment : Niton XL3t800 Serial Nº 32735 (FP01)
Equipment Deviation : + - 5%
Testing Date: 14-10-2024

Remarks: The results refer to the controlled items

Weld / Item No	Description	Reading Longitudinal number	Chemical Elements %Ti	%Mo	%Cu	%Ni	%Fe	%Mn	%Cr	%Nb	%Al	%V	Accepted	Rejected	Comments
0014	1.5000 S10S SOL-Sockolet to Header Weld (MW.26_SBR)	75	0	0	0	9	69	1	19	0	0	0	X		
0016	2.0000 S10S BW-Buttweld Straight (MW.26_BW)	76	0	0	0	9	69	1	19	0	0	0	X		
0017	2.0000 S10S BW-Buttweld Straight (MW.26_BW)	77	0	0	0	8	69	1	19	0	0	0	X		
0018	2.0000 S10S BW-Buttweld Straight (MW.26_BW)	78	0	0	0	8	69	1	19	0	0	0	X		
1.4	2.0000 S10S PIPE, SEAMLESS, A312-TP304L (NY231216AS15)	73	0	0	0	8	71	1	17	0	0	0	X		
1.5	2.0000 S10S PIPE, SEAMLESS, A312-TP304L (NY231216AS15)	71	0	0	0	7	72	1	17	0	0	0	X		
2.1	2.0000 NA 1.5000 NA SOCKOLET, 3000#, A182-F304L (514786)	74	0	0	0	8	71	1	17	0	0	0	X		
5.4	2.0000 S10S 90 LR ELL, SEAMLESS, A403-WP304L (NY230506AT08)	72	0	0	0	7	71	1	17	0	0	0	X		
5.5	2.0000 S10S 90 LR ELL, SEAMLESS, A403-WP304L (NY230506AT08)	70	0	0	0	8	71	1	17	0	0	0	X		

On behalf of Tecnimont
QC Welding Inspector
GABRIEL BOTEZATU IWE/EWE/IWP Practical ISO EN 9712 certification Level 2 VT/PT/MT/RT/UT-TOFD - PA
03/12/2024
(R)

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

QA/QC Inspection: RAIMUNDO, MARIANA
Date: 15-10-2024 14:42:51
Signature
QA / QC

Customer Inspection:
Date:
Signature
Sergio Morales
Date: 11-11-24

Boccard Portugal, Lda
Zona Industrial de Montalvo, Lote 3
Constância, Portugal2250-999

Certificate of PMI Reading

XL3t-32735

Reading No	75
Mode	ALLOY
Time	2024-10-14 09:42
Duration	9.41
Sequence	Final
Alloy1	304SS : 0.11
Alloy2	No Match : *2.10
Flags	
SAMPLE	
HEAT	
LOT	
BATCH	
MISC	
NOTE	

	%	±	Error
Sb	< LOD	:	0.040
Sn	< LOD	:	0.054
Pd	< LOD	:	0.041
Ag	< LOD	:	0.121
Al	< LOD	:	80.000
Mo	0.049	±	0.009
Nb	< LOD	:	0.009
Zr	< LOD	:	0.004
Bi	< LOD	:	0.012
Pb	< LOD	:	0.007
Se	< LOD	:	0.005
W	< LOD	:	0.100
Zn	< LOD	:	0.038
Cu	< LOD	:	0.162
Ni	9.156	±	0.319
Co	< LOD	:	0.515
Fe	69.157	±	0.474
Mn	1.858	±	0.218
Cr	19.214	±	0.278
V	< LOD	:	0.135
Ti	< LOD	:	0.151

Sergio Morales

Date: 11-11-24

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

(R)

Boccard Portugal, Lda
Zona Industrial de Montalvo, Lote 3
Constância, Portugal2250-999

Certificate of PMI Reading

XL3t-32735

Reading No	76
Mode	ALLOY
Time	2024-10-14 09:42
Duration	11.02
Sequence	Final
Alloy1	304SS : 0.39
Alloy2	No Match : 1.77
Flags	
SAMPLE	
HEAT	
LOT	
BATCH	
MISC	
NOTE	

