

MILL TEST CERTIFICATE

PANTECH STAINLESS & ALLOY INDUSTRIES SDN. BHD. (733428W)

(A MEMBER OF PANTECH GROUP HOLDINGS BERHAD, LISTED ON MAIN MARKET OF BURSA MALAYSIA)

PTD 204334, JALAN PLATINUM UTAMA,

KAWASAN PERINDUSTRIAN PASIR GUDANG, ZON 12B, 81700 PASIR GUDANG

JOHOR DARUL TAKZIM, MALAYSIA

Tel: +607-2518888 Fax: +607-2519999 E-mail: info@pantechssalloy.com

http://www.pantech-group.com



SIRIM
Cert. No.: PC005078



Certified to
NSF/ANSI 61



Cert. No.: ISO9001-
0047463

MATERIAL MANUFACTURER APPROVAL ACCORDING TO
PED 2014/68/EU, ANNEX 1, PARA 4.3.
PED CERTIFICATE NO.: 1
0038/PED/MUM/1110006/1

INSPECTION DOCUMENT: EN 10204: 2004 Type 3.1

Customer: Unimech Engineering (M) Sdn Bhd
Product: Welded Austenitic Stainless Steel Fitting

Certificate No: PSA2-FT-4199
Date: 22 Jan 2021

PO No.	Invoice No.	Product Specification	Dimension & Inspection Specification			Delivery Condition
APO-2101-0043	L000011121	ASTM A403/A403M - 20 / ASME SA 403/SA403M - 19	ASME B16.9 - 18 / ASTM A960/A960M - 20 / ASME SA 960/SA960M - 19			Solution Treated, Pickled-Passivated
Heat No.	Product & Size		Quantity (pcs)	Material Grade	Visual / Dimension / PMI Examination	Remarks
JG146-1	3" X 2"	SCH 10s CON-REDUCER	20	WP304/304L-W	PASSED	-
JSA420-01-112CR	3" X 2"	SCH 10s CON-REDUCER	178	WP304/304L-W	PASSED	-
IYA101-01-112CR	3" X 2 1/2"	SCH 10s CON-REDUCER	42	WP304/304L-W	PASSED	-
JG100-1	3" X 2 1/2"	SCH 10s CON-REDUCER	23	WP304/304L-W	PASSED	-
JG100-1	4" X 2"	SCH 10s CON-REDUCER	60	WP304/304L-W	PASSED	-

Specification	Chemical Composition (%)								Tensile Test *1			Hardness (HRB)	Inter-granular corrosion test	
	C	Si	Mn	P	S	Cr	Ni	Pb	YS (KSI / MPa)	TS (KSI / MPa)	E (%)			
	Max	0.030	1.00	2.00	0.045	0.030	20.00	11.00	-	-	-	90		
Heat No.	-	-	-	-	-	18.00	8.00	-	-	205	515	28	-	
JG146-1	0.021	0.41	1.14	0.027	0.002	18.25	8.03	< 0.01	-	352	655	52	83	PASSED
JSA420-01-112CR	0.013	0.39	1.17	0.030	0.002	18.04	8.02	< 0.01	-	349	651	54	82	PASSED
IYA101-01-112CR	0.023	0.50	1.56	0.030	0.001	18.00	8.00	< 0.01	-	367	677	50	82	PASSED
JG100-1	0.027	0.42	1.20	0.028	0.001	18.24	8.03	< 0.01	-	355	654	51	82	PASSED
JG100-1	0.027	0.42	1.20	0.028	0.001	18.24	8.03	< 0.01	-	361	660	55	84	PASSED

WE HEREBY CERTIFY THAT THE PRODUCT DESCRIBED HEREIN HAS BEEN MANUFACTURED, SAMPLED, TESTED & INSPECTED IN ACCORDANCE WITH THE REQUIREMENTS OF THE ABOVE SPECIFICATION & PURCHASE ORDER;

AND WAS FOUND SATISFIED TO THE REQUIREMENTS. MATERIAL IS FREE FROM MERCURY & RADIOACTIVE CONTAMINATION.

