

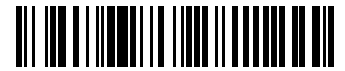


Manufacturers Data Report

ADSN0000xxxx



MDR



xxxxxx 0 1 0 1

Manufacturers Data Report

Customer	Sample
PO Number	PO
Aflex Job Number	xxxxxx
Aflex Batch Number	xxxxxx01
Aflex Item Number	xxxxxx0101
Serial Number	ADSN0000xxxx
Release ID	xxx
Item Description	300NB UEB
Report Generated	12:56 25/07/2022
Release Date	25/07/2022



Photo is indicative only and may be of another item in the same batch



ABN\ 73 070 676 201
Unit 14, 12-14 Beaumont Road
Mount Kuring-gai, NSW 2080

Email\ sales@aflex.com.au
Phone\ +61 02 9457 7530
Fax\ +61 02 9457 7531



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Statement of Certification

BESTPRACTICE
CERTIFICATION

Aflex Pty Ltd

Best Practice Certification Pty Ltd has assessed the above company as complying with the following management system standard requirements at the address shown.

Standard:	ISO 9001:2015 Quality Management System Requirements	
Scope of Certification:	Design and manufacture of metal expansion bellows for use in pipework.	
Head Office Address:	Unit 14, 12 - 14 Beaumont Road, Mt. Kuring-gai, NSW 2080, Australia	
Initial Certification Date:	11/09/2013	
Issue Date:	Expiry Date:	Certificate Number:
27/07/2022	20/09/2025*	73070676201Q

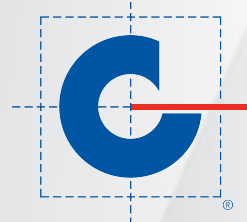


CERTIFICATION APPROVED:

Kobi Simmat
Managing Director
Best Practice Certification Pty Ltd



JAS-ANZ



WWW.JAS-ANZ.ORG/REGISTER

BESTPRACTICE
CERTIFICATION



a» Office A3
1-3 Rodborough Rd
Frenchs Forest NSW 2086
Australia

p» 1300 402 602

w» <https://bestpracticecertification.com.au>

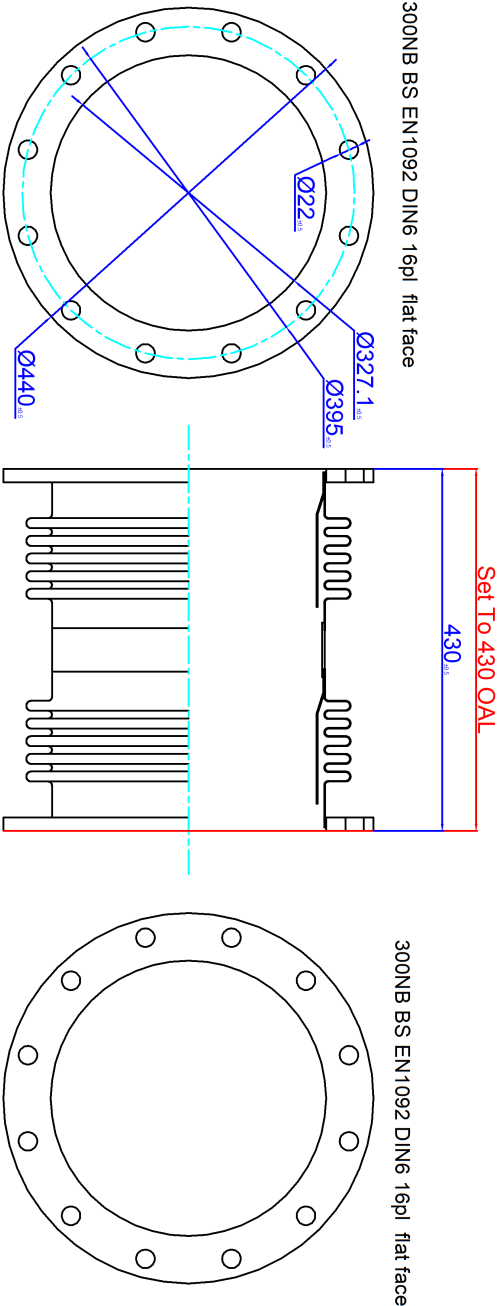
* Subject to regular surveillance assessments



Manufacturing Drawing

Revision History:			
Rev 1: Change dim layer states (JK)			
Rev 0: Bellows geometry Drawn by Aflex AutoDraw (JK)			
TITLE:		Master Drawing R1	
STATUS: Approved		SCALE	N/A
JK	25-05-2018	JK	25-05-2018
Aflex Ref:		None	
			

Drawing not to Scale





Bellows Information (M-03)



- 1 0 7 5 3 0 0 4 -

Bellows Calculations (EJMA 10th Ed.)