	%	±	Error
Sb	< LOD	:	0.037
Sn	< LOD	:	0.049
Pd	< LOD	:	0.036
Ag	< LOD	:	0.189
Al	< LOD	:	80.000
Mo	0.036	±	0.007
Nb	< LOD	:	0.007
Zr	< LOD	:	0.006
Bi	< LOD	:	0.009
Pb	< LOD	:	0.008
Se	< LOD	:	0.008
W	< LOD	:	0.082
Zn	< LOD	:	0.029
Cu	< LOD	:	0.151
Ni	9.079	±	0.291
Co	< LOD	:	0.470
Fe	69.208	±	0.436
Mn	1.719	±	0.198
Cr	19.388	±	0.256
V	< LOD	:	0.123
Ti	< LOD	:	0.156

Sergio Morales

Date: 11-11-24

03/12/2024

On behalf of Tecnimont
QC Welding Inspector

(R)

Boccard Portugal, Lda
Zona Industrial de Montalvo, Lote 3
Constância, Portugal2250-999

Certificate of PMI Reading

XL3t-32735

Reading No	77
Mode	ALLOY
Time	2024-10-14 09:42
Duration	10.33
Sequence	Final
Alloy1	321SS : 0.11
Alloy2	No Match : 1.76
Flags	
SAMPLE	
HEAT	
LOT	
BATCH	
MISC	
NOTE	

	%	±	Error
Sb	< LOD	:	0.037
Sn	< LOD	:	0.050
Pd	< LOD	:	0.039
Ag	< LOD	:	0.187
Al	< LOD	:	80.000
Mo	0.031	±	0.007
Nb	< LOD	:	0.008
Zr	< LOD	:	0.004
Bi	< LOD	:	0.009
Pb	< LOD	:	0.017
Se	< LOD	:	0.006
W	< LOD	:	0.102
Zn	< LOD	:	0.028
Cu	< LOD	:	0.155
Ni	8.813	±	0.302
Co	< LOD	:	0.491
Fe	69.731	±	0.457
Mn	1.573	±	0.205
Cr	19.122	±	0.267
V	< LOD	:	0.134
Ti	< LOD	:	0.183

Sergio Morales

Date: 11-11-24

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

(R)

Boccard Portugal, Lda
Zona Industrial de Montalvo, Lote 3
Constância, Portugal2250-999

Certificate of PMI Reading

XL3t-32735

Reading No	78
Mode	ALLOY
Time	2024-10-14 09:43
Duration	11.02
Sequence	Final
Alloy1	304SS : 0.01
Alloy2	No Match : *2.10
Flags	
SAMPLE	
HEAT	
LOT	
BATCH	
MISC	
NOTE	

	%	±	Error
Sb	< LOD	:	0.044
Sn	< LOD	:	0.050
Pd	< LOD	:	0.039
Ag	< LOD	:	0.207
Al	< LOD	:	80.000
Mo	0.038	±	0.008
Nb	< LOD	:	0.009
Zr	< LOD	:	0.006
Bi	< LOD	:	0.012
Pb	< LOD	:	0.015
Se	< LOD	:	0.008
W	< LOD	:	0.076
Zn	< LOD	:	0.034
Cu	< LOD	:	0.154
Ni	8.593	±	0.300
Co	< LOD	:	0.496
Fe	69.922	±	0.455
Mn	1.625	±	0.206
Cr	19.065	±	0.267
V	0.155	±	0.072
Ti	< LOD	:	0.152

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

Sergio Morales
Date: 11-11-24

(R)

Boccard Portugal, Lda
Zona Industrial de Montalvo, Lote 3
Constância, Portugal2250-999

Certificate of PMI Reading

XL3t-32735

Reading No	73
Mode	ALLOY
Time	2024-10-14 09:41
Duration	10.01
Sequence	Final
Alloy1	304SS : 1.36
Alloy2	No Match : *1.97
Flags	
SAMPLE	
HEAT	
LOT	
BATCH	
MISC	
NOTE	