TENSILE REQUIREMENT: CONFORMS TO ASTM A370-12a STANDARD, SPECIMEN GAUGE WIDTH 19.2MM FOR 3" ABOVE & 3" BELOW DONE SIMULATION TEST FROM PIPE. LONGITUDINAL DIRECTION, GAUGE LENGTH 2" (50mm)

NOTE: MADE IN MALAYSIA STEEL MAKING PROCESS: AOD / VOD

PIPE RAW MATERIAL - WELDED BY ELECTRIC FUSION WELDING PROCESS WITH NO FILLER METAL

INTERGRANULAR CORROSION TEST ACCORDING TO ASTM A262-10 PRACTICE E

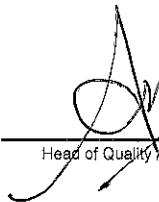
HARDNESS ACCORDING TO NACE-MR0175-2015 / ISO 15156-2015 & NACE-MR0103-2015

HEAT TREATMENT: SOLUTION TREATED AT MINIMUM 1050°C, RAPIDLY COOLED WITH WATER

CHEMICAL COMPOSITION CAPTURED FROM RAW MATERIAL'S HEAT ANALYSIS

*1: YS: YIELD STRENGTH TS: TENSILE STRENGTH E: ELONGATION

MATERIAL CONFORMS TO THE SPECIFICATION / STANDARD SHOWN


 QAQC MANAGER
 HASSANUDDIN
 Head of Quality Assurance Department



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Certified to NSF/ANSI 61

Cert. No.: ISO9001-0047465

MATERIAL MANUFACTURER APPROVAL ACCORDING TO PED 2014/68/EU, ANNEX 1, PARA 4.3. PED CERTIFICATE NO.: 0038/PED/MUM/1110006/1



Suruhanjaya Perkhidmatan Air Negara
NO. SIJIL PENDAFTARAN: SPAN/BPI/300-10/553/A/W-4



SIRIM
Cert. No.: PC005078

INSPECTION DOCUMENT: EN 10204: 2004 Type 3.1

Customer: Unimech Engineering (M) Sdn Bhd
Product: Seamless Austenitic Stainless Steel Fitting

Certificate No: PSA2-FT-4197
Date: 22 Jan 2021

PO No.	Invoice No.	Product Specification	Dimension & Inspection Specification			Delivery Condition
APO-2101-0043	L00001121	ASTM A403/A403M - 20 / ASME SA 403/SA403M - 19	ASME B16.9 - 18 / ASTM A960/A960M - 20 / ASME SA 960/SA960M - 19			Solution Treated, Pickled-Passivated
Heat No.	Product & Size		Quantity (pcs)	Material Grade	Visual / Dimension / PMI Examination	Remarks
HSA321-01-112P	3"	SCH 10s CAP	6	WP304/304L-S	PASSED	-
ITA081-08-102P	3"	SCH 10s CAP	1	WP304/304L-S	PASSED	-
IYA074-01-112P	3"	SCH 10s CAP	14	WP304/304L-S	PASSED	-
IYA097-01-112P	3"	SCH 10s CAP	9	WP304/304L-S	PASSED	-
JS131-1	3"	SCH 10s CAP	14	WP304/304L-S	PASSED	-
JSA420-02-112P	3"	SCH 10s CAP	6	WP304/304L-S	PASSED	-