Quote Reference: 10753004**Aflex Part Number: None****Bellows Design Inputs**

Bellows ID	db	323.0	mm
Working Pressure	p	10	kPa
Design Pressure	pd	50	kPa
Pitch	q	21	mm
Working Temperature (< 450 Deg. for EJMA)	temp	450	Deg C
Pressure Band Material Thickness	tc	0.0	mm
Bellows Material Thickness	t	0.7	mm
Convolution Height	w	23	mm
Axial Compression	xcomp	20	mm
Axial Extension	xext	0	mm
Lateral Movement	y	20.0	mm
Angular Movement	tod	0.0	Degrees
Youngs Modulus, Room Temp	eybrt	193.1	GPa
Youngs Modulus, Design Temp	eybdt	187.35	GPa
Yield Stress, Room Temp	sycrt	206.0	MPa
Yield Stress, Design Temp	sycdt	95.18	MPa
Yield Stress, Material Cert	sym	280.00	MPa
Element Length	el	247	mm
Cuff Length	lt	50	mm
Mean Convolution Radius	rm	4.725	mm
Number of Convolutions	n	7	cons
Number of Plies	np	1	plies
Cp Factor	cp	0.7330	cp
Cf Factor	cf	1.6690	cf
Cd Factor	cd	1.5470	cd

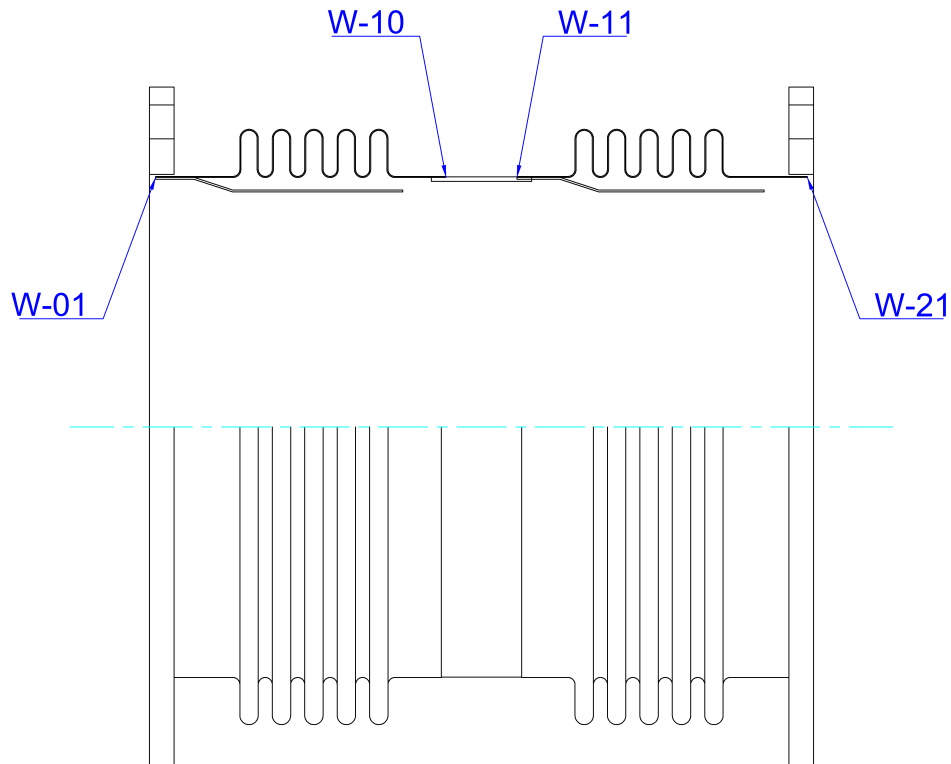
Bellows Design Results**Calculated Cycle Life**

	ncu	95842	cycles
Bellows Cuff Circumferential Pressure Stress	s1	2	MPa
Pressure Band Circumferential Pressure Stress	sc1	0	MPa
Bellows Circumferential Pressure Stress	s2	1	MPa
Meridional Membrane Pressure Stress	s3	0	MPa
Meridional Bending Pressure Stress	s4	4	MPa
Meridional Membrane Stress due to Deflection	s5	7	MPa
Meridional Bending Stress due to Deflection	s6	802	MPa
Total Stress due to Pressure and Deflection	st	812	MPa
Column Instability Pressure	ps	449	kPa
Inplane Instability Pressure	psi	578	kPa
Axial Spring Rate	ksr	123	N/mm
Angular Spring Rate	umt	32	Nm/Deg
Lateral Spring Rate	uml	50	N/mm
Resultant Axial Reaction Force (Compression)	rx	2470	N
Lateral Force due to Lateral Deflection	vl	997	N
Force Req.to Compress Bellows (20mm)	fx	3415	N
Bellows Effective Area	ae	94411	mm^2
Bellows Pressure Thrust	pthrust	945	N



Welding Information

Weld Map



Drawing not to Scale

Identifier	Weld Description	Procedure	Process
W-01	Bellows Inlet to Flange	Group A1/K Bellows Attachment	GTAW
W-10	Bellows To Centre Spool 1	Group K/K Bellows Attachment	GTAW
W-11	Bellows to Centre Spool 2	Group K/K Bellows Attachment	GTAW
W-21	Bellows Outlet to Flange	Group A1/K Bellows Attachment	GTAW

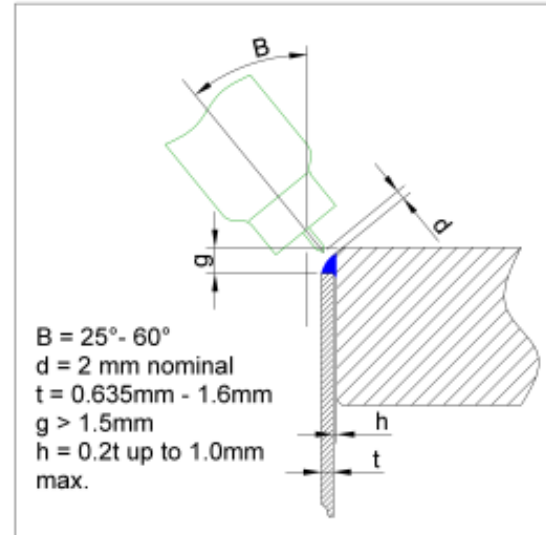


Weld W-01

Weld Procedure Specification (WPS)