	%	±	Error
Sb	< LOD	:	0.039
Sn	< LOD	:	0.050
Pd	< LOD	:	0.036
Ag	< LOD	:	0.190
Al	< LOD	:	80.000
Mo	0.018	±	0.006
Nb	< LOD	:	0.004
Zr	< LOD	:	0.004
Bi	< LOD	:	0.012
Pb	0.027	±	0.012
Se	< LOD	:	0.007
W	< LOD	:	0.086
Zn	< LOD	:	0.035
Cu	< LOD	:	0.143
Ni	8.127	±	0.294
Co	< LOD	:	0.496
Fe	71.887	±	0.452
Mn	1.346	±	0.199
Cr	17.921	±	0.259
V	< LOD	:	0.137
Ti	< LOD	:	0.136

On behalf of Tecnimont
QC Welding Inspector

03/12/2024

Sergio Morales

Date: 11-11-24

(R)

Boccard Portugal, Lda
Zona Industrial de Montalvo, Lote 3
Constância, Portugal2250-999

Certificate of PMI Reading

XL3t-32735

Reading No	71
Mode	ALLOY
Time	2024-10-14 09:41
Duration	11.51
Sequence	Final
Alloy1	301SS : 1.69
Alloy2	No Match : *2.22
Flags	
SAMPLE	
HEAT	
LOT	
BATCH	
MISC	
NOTE	

	%	±	Error
Sb	< LOD	:	0.036
Sn	< LOD	:	0.047
Pd	< LOD	:	0.037
Ag	< LOD	:	0.173
Al	< LOD	:	80.000
Mo	0.019	±	0.006
Nb	< LOD	:	0.007
Zr	< LOD	:	0.003
Bi	< LOD	:	0.008
Pb	< LOD	:	0.015
Se	< LOD	:	0.007
W	< LOD	:	0.084
Zn	< LOD	:	0.037
Cu	< LOD	:	0.133
Ni	7.991	±	0.273
Co	< LOD	:	0.461
Fe	72.020	±	0.421
Mn	1.517	±	0.188
Cr	17.691	±	0.240
V	0.156	±	0.066
Ti	< LOD	:	0.149

03/12/2024

On behalf of Tecnimont
QC Welding Inspector

Sergio Morales

Date: 11-11-24

(R)

Boccard Portugal, Lda
Zona Industrial de Montalvo, Lote 3
Constância, Portugal2250-999

Certificate of PMI Reading

XL3t-32735

Reading No	74
Mode	ALLOY
Time	2024-10-14 09:42
Duration	13.47
Sequence	Final
Alloy1	321SS : 1.61
Alloy2	No Match : *1.93
Flags	
SAMPLE	
HEAT	
LOT	
BATCH	
MISC	
NOTE	

	%	±	Error
Sb	< LOD	:	0.037
Sn	< LOD	:	0.049
Pd	< LOD	:	0.034
Ag	< LOD	:	0.194
Al	< LOD	:	80.000
Mo	0.301	±	0.017
Nb	0.032	±	0.006
Zr	< LOD	:	0.004
Bi	< LOD	:	0.007
Pb	< LOD	:	0.015
Se	< LOD	:	0.008
W	< LOD	:	0.106
Zn	< LOD	:	0.034
Cu	0.461	±	0.088
Ni	8.187	±	0.271
Co	< LOD	:	0.448
Fe	71.130	±	0.414
Mn	1.580	±	0.186
Cr	17.696	±	0.237
V	< LOD	:	0.128
Ti	< LOD	:	0.158

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

Sergio Morales

Date: 11-11-24

(R)

Boccard Portugal, Lda
Zona Industrial de Montalvo, Lote 3
Constância, Portugal2250-999

Certificate of PMI Reading

XL3t-32735

Reading No	72
Mode	ALLOY
Time	2024-10-14 09:41
Duration	10.24
Sequence	Final
Alloy1	301SS : 1.27
Alloy2	No Match : 2.14
Flags	
SAMPLE	
HEAT	
LOT	
BATCH	
MISC	
NOTE	