Specification	Chemical Composition (%)								Tensile Test *1			Hardness (HRB)	Inter-granular corrosion test
	C	Si	Mn	P	S	Cr	Ni	Pb	YS (KSI / MPa)	TS (KSI / MPa)	E (%)		
	Max	Min											
Heat No.	0.030	1.00	2.00	0.045	0.030	20.00	11.00	-	-	-	-	90	
	-	-	-	-	-	18.00	8.00	-	205	515	28	-	
HSA321-01-112P	0.022	0.38	1.67	0.033	0.008	18.18	8.09	< 0.01	269	628	56	84	PASSED
ITA081-08-102P	0.017	0.36	1.32	0.035	0.002	18.17	8.07	< 0.01	220	540	61	70	PASSED
IYA074-01-112P	0.017	0.46	1.59	0.030	0.001	18.20	8.10	< 0.01	273	670	52	82	PASSED
IYA097-01-112P	0.018	0.38	1.58	0.031	0.006	18.10	8.00	< 0.01	244	645	54	82	PASSED
JS131-1	0.018	0.45	1.04	0.030	0.001	18.11	8.01	< 0.01	257	681	49	83	PASSED
JSA420-02-112P	0.013	0.39	1.17	0.030	0.002	18.04	8.02	< 0.01	290	677	49	83	PASSED

WE HEREBY CERTIFY THAT THE PRODUCT DESCRIBED HEREIN HAS BEEN MANUFACTURED, SAMPLED, TESTED & INSPECTED IN ACCORDANCE WITH THE REQUIREMENTS OF THE ABOVE SPECIFICATION & PURCHASE ORDER;

AND WAS FOUND SATISFIED TO THE REQUIREMENTS. MATERIAL IS FREE FROM MERCURY & RADIOACTIVE CONTAMINATION.

TENSILE REQUIREMENT: CONFORMS TO ASTM A370-12a STANDARD, SPECIMEN GAUGE WIDTH 19.2MM FOR 3" ABOVE & 3" BELOW DONE SIMULATION TEST FROM PIPE. LONGITUDINAL DIRECTION, GAUGE LENGTH 2" (50mm)

NOTE: MADE IN MALAYSIA STEEL MAKING PROCESS : AOD / VOD

INTERGRANULAR CORROSION TEST ACCORDING TO ASTM A262-10 PRACTICE E

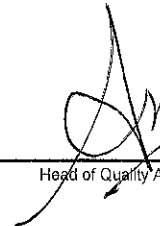

HARDNESS ACCORDING TO NACE-MR0175-2015 / ISO 15156 -2015 & NACE-MR0103-2015

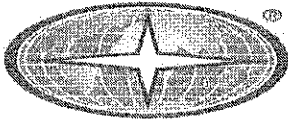
HEAT TREATMENT: SOLUTION TREATED AT MINIMUM 1050°C, RAPIDLY COOLED WITH WATER

CHEMICAL COMPOSITION CAPTURED FROM RAW MATERIAL'S HEAT ANALYSIS

*1: YS: YIELD STRENGTH TS: TENSILE STRENGTH E: ELONGATION

MATERIAL CONFORMS TO THE SPECIFICATION / STANDARD SHOWN


 Head of Quality Assurance Department

 QA/QC MANAGER
 HASSANUDDIN



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MATERIAL MANUFACTURER APPROVAL ACCORDING TO PED 2014/68/EU, ANNEX 1, PARA 4.3. PED CERTIFICATE NO.: 0038/PED/MUM/1110006/1



INSPECTION DOCUMENT: EN 10204: 2004 Type 3.1

Customer: Unimech Engineering (M) Sdn Bhd
Product: Welded Austenitic Stainless Steel Fitting

Certificate No: PSA2-FT-4196

Date: 22 Jan 2021

PO No.	Invoice No.	Product Specification	Dimension & Inspection Specification			Delivery Condition
APO-2010-0067	L000011120	ASTM A403/A403M - 20 / ASME SA 403/SA403M - 19	ASME B16.9 - 18 / ASTM A960/A960M - 20 / ASME SA 960/SA960M - 19			Solution Treated, Pickled-Passivated
Heat No.	Product & Size		Quantity (pcs)	Material Grade	Visual / Dimension / PMI Examination	Remarks
IGA033-01-112LR	1 1/4"	SCH 10s 90° LR ELBOW	628	WP304/304L-W	PASSED	-