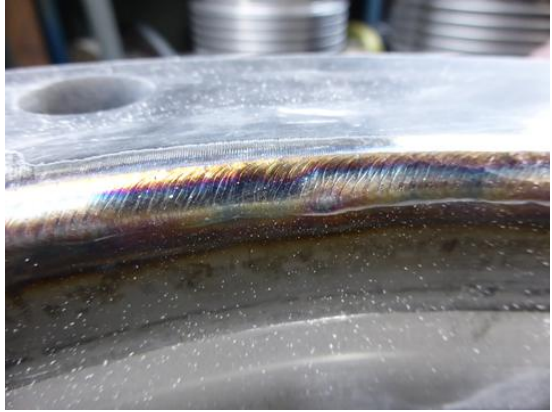
Weld Description	W-01 - Bellows Inlet to Flange
WPS Name	Group A1/K Bellows Attachment
WPS ID	30
Based On PQR ID	12969
Applicable Code	AS3992:1998
Process	GTAW
Amps Min	170
Amps Max	215
Volts Min	8
Volts Max	12
Weld Speed Min (mm/s)	3
Weld Speed Max (mm/s)	5.5
Arc Energy Min (kJ/mm)	0.45
Arc Energy Max (kJ/mm)	0.47
Polarity	DC Positive to Earth
Pulse Freq. Min	1.8
Pulse Freq. Max	2.5
Pulse Low %	40
Pulse Duty %	40
Tungsten Dia. (mm)	2.4
Electrode Stickout. (mm)	6
Minimum Pipe Diameter	0
Maximum Pipe Diameter	0
Parent 1 Material Group	A1
Parent 2 Material Group	K
Filler Material Group	F6
Filler Material	AWS ER309/309L
Filler Size Min (mm)	1.6
Filler Size Max (mm)	2.4
Flux	
Weld Position	2F
Weld direction	Forwards
Torch Sheilding Gas	100% Argon
Gas Flow Torch (l/min)	12
Purge Sheilding Gas	N/A
Gas Flow Purge (l/min)	0
Pre Heat Temperature Minimum	N/A
Interrun Temperature Maximum	N/A
Intermediate heat treatment	N/A
Post weld heat treatment	N/A
Interrun Cleaning	N/A
Back Gouging	N/A
Notes	

Torch Postion / Material Fitup





Weld Record

Weld Identifier	W-01	Photo of weld 
Weld Record ID	30827	
Operator	TF	
Time of Weld	25/05/2018 07:13	
WPS Name	Group A1/K Bellows Attachment	
WPS ID	30	
Process	GTAW	
Amps	180	
Volts	8	
Weld Speed (mm/s)	3	
Arc Energy (kJ/mm)	0.48	
Polarity	DC Positive to Earth	
Pulse Freq.	2.5	
Pulse Low %	50	
Pulse Duty %	50	
Tungsten Dia. (mm)	2.4	
Electrode Stickout. (mm)	6	
Parent 1 Material Group	A1	
Parent 1 Material	Refer to Materials Map	
Parent 2 Material Group	K	
Parent 2 Material	Refer to Materials Map	
Filler Material Group	F6	
Filler Material	AWS ER309/309L	
Filler Size Dia. (mm)	1.6	
Flux		
Weld Position	2F	
Weld direction	Forwards	
Torch Shielding Gas	100% Argon	
Gas Flow Torch (l/min)	12	
Purge Shielding Gas	N/A	
Gas Flow Purge (l/min)	0	
Number of Runs	1	
Pre Heat Temperature Minimum	N/A	
Inter-run Temperature Maximum	N/A	
Intermediate heat treatment	N/A	
Post weld heat treatment	N/A	
Inter-run Cleaning	N/A	
Back Gouging	N/A	
Notes		

Note: Weld photo is indicative only and may be of another item in the same batch.

NDT Results

Check ID	Description	Technician	Date Performed	Result
41818	Axial Dynamics 100% Through Dye Pen.	TF	25/05/2018	PASS

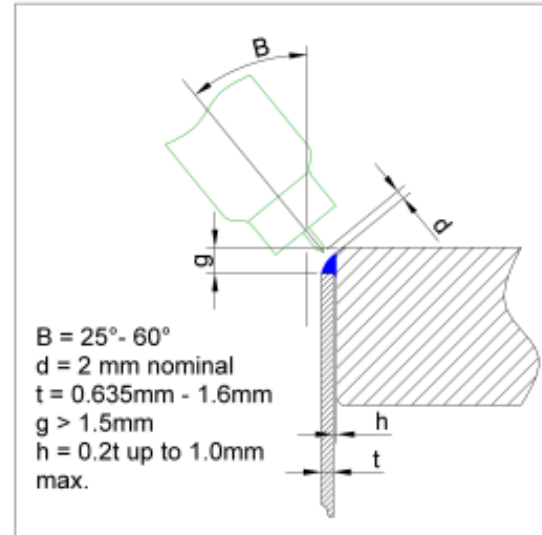


Weld W-10

Weld Procedure Specification (WPS)