	%	±	Error
Sb	< LOD	:	0.041
Sn	< LOD	:	0.052
Pd	< LOD	:	0.038
Ag	< LOD	:	0.185
Al	< LOD	:	80.000
Mo	< LOD	:	0.009
Nb	< LOD	:	0.005
Zr	< LOD	:	0.004
Bi	< LOD	:	0.013
Pb	< LOD	:	0.028
Se	< LOD	:	0.007
W	< LOD	:	0.099
Zn	< LOD	:	0.040
Cu	< LOD	:	0.142
Ni	7.855	±	0.288
Co	< LOD	:	0.493
Fe	71.963	±	0.448
Mn	1.417	±	0.199
Cr	17.899	±	0.257
V	0.177	±	0.071
Ti	< LOD	:	0.141

Sergio Morales

Date: 11-11-24

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

(R)

Boccard Portugal, Lda
Zona Industrial de Montalvo, Lote 3
Constância, Portugal2250-999

Certificate of PMI Reading

XL3t-32735

Reading No	70
Mode	ALLOY
Time	2024-10-14 09:40
Duration	9.46
Sequence	Final
Alloy1	301SS : *1.89
Alloy2	304SS : *1.95
Flags	
SAMPLE	
HEAT	
LOT	
BATCH	
MISC	
NOTE	

	%	±	Error
Sb	< LOD	:	0.046
Sn	< LOD	:	0.055
Pd	< LOD	:	0.040
Ag	< LOD	:	0.169
Al	< LOD	:	80.000
Mo	0.028	±	0.008
Nb	< LOD	:	0.006
Zr	< LOD	:	0.005
Bi	< LOD	:	0.015
Pb	< LOD	:	0.020
Se	< LOD	:	0.008
W	< LOD	:	0.110
Zn	< LOD	:	0.042
Cu	< LOD	:	0.173
Ni	8.173	±	0.319
Co	< LOD	:	0.530
Fe	71.876	±	0.488
Mn	1.611	±	0.219
Cr	17.700	±	0.278
V	0.159	±	0.076
Ti	< LOD	:	0.147

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

Sergio Morales

Date: 11-11-24

(R)

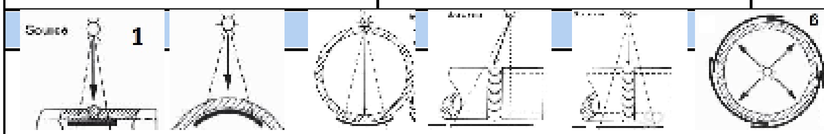
boccard Alliance for success	# Radiographic Examination Report	P2308-000347

Contract : P2308 | Spool Nº: P2308S-00491
Client : NERVION | Isometric Nº: 2121-IA91F63-5
Project : ALBA | Piece Mark: 2121-IA91F63-5-SP03-00491

Procedure/ Instruction:	Acceptance Criteria:	Testing Date:	Material:
4274-LZ-VD-FW31010370QAC02 - Rev.A	ASME B.31.3 – Table 341.3.2 Normal Fluid	11-10-2024	Stainless Steel 304, 316, 317

Equipment		Film		IQI		Development	
Type:	G-RAY	Brand:	FUJI	Type:	ASTM-1A	Equipment:	GE M ECO
Source Equip:	Ir192	Type:	IX50	Position:	Film Side	Type:	Auto
Source Dim:	2x1.4	Class:	C3	Sensitivity:	4	Temperature:	29
Activity (Ci):	20.9	Lead Sheets:	0,5	Ø of visible wire/hole	0,0063(0,16)	Developer:	G135
		Films/Casette:	Single			Fixer:	G335

Testing Technique



1 2 3 4 5 6

Indication Codes (ISO 6520)

--	EP-Excess Penetration (504)	SB-Suck Back
BB-Back Bevel	FA-Film Artifact	ST-Sugared Tack
BW-Back Weld	GR-Grind Repair	SU-Surface
BT-Burn Through (510)	HL-Hi-LO	T-Tungsten
C-Cap	LC-Lack of Cleanup	UC-Undercut (5011)
CP-Clusterd Porosity (2012)	LF-Lack of Fusion (401)	UP-Unformity Porosity (2013)
CL-Cold Lap	LP-Lack of Penetration (402)	V-Valley in Cap
CR-Crack	P-Porosity (2011)	W-Wire
CC-Crater Crack (104)	R-Root	WH-Worm Hole (2016)
DI-Dimensional	S-Slag (301)	XN-Xray Film Non-Conform