Specification	Chemical Composition (%)									Tensile Test *1			Hardness (HRB)	Inter-granular corrosion test
	C	Si	Mn	P	S	Cr	Ni	Pb	YS (KSI / MPa)	TS (KSI / MPa)	E (%)			
	Max	0.030	1.00	2.00	0.045	0.030	20.00	11.00	-	-	-	90		
Min	0.018	0.50	1.12	0.028	0.002	18.34	8.03	< 0.01	482	670	51	82	PASSED	
Heat No.	-	-	-	-	-	18.00	8.00	-	205	515	28	-	-	
IGA033-01-112LR	0.018	0.50	1.12	0.028	0.002	18.34	8.03	< 0.01	482	670	51	82	PASSED	

WE HEREBY CERTIFY THAT THE PRODUCT DESCRIBED HEREIN HAS BEEN MANUFACTURED, SAMPLED, TESTED & INSPECTED IN ACCORDANCE WITH THE REQUIREMENTS OF THE ABOVE SPECIFICATION & PURCHASE ORDER, AND WAS FOUND SATISFIED TO THE REQUIREMENTS. MATERIAL IS FREE FROM MERCURY & RADIOACTIVE CONTAMINATION. TENSILE REQUIREMENT: CONFORMS TO ASTM A370-12a STANDARD, SPECIMEN GAUGE WIDTH 19.2MM FOR 3" ABOVE & 3" BELOW DONE SIMULATION TEST FROM PIPE. LONGITUDINAL DIRECTION, GAUGE LENGTH 2" (50mm)

NOTE: MADE IN MALAYSIA STEEL MAKING PROCESS : AOD / VOD
 PIPE RAW MATERIAL - WELDED BY ELECTRIC FUSION WELDING PROCESS WITH NO FILLER METAL
 INTERGRANULAR CORROSION TEST ACCORDING TO ASTM A262-10 PRACTICE E
 HARDNESS ACCORDING TO NACE-MR0175-2015 / ISO 15156 -2015 & NACE-MR0103-2015
 HEAT TREATMENT: SOLUTION TREATED AT MINIMUM 1050°C, RAPIDLY COOLED WITH WATER
 CHEMICAL COMPOSITION CAPTURED FROM RAW MATERIAL'S HEAT ANALYSIS
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 MATERIAL CONFORMS TO THE SPECIFICATION / STANDARD SHOWN

[Signature]
 QAQC MANAGER
 HASSANUDDIN
 Head of Quality Assurance Department



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INSPECTION DOCUMENT: EN 10204: 2004 Type 3.1

Customer: Unimech Engineering (M) Sdn Bhd
Product: Welded Austenitic Stainless Steel Fitting

Certificate No: PSA2-FT-4192
Date: 14 Jan 2021

PO No.	Invoice No.	Product Specification	Dimension & Inspection Specification	Delivery Condition		
APO-2010-0067	L000011052	ASTM A403/A403M - 20 / ASME SA 403/SA403M - 19	ASME B16.9 - 18 / ASTM A960/A960M - 20 / ASME SA 960/SA960M - 19	Solution Treated, Pickled-Passivated		
Heat No.	Product & Size		Quantity (pcs)	Material Grade	Visual / Dimension / PMI Examination	Remarks
JG093-1	4" X 3"	SCH 10s CON-REDUCER	16	WP304/304L-W	PASSED	-

Specification	Chemical Composition (%)								Tensile Test ^{*1}			Hardness (HRB)	Inter-granular corrosion test
	C	Si	Mn	P	S	Cr	Ni	Pb	YS (KSI / MPa)	TS (KSI / MPa)	E (%)		
Max	0.030	1.00	2.00	0.045	0.030	20.00	11.00	-	-	-	-	90	PASSED
Min	-	-	-	-	-	18.00	8.00	-	205	515	28	-	
Heat No.	-	-	-	-	-	18.00	8.00	-	205	515	28	-	
JG093-1	0.024	0.40	1.17	0.028	0.002	18.10	8.02	< 0.01	353	662	53	83	PASSED

WE HEREBY CERTIFY THAT THE PRODUCT DESCRIBED HEREIN HAS BEEN MANUFACTURED, SAMPLED, TESTED & INSPECTED IN ACCORDANCE WITH THE REQUIREMENTS OF THE ABOVE SPECIFICATION & PURCHASE ORDER,