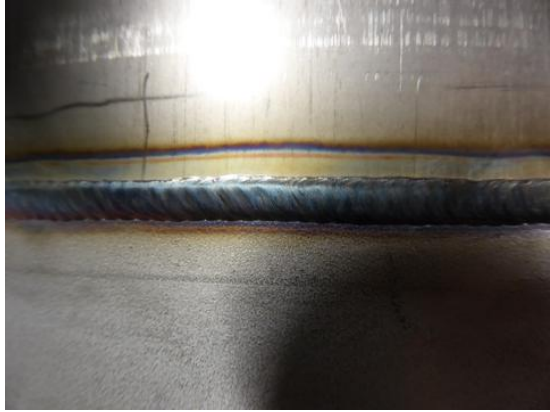
Weld Description	W-10 - Bellows To Centre Spool 1
WPS Name	Group K/K Bellows Attachment
WPS ID	1
Based On PQR ID	12971
Applicable Code	AS3992:1998
Process	GTAW
Amps Min	170
Amps Max	215
Volts Min	8
Volts Max	12
Weld Speed Min (mm/s)	3
Weld Speed Max (mm/s)	5
Arc Energy Min (kJ/mm)	0.45
Arc Energy Max (kJ/mm)	0.52
Polarity	DC Positive to Earth
Pulse Freq. Min	1.8
Pulse Freq. Max	2.5
Pulse Low %	40
Pulse Duty %	40
Tungsten Dia. (mm)	2.4
Electrode Stickout. (mm)	6
Minimum Pipe Diameter	50
Maximum Pipe Diameter	1200
Parent 1 Material Group	K
Parent 2 Material Group	K
Filler Material Group	F6
Filler Material	316/316L
Filler Size Min (mm)	1.6
Filler Size Max (mm)	2.4
Flux	N/A
Weld Position	2F
Weld direction	Forwards
Torch Sheilding Gas	100% Argon
Gas Flow Torch (l/min)	12
Purge Sheilding Gas	N/A
Gas Flow Purge (l/min)	0
Pre Heat Temperature Minimum	N/A
Interrun Temperature Maximum	N/A
Intermediate heat treatment	N/A
Post weld heat treatment	N/A
Interrun Cleaning	N/A
Back Gouging	N/A
Notes	

Torch Postion / Material Fitup





Weld Record

Weld Identifier	W-10	Photo of weld 
Weld Record ID	30829	
Operator	SK	
Time of Weld	15/05/2018 08:26	
WPS Name	Group K/K Bellows Attachment	
WPS ID	1	
Process	GTAW	
Amps	170	
Volts	8	
Weld Speed (mm/s)	4	
Arc Energy (kJ/mm)	0.34	
Polarity	DC Positive to Earth	
Pulse Freq.	2.5	
Pulse Low %	40	
Pulse Duty %	40	
Tungsten Dia. (mm)	2.4	
Electrode Stickout. (mm)	6	
Parent 1 Material Group	K	
Parent 1 Material	Refer to Materials Map	
Parent 2 Material Group	K	
Parent 2 Material	Refer to Materials Map	
Filler Material Group	F6	
Filler Material	316/316L	
Filler Size Dia. (mm)	1.6	
Flux	N/A	
Weld Position	2F	
Weld direction	Forwards	
Torch Shielding Gas	100% Argon	
Gas Flow Torch (l/min)	12	
Purge Shielding Gas	N/A	
Gas Flow Purge (l/min)	0	
Number of Runs	1	
Pre Heat Temperature Minimum	N/A	
Interrun Temperature Maximum	N/A	
Intermediate heat treatment	N/A	
Post weld heat treatment	N/A	
Interrun Cleaning	N/A	
Back Gouging	N/A	
Notes		

Note: Weld photo is indicative only and may be of another item in the same batch.

NDT Results

Check ID	Description	Technician	Date Performed	Result
41820	Axial Dynamics 100% Through Dye Pen.	SK	15/05/2018	PASS



Welder Qualification Certificate

Welder Qualification Details

WPS ID	1
WPS Name	Group K/K Bellows Attachment
Process	GTAW
Weld Position	2F
Technician	Stephen Klosowski
Initials	SK
Date of Qualification	16-07-2015 12:27:31
Method of Qualification	Satisfactory Completion of PQR
PQR ID	12972
PQR Document	http://axialdynamics.com.au/pqr/Axial_PQR_12972.pdf
Approved By	Nick Gould

Test Piece



Please Refer to PQR ID 12972 for full details

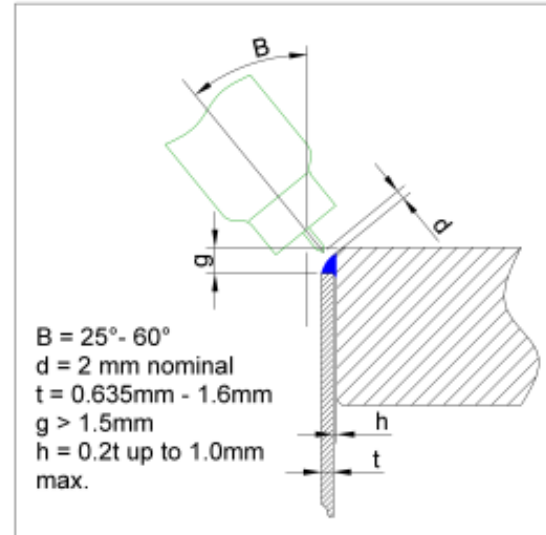


Weld W-11

Weld Procedure Specification (WPS)