General Remarks

The results refer to the controlled items

Notations / Symbology

- Good / Acceptable + Repair = Good after Repair x Acceptable after Repair SFD = Source Film Distance SOD = Source Object Distance

Weld No.	Weld Desc. (WPS)	Welder	Position	SFD	SOD	Weld Reinf	Testing Technique	Exposure Time	Density	IQI	Indication Code	Decision	Remarks
0018	2.0000 S10S BW (MW.26_BW)	AY	A	500	440	NA	4	512	3.2	W4		-	RX444
0018	2.0000 S10S BW (MW.26_BW)	AY	B	500	440	NA	4	512	3.2	W4		-	RX444

films review 03/12/2024
On behalf of Tecnimont
QC Welding Inspector
GABRIEL BOCEZATU
IWT&IWI-s Pqualified
ISO EN 9712 certification Level 2
VT/PT/MT/RT/UT-TOFD - PA

Radiographic Examination Report

P2308-000347

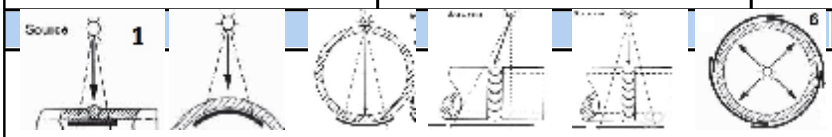
Contract : P2308
Client : NERVION
Project : ALBA

Spool Nº: P2308S-00491
Isometric Nº: 2121-IA91F63-5
Piece Mark: 2121-IA91F63-5-SP03-00491

Procedure/ Instruction:	Acceptance Criteria:	Testing Date:	Material:
4274-LZ-VD-FW31010370QAC02 - Rev.1	ASME B.31.3 – Table 341.3.2 Normal Fluid	11-10-2024	Stainless Steel 304, 316, 317

Equipment		Film		IQI		Development	
Type:	G-RAY	Brand:	FUJI	Type:	ASTM-1A	Equipment:	GE M ECO
Source Equip:	Ir192	Type:	IX50	Position:	Film Side	Type:	Auto
Source Dim:	2x1.4	Class:	C3	Sensitivity:	4	Temperature:	29
Activity (Ci):	20.9	Lead Sheets:	0,5	Ø of visible wire/hole	0,0063(0,16)	Developer:	G135
		Films/Casette:	Single			Fixer:	G335

Testing Technique



1 2 3 4 5 6

Indication Codes (ISO 6520)

--	EP-Excess Penetration (504)	SB-Suck Back
BB-Back Bevel	FA-Film Artifact	ST-Sugared Tack
BW-Back Weld	GR-Grind Repair	SU-Surface
BT-Burn Through (510)	HL-Hi-LO	T-Tungsten
C-Cap	LC-Lack of Cleanup	UC-Undercut (5011)
CP-Clusterd Porosity (2012)	LF-Lack of Fusion (401)	UP-Unformity Porosity (2013)
CL-Cold Lap	LP-Lack of Penetration (402)	V-Valley in Cap
CR-Crack	P-Porosity (2011)	W-Wire
CC-Crater Crack (104)	R-Root	WH-Worm Hole (2016)
DI-Dimensional	S-Slag (301)	XN-Xray Film Non-Conform

General Remarks

The results refer to the controlled items

Notations / Symbology

- Good / Acceptable + Repair = Good after Repair x Acceptable after Repair SFD = Source Film Distance SOD = Source Object Distance

Weld No.	Weld Desc. (WPS)	Welder	Position	SFD	SOD	Weld Reinf	Testing Technique	Exposure Time	Density	IQI	Indication Code	Decision	Remarks

	Performed by:	Examined by:	QA/QC Inspection:	Customer Inspection:
Name:	GONCALVES(QA), J. (N2 PT/RT)	FIGUEIRAS(QA), RUI (N2 PT/RT)	RAIMUNDO, MARIANA	
Date:	11-10-2024	11-10-2024	15-10-2024 14:42:51	
Signature:			QA / QC	Sergio Morales Date: 11-11-24

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