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TENSILE REQUIREMENT: CONFORMS TO ASTM A370-12a STANDARD, SPECIMEN GAUGE WIDTH 19.2MM FOR 3" ABOVE & 3" BELOW DONE SIMULATION TEST FROM PIPE. LONGITUDINAL DIRECTION, GAUGE LENGTH 2" (50mm)

NOTE: MADE IN MALAYSIA STEEL MAKING PROCESS: AOD / VOD
PIPE RAW MATERIAL - WELDED BY ELECTRIC FUSION WELDING PROCESS WITH NO FILLER METAL
INTERGRANULAR CORROSION TEST ACCORDING TO ASTM A262-10 PRACTICE E
HARDNESS ACCORDING TO NACE-MR0175-2015 / ISO 15156-2015 & NACE-MR0103-2015
HEAT TREATMENT: SOLUTION TREATED AT MINIMUM 1050°C, RAPIDLY COOLED WITH WATER
CHEMICAL COMPOSITION CAPTURED FROM RAW MATERIAL'S HEAT ANALYSIS

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MATERIAL CONFORMS TO THE SPECIFICATION / STANDARD SHOWN

[Signature]
Head of Quality Assurance Department



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MATERIAL MANUFACTURER APPROVAL ACCORDING TO PED 2014/68/EU, ANNEX 1, PARA 4.3. PED CERTIFICATE NO.: 0038/PED/MUM/1110006/1

INSPECTION DOCUMENT: EN 10204: 2004 Type 3.1

Customer: Unimech Engineering (M) Sdn Bhd
Product: Welded Austenitic Stainless Steel Fitting

Certificate No: PSA2-FT-4191
Date: 14 Jan 2021

PO No.	Invoice No.	Product Specification	Dimension & Inspection Specification	Delivery Condition		
APO-2010-0067	L000011052	ASTM A403/A403M - 20 / ASME SA 403/SA403M - 19	ASME B16.9 - 18 / ASTM A960/A960M - 20 / ASME SA 960/SA960M - 19	Solution Treated, Pickled-Passivated		
Heat No.	Product & Size		Quantity (pcs)	Material Grade	Visual / Dimension / PMI Examination	Remarks
IDA268-01-112LR	1"	SCH 10s 90° LR ELBOW	1000	WP304/304L-W	PASSED	-
IGA024-01-112LR	1 1/4"	SCH 10s 90° LR ELBOW	548	WP304/304L-W	PASSED	-
IGA024-01-182LR	1 1/4"	SCH 10s 90° LR ELBOW	10	WP304/304L-W	PASSED	-
IYA131-01-112LR	1 1/4"	SCH 10s 90° LR ELBOW	14	WP304/304L-W	PASSED	-
JGA077-01-112LR	1 1/2"	SCH 10s 90° LR ELBOW	865	WP304/304L-W	PASSED	-
JGA113-01-112LR	1 1/2"	SCH 10s 90° LR ELBOW	15	WP304/304L-W	PASSED	-
JGA116-01-112LR	1 1/2"	SCH 10s 90° LR ELBOW	37	WP304/304L-W	PASSED	-
JG106-1	4" X 2"	SCH 10s CON-REDUCER	50	WP304/304L-W	PASSED	-
JG082-1	4" X 3"	SCH 10s CON-REDUCER	34	WP304/304L-W	PASSED	-
JG085-1	4" X 3"	SCH 10s CON-REDUCER	150	WP304/304L-W	PASSED	-