Weld Description	W-11 - Bellows to Centre Spool 2
WPS Name	Group K/K Bellows Attachment
WPS ID	1
Based On PQR ID	12971
Applicable Code	AS3992:1998
Process	GTAW
Amps Min	170
Amps Max	215
Volts Min	8
Volts Max	12
Weld Speed Min (mm/s)	3
Weld Speed Max (mm/s)	5
Arc Energy Min (kJ/mm)	0.45
Arc Energy Max (kJ/mm)	0.52
Polarity	DC Positive to Earth
Pulse Freq. Min	1.8
Pulse Freq. Max	2.5
Pulse Low %	40
Pulse Duty %	40
Tungsten Dia. (mm)	2.4
Electrode Stickout. (mm)	6
Minimum Pipe Diameter	50
Maximum Pipe Diameter	1200
Parent 1 Material Group	K
Parent 2 Material Group	K
Filler Material Group	F6
Filler Material	316/316L
Filler Size Min (mm)	1.6
Filler Size Max (mm)	2.4
Flux	N/A
Weld Position	2F
Weld direction	Forwards
Torch Shielding Gas	100% Argon
Gas Flow Torch (l/min)	12
Purge Shielding Gas	N/A
Gas Flow Purge (l/min)	0
Pre Heat Temperature Minimum	N/A
Interrun Temperature Maximum	N/A
Intermediate heat treatment	N/A
Post weld heat treatment	N/A
Interrun Cleaning	N/A
Back Gouging	N/A
Notes	

Torch Position / Material Fitup





Weld Record

Weld Identifier	W-11	Photo of weld 
Weld Record ID	30828	
Operator	TF	
Time of Weld	25/05/2018 08:42	
WPS Name	Group K/K Bellows Attachment	
WPS ID	1	
Process	GTAW	
Amps	180	
Volts	8	
Weld Speed (mm/s)	3	
Arc Energy (kJ/mm)	0.48	
Polarity	DC Positive to Earth	
Pulse Freq.	2.5	
Pulse Low %	50	
Pulse Duty %	50	
Tungsten Dia. (mm)	2.4	
Electrode Stickout. (mm)	6	
Parent 1 Material Group	K	
Parent 1 Material	Refer to Materials Map	
Parent 2 Material Group	K	
Parent 2 Material	Refer to Materials Map	
Filler Material Group	F6	
Filler Material	316/316L	
Filler Size Dia. (mm)	1.6	
Flux	N/A	
Weld Position	2F	
Weld direction	Forwards	
Torch Shielding Gas	100% Argon	
Gas Flow Torch (l/min)	12	
Purge Shielding Gas	N/A	
Gas Flow Purge (l/min)	0	
Number of Runs	1	
Pre Heat Temperature Minimum	N/A	
Interrun Temperature Maximum	N/A	
Intermediate heat treatment	N/A	
Post weld heat treatment	N/A	
Interrun Cleaning	N/A	
Back Gouging	N/A	
Notes		

Note: Weld photo is indicative only and may be of another item in the same batch.

NDT Results

Check ID	Description	Technician	Date Performed	Result
41819	Axial Dynamics 100% Through Dye Pen.	TF	25/05/2018	PASS

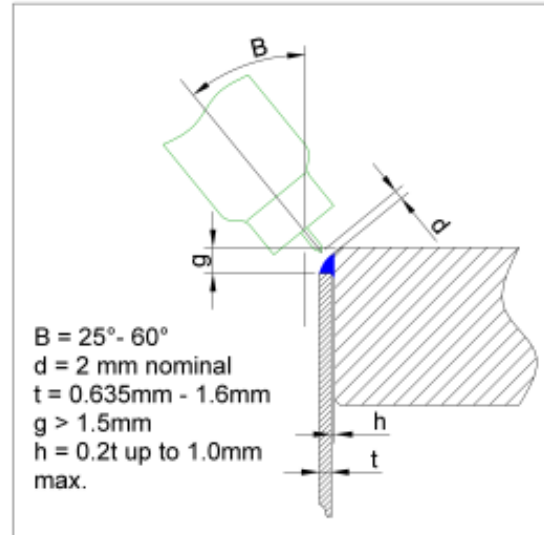


Weld W-21

Weld Procedure Specification (WPS)

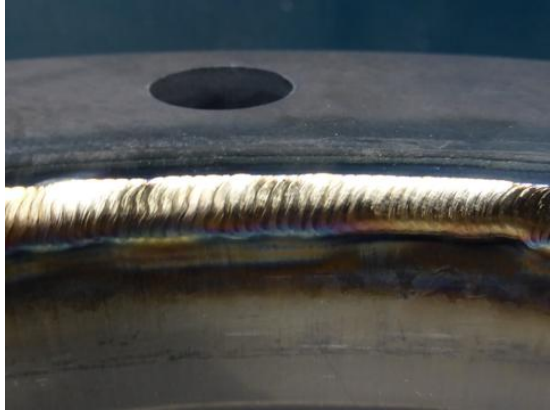
Weld Description	W-21 - Bellows Outlet to Flange
WPS Name	Group A1/K Bellows Attachment
WPS ID	30
Based On PQR ID	12969
Applicable Code	AS3992:1998
Process	GTAW
Amps Min	170
Amps Max	215
Volts Min	8
Volts Max	12
Weld Speed Min (mm/s)	3
Weld Speed Max (mm/s)	5.5
Arc Energy Min (kJ/mm)	0.45
Arc Energy Max (kJ/mm)	0.47
Polarity	DC Positive to Earth
Pulse Freq. Min	1.8
Pulse Freq. Max	2.5
Pulse Low %	40
Pulse Duty %	40
Tungsten Dia. (mm)	2.4
Electrode Stickout. (mm)	6
Minimum Pipe Diameter	0
Maximum Pipe Diameter	0
Parent 1 Material Group	A1
Parent 2 Material Group	K
Filler Material Group	F6
Filler Material	AWS ER309/309L
Filler Size Min (mm)	1.6
Filler Size Max (mm)	2.4
Flux	
Weld Position	2F
Weld direction	Forwards
Torch Sheilding Gas	100% Argon
Gas Flow Torch (l/min)	12
Purge Sheilding Gas	N/A
Gas Flow Purge (l/min)	0
Pre Heat Temperature Minimum	N/A
Interrun Temperature Maximum	N/A
Intermediate heat treatment	N/A
Post weld heat treatment	N/A
Interrun Cleaning	N/A
Back Gouging	N/A
Notes	