Specification	Chemical Composition (%)								Tensile Test **			Hardness (HRB)	Inter-granular corrosion test
	C	Si	Mn	P	S	Cr	Ni	Pb	YS (KSI / MPa)	TS (KSI / MPa)	E (%)		
	Max	Min											
Heat No.	0.030	1.00	2.00	0.045	0.030	20.00	11.00	-	-	-	-	90	
IDA268-01-112LR	0.024	0.37	1.36	0.030	0.010	18.21	8.02	< 0.01	389	657	55	82	PASSED
IGA024-01-112LR	0.024	0.40	1.41	0.026	0.002	18.32	8.04	< 0.01	401	668	47	82	PASSED
IGA024-01-182LR	0.024	0.40	1.41	0.026	0.002	18.32	8.04	< 0.01	401	668	47	82	PASSED
IYA131-01-112LR	0.021	0.48	1.60	0.031	0.002	18.20	8.10	< 0.01	382	697	63	81	PASSED
JGA077-01-112LR	0.020	0.46	1.16	0.028	0.001	18.20	8.02	< 0.01	416	677	47	85	PASSED
JGA113-01-112LR	0.024	0.40	1.14	0.026	0.002	18.14	8.03	< 0.01	373	686	52	82	PASSED
JGA116-01-112LR	0.024	0.40	1.14	0.026	0.002	18.14	8.03	< 0.01	363	677	48	82	PASSED
JG106-1	0.024	0.50	1.15	0.028	0.001	18.10	8.04	< 0.01	337	647	60	82	PASSED
JG082-1	0.022	0.41	1.13	0.028	0.002	18.18	8.01	< 0.01	383	642	51	86	PASSED
JG085-1	0.023	0.40	1.15	0.025	0.002	18.12	8.03	< 0.01	376	674	48	84	PASSED

WE HEREBY CERTIFY THAT THE PRODUCT DESCRIBED HEREIN HAS BEEN MANUFACTURED, SAMPLED, TESTED & INSPECTED IN ACCORDANCE WITH THE REQUIREMENTS OF THE ABOVE SPECIFICATION & PURCHASE ORDER.

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NOTE MADE IN MALAYSIA STEEL MAKING PROCESS AOD / VOID

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INTERGRANULAR CORROSION TEST ACCORDING TO ASTM A262-10 PRACTICE E

HARDNESS ACCORDING TO NACE-MR0175-2015 / ISO 15156-2015 & NACE-MR0103-2015

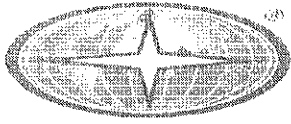
HEAT TREATMENT: SOLUTION TREATED AT MINIMUM 1050°C, RAPIDLY COOLED WITH WATER

CHEMICAL COMPOSITION CAPTURED FROM RAW MATERIAL'S HEAT ANALYSIS

*1: YS: YIELD STRENGTH TS: TENSILE STRENGTH E: ELONGATION

MATERIAL CONFORMS TO THE SPECIFICATION / STANDARD SHOWN

Handwritten signature and circular stamp: QAQC MANAGER HASSANUDDIN



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MATERIAL MANUFACTURER APPROVAL ACCORDING TO PED 2014/68/EU, ANNEX 1, PARA 4.3. PED CERTIFICATE NO.: 0038/PED/MUM/1130006/1

INSPECTION DOCUMENT: EN 10204: 2004 Type 3.1

Customer: Unimech Engineering (M) Sdn Bhd
Product: Seamless Austenitic Stainless Steel Fitting

Certificate No: PSA2-FT-4190
Date: 14 Jan 2021

PO No.	Invoice No.	Product Specification	Dimension & Inspection Specification	Delivery Condition		
APO-2010-0067	L000011052	ASTM A403/A403M - 20 / ASME SA 403/SA403M - 19	ASME B16.9 - 18 / ASTM A960/A960M - 20 / ASME SA 960/SA960M - 19	Solution Treated, Pickled-Passivated		
Heat No.	Product & Size		Quantity (pcs)	Material Grade	Visual / Dimension / PMI Examination	Remarks
JOA001-01-102LR	1/2"	SCH 10s 90° LR ELBOW	349	WP304/304L-S	PASSED	-