Torch Postion / Material Fitup





Weld Record

Weld Identifier	W-21	Photo of weld 
Weld Record ID	30830	
Operator	TF	
Time of Weld	25/05/2018 08:41	
WPS Name	Group A1/K Bellows Attachment	
WPS ID	30	
Process	GTAW	
Amps	170	
Volts	8	
Weld Speed (mm/s)	3	
Arc Energy (kJ/mm)	0.45	
Polarity	DC Positive to Earth	
Pulse Freq.	2.5	
Pulse Low %	40	
Pulse Duty %	40	
Tungsten Dia. (mm)	2.4	
Electrode Stickout. (mm)	6	
Parent 1 Material Group	A1	
Parent 1 Material	Refer to Materials Map	
Parent 2 Material Group	K	
Parent 2 Material	Refer to Materials Map	
Filler Material Group	F6	
Filler Material	AWS ER309/309L	
Filler Size Dia. (mm)	1.6	
Flux		
Weld Position	2F	
Weld direction	Forwards	
Torch Shielding Gas	100% Argon	
Gas Flow Torch (l/min)	12	
Purge Shielding Gas	N/A	
Gas Flow Purge (l/min)	0	
Number of Runs	1	
Pre Heat Temperature Minimum	N/A	
Interrun Temperature Maximum	N/A	
Intermediate heat treatment	N/A	
Post weld heat treatment	N/A	
Interrun Cleaning	N/A	
Back Gouging	N/A	
Notes		

Note: Weld photo is indicative only and may be of another item in the same batch.

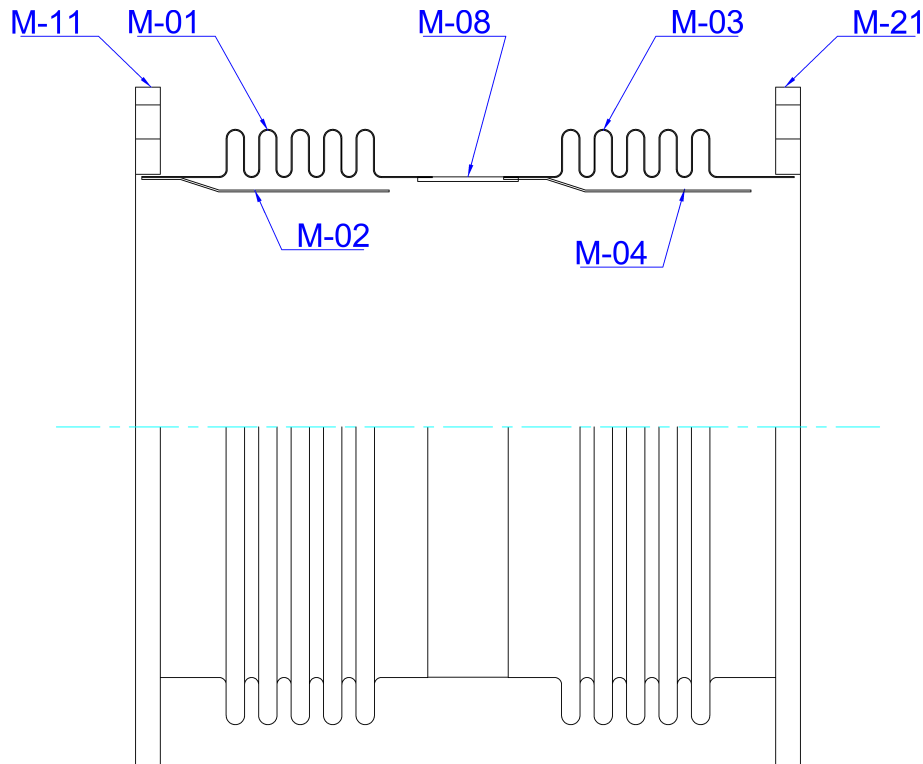
NDT Results

Check ID	Description	Technician	Date Performed	Result
41821	Axial Dynamics 100% Through Dye Pen.	TF	25/05/2018	PASS



Materials Information

Materials Map



Drawing not to Scale

Materials Records

Identifier	Material Name	M-ID	Heat Number	Cert Doc ID
M-02	Sheet - 1220 x 2440 1.2mm 316/316L	105726	106030397	43194
M-04	Sheet - 1220 x 2440 1.2mm 316/316L	105726	106030397	43194
M-08	Flat Bar - 65x3 316/316L	102131	TU-YU244763	6249
M-11	Plate - 16mm Carbon Steel	106018		
M-21	Plate - 16mm Carbon Steel	106018		

Bellows Records

Identifier	Material Name	M-ID	Heat Number	Cert Doc ID
M-01	Sheet - 1250 x 3000 0.7mm 321	103349	C4TC	21233
M-03	Sheet - 1250 x 3000 0.7mm 321	103349	C4TC	21233

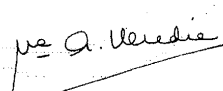
Where applicable, Material Certificates can be found on the following pages...



MDR



Material Certificate 21233 (Page 1 of 2)

ACERINOX EUROPA FABRICA DEL ONIPO DE GIBRALTAR PALMONES (LOS BARRIOS) TFNO. (34) - 956 62 93 00 FAX (34) - 956 62 93 11 P.O. BOX 83 11370 LOS BARRIOS (CADIZ)		 Certified by quality, environmental and safety & health management system	INSPECTION CERTIFICATE CERTIFICADO DE INSPECCION 3.1													
ACCORDING TO EN 10204		CERTIFICATE N° F0 2013 831354 70002 *														
CUSTOMER CLIENTE		OUR ORDER N° N° PEDIDO AE 94426	YOUR ORDER N° S° PEDIDO ORD.10/2013 - 3													
TRADE MARK SELLO DEL FABRICANTE 		INSPECTOR'S STAMP SELLO DEL INSPECTOR	STEELMAKING PROCESS PROCESO DE ACERÍA A.O.D.													
REQUIREMENTS NORMAS APLICABLES EN 10095:1999 ASTM A240/A480Ed11-ASME Sec.IA SA240/SA480Ed10Addenda2011		INTERGRANULAR CORROSION CORROSIÓN INTERGRANULAR ASTM-A-262 PRACTICA E	GRADE MATERIAL Acx 315 1.4878 Acx 315 TP-321													
COIL / BOX BORINA / CAJA	CONTENT CONTENIDO	DIMENSIONS DIMENSIONES THICKNESS ESPESOR WIDTH ANCHO LENGTH LARGO	MARKS MARCA 25 26	QUANTITY CANTIDAD 1 1	TEST N° PRUEBA 04C4TC 04C4TC	FINISH ACABADO 2B 2B										
CHEMICAL ANALYSIS / COMPOSICIÓN QUÍMICA (%)																
HEAT N° COLADA	C	CR	MN	N	NI	P	S	SI	TI	CO						
C4TC	0,018	17,275	1,100	0,017	9,040	0,025	0,001	0,577	0,341	0,134						
MECHANICAL PROPERTIES / CARACTERÍSTICAS MECÁNICAS																
TEST N° PRUEBA	PROBE SITIO	Rm N/mm2	Rp 0.2 N/mm2	Rp 1.0 N/mm2	A50 %	A80 %	HV2									
04C4TC	C T	554,78	262,04	288,30	54,27	58,27	148,00									
REMARKS / OBSERVACIONES The delivery is in accordance with the order Temperatura de hipertemple entre 1050 y 1100 ° C. NACE-MR0175/ISO 15156:2003; NACE MR0103:2010 (Chem & Mech only).								SURFACE AND DIMENSIONAL CONTROL INSPECCIÓN SUPERFICIAL Y DIMENSIONAL SATISFACTORY SATISFACTORIA WORK INSPECTOR INSPECTOR  A. Heredia Palmones, 29 MAYO 2013								

FDT0009



Material Certificate 21233 (Page 2 of 2)

ACERINOX EUROPA FABRICA DEL CAMPO DE GIBRALTAR PALMONES (LOS BARRIOS) TFRD. (34) - 956 62 93 00 FAX (34) - 956 62 93 11 P.O. BOX 83 11370 LOS BARRIOS, (CA012)		 Certified by quality, environment and safety & health management systems		Abnahmeprüfzeugnis INSPECTION CERTIFICATE ACCORDING TO EN 10204 3.1 Nach Prüf-Nr. F0 2013 831354 70001 C Inspection No.									
Besteller - Customer:		Auftrags Nr. - Our order n°: AE 94426		Bestellung Nr. - Your order n°: ORD.10/2013 - 3									
Prüfgegenstand - Article: BAND (COIL)		Werkstoff Nr und Lieferzustand - Material n° and Condition of Delivery: 1.4541 2B											
Werkstoff - Normbez Standard - Grade of Material: X6CrNiTi18-10		Werksbez - Works Grade: Acx - 315		Erschmelzungsart - Steelmaking Process: A=AOD Verfahren AOD Process A									
Anforderungen - Technical requirements: EN 10028-7/TRB 100/AD-2000-MERKBLATT W2/W10 DGR 97/23/EG (PED)				Kennzeichnung - Marking: Schmelznummer - N° of coil									
Zeichen des Lieferwerks - Brand of the manufacturer:				Stempel des Sachverständigen - Inspector's stamp: 4511									
Pos Nr. Item N°	Stückzahl Quantity	Abmessung - Dimensions mm		Schmelze Nr Heat N°	Probe Nr Test N°								
25	1	0,700 x 1.250,00		C4TC	04C4TC C								
26	1	0,700 x 1.250,00		C4TC	04C4TC C								
Chemische Analyse - Chemical Composition (%)													
Schmelze Nr Heat N°	C	CR	MN	NI	P	S	SI	TI	CO				
Anforderungen Requirements	0,080	17,000 19,000	2,000	9,000 12,000	0,045	0,015	1,000						
C4TC	0,018	17,275	1,100	9,040	0,025	0,001	0,577	0,341	0,134				
Mechanische Eigenschaften - Mechanical Properties Pr. Temp/T. Temp. 20° C													
Probe Nr Test N°	Prob.-Lage Pos of Test	Abmessungen des Probestabs Dim. of specimen		Rm N/mm2	Rp 0.2 N/mm2	Rp 1.0 N/mm2	A80 %						
Anforderungen Requirements		Breite x Dicke Width x Thickness mm		520,00 720,00	220,00	250,00	40,00						
04C4TC	C T	20,000	0,70	554,78	262,04	288,30	58,27						
Besichtigung und Masskontrolle wurden durchgeführt: O.B. Surface and dimensions controlled: O.K. Der Werkstoff ist beständig gegen interkristalline Korrosion gemäss EN ISO 3651-2 The material is resistant to intergranular corrosion test according to EN ISO 3651-2 Spektroskopische Identitätsprüfung: O.B. Spectrometrical identity test: O.K. Wärmebehandlung: Glühen bei 1050 - 1100 °C Heat treatment: Und Abschrecken mit Luft cooling with air. Die Lieferung entspricht der Bestellung The delivery is in accordance with the order													
										WERKSACHVERSTÄNDIGER WORK INSPECTOR A. Heredia			
										Palmones, 29 MAYO 2013			



MDR



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裕笙工業股份有限公司
YUE SENG INDUSTRIAL CO., LTD.
ISO 9001 · ISO14001 · OHSAS18001

INSPECTION CERTIFICATE
EN 10204-3.1 2005

NO. 12, LIU KING NORTH 1ST ROAD,
LU-KANG TOWN CHANG HUA HSIEN,
TAIWAN
HTTP://WWW.YUESENG.COM.TW
TEL: 886-4-7812883 FAX: 886-4-7812688

CUSTOMER: SANWA PTY LTD
INVOICE NO.: YS-03272017-2
PO NO.: SICO-1702039

CERTIFICATE NO.: YS-106-0133-2
STEEL GRADE: SUS 316L
SPECIFICATION: ASTM A240/480
DATE: 27 MAR, 2017

DESCRIPTION: COLD ROLLED STAINLESS STEEL SHEETS AND COILS AS PER SANWA ORDER 27289

P/L NO.	PRODUCTION DESCRIPTION				CHEMICAL COMPOSITION (%)											TENSION TEST				HARDNESS TEST		REFERENCE NO.							
	SIZE	QTY (PCS)	N.W. (KGS)	FINISH	C	SI	Mn	P	S	NI	Cr	N	Cu	Mo	Y.S. (0.2%) N/mm ²	T.S. N/mm ²	El %	HRB	HV	C/NO.									
SPECIFICATION					Min	Max									Mpa	Mpa													
11	106030397	1.20MM X 1219MM X COIL	1	3130	316L-2B/PAPER	0.013	0.330	1.430	0.030	0.001	10.040	16.790	0.030	0.240	2.030	342	643	44	-	165	VSSAU10602B-118								
12	106030398	2.50MM X 1500MM X COIL	1	3230	316L-2B/PAPER	0.024	0.590	1.290	0.033	0.002	10.120	16.700	0.015	0.210	2.030	282	595	53	80.0	154	VSSAU10602B-123								
13	106030400	3.00MM X 1500MM X COIL	1	4800	316L-2B/PAPER	0.027	0.690	0.600	0.034	0.001	10.070	16.890	0.013	0.400	2.030	329	611	52	84.0	167	VSSAU10602B-133								
23	106030403	2.00MM X 1219MM X 2438MM	11	498	316L-2B/FL-PE	0.020	0.300	1.380	0.024	0.002	10.040	16.790	0.031	0.260	2.050	329	646	48	84.0	-	VSSAU10602B-238								
24	106030403	2.00MM X 1219MM X 2438MM	12	543	316L-2B/FL-PE	0.020	0.300	1.380	0.024	0.002	10.040	16.790	0.031	0.260	2.050	329	646	48	84.0	-	VSSAU10602B-248								
25	106030605	2.00MM X 1500MM X 3000MM	15	1037	316L-2B/FL-PE	0.012	0.650	0.990	0.035	0.001	10.090	16.560	0.013	0.290	2.010	324	613	52	81.0	157	VSSAU10602B-255								
53	106030601	1.50MM X 1500MM X 3000MM	20	1030	316L-2B/PAPER	0.012	0.560	0.950	0.037	0.001	10.120	16.590	0.034	0.260	2.050	314	608	54	77.0	145	VSSAU10602B-538								
54	106030601	1.50MM X 1500MM X 3000MM	20	1031	316L-2B/PAPER	0.012	0.560	0.950	0.037	0.001	10.120	16.590	0.034	0.260	2.050	314	608	54	77.0	145	VSSAU10602B-548								
55	106030601	1.50MM X 1500MM X 3000MM	20	1032	316L-2B/PAPER	0.012	0.560	0.950	0.037	0.001	10.120	16.590	0.034	0.260	2.050	314	608	54	77.0	145	VSSAU10602B-558								
56	106030403	2.00MM X 1219MM X 2438MM	17	770	316L-2B/PAPER	0.020	0.300	1.380	0.024	0.002	10.040	16.790	0.031	0.260	2.050	329	646	48	84.0	-	VSSAU10602B-568								
Remark: 1. We hereby certify that the products described herein have been manufactured and tested with satisfactory results in accordance with the requirement of the above material specification. 2. The material described above has been detected with free irradiation. 3. Visual inspection (surface) and dimension check: OK																						Q.C. MANAGER				C. S. Sheng			



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