Specification	Chemical Composition (%)								Tensile Test ¹⁾			Hardness (HRB)	Inter-granular corrosion test
	C	Si	Mn	P	S	Cr	Ni	Pb	YS (KSI / MPa)	TS (KSI / MPa)	E (%)		
	Max	Min	Heat No.										
Max	0.030	1.00	2.00	0.045	0.030	20.00	11.00	-	-	-	-	90	PASSED
Min	-	-	-	-	-	18.00	8.00	-	205	515	28	-	
Heat No.	-	-	-	-	-	18.00	8.00	-	205	515	28	-	
JOA001-01-102LR	0.025	0.32	1.09	0.032	0.002	18.17	8.07	< 0.01	251	600	55	77	PASSED

WE HEREBY CERTIFY THAT THE PRODUCT DESCRIBED HEREIN HAS BEEN MANUFACTURED, SAMPLED, TESTED & INSPECTED IN ACCORDANCE WITH THE REQUIREMENTS OF THE ABOVE SPECIFICATION & PURCHASE ORDER;

AND WAS FOUND SATISFIED TO THE REQUIREMENTS. MATERIAL IS FREE FROM MERCURY & RADIOACTIVE CONTAMINATION.

TENSILE REQUIREMENT: CONFORMS TO ASTM A370-12a STANDARD, SPECIMEN GAUGE WIDTH 19.2MM FOR 3" ABOVE & 3" BELOW DONE SIMULATION TEST FROM PIPE. LONGITUDINAL DIRECTION, GAUGE LENGTH 2" (50mm)

NOTE: MADE IN MALAYSIA STEEL MAKING PROCESS : AOD / VOD

INTERGRANULAR CORROSION TEST ACCORDING TO ASTM A262-10 PRACTICE E
HARDNESS ACCORDING TO NACE-MR0175-2015 / ISO 15156 -2015 & NACE-MR0103-2015
HEAT TREATMENT: SOLUTION TREATED AT MINIMUM 1050°C, RAPIDLY COOLED WITH WATER
CHEMICAL COMPOSITION CAPTURED FROM RAW MATERIAL'S HEAT ANALYSIS
*1 YS: YIELD STRENGTH TS: TENSILE STRENGTH E: ELONGATION
MATERIAL CONFORMS TO THE SPECIFICATION / STANDARD SHOWN

Hand of Quality Assurance



MILL TEST CERTIFICATE

PANTECH STAINLESS & ALLOY INDUSTRIES SDN. BHD. (733428W)

(A MEMBER OF PANTECH GROUP HOLDINGS BERHAD, LISTED ON MAIN MARKET OF BURSA MALAYSIA)

PTD 204334, JALAN PLATINUM UTAMA,

KAWASAN PERINDUSTRIAN PASIR GUDANG, ZON 12B, 81700 PASIR GUDANG

JOHOR DARUL TAKZIM, MALAYSIA

Tel: +607-2518888 Fax: +607-2519999 E-mail: info@pantechssalloy.com

http://www.pantech-group.com

INSPECTION DOCUMENT: EN 10204: 2004 Type 3.1



MATERIAL MANUFACTURER APPROVAL ACCORDING TO PED 2014/68/EU, ANNEX 1, PARA 4.3. PED CERTIFICATE NO. 1 0038/PED/MUM/1110006/1



Customer: Unimech Engineering (M) Sdn Bhd
Product: Welded Austenitic Stainless Steel Fitting

Certificate No: PSA2-FT-4193
Date: 18 Jan 2021

PO No.	Invoice No.	Product Specification	Dimension & Inspection Specification			Delivery Condition
AP0-2011-0175	L000011080	ASTM A403/A403M - 20 / ASME SA 403/SA403M - 19	ASME B16.9 - 18 / ASTM A960/A960M - 20 / ASME SA 960/SA960M - 19			Solution Treated, Pickled-Passivated
Heat No.	Product & Size		Quantity (pcs)	Material Grade	Visual / Dimension / PMI Examination	Remarks
JG050-1	4" X 2 1/2"	SCH 10s CON-REDUCER	52	WP304/304L-W	PASSED	-

Specification	Chemical Composition (%)									Tensile Test ¹			Hardness (HRB)	Inter-granular corrosion test
	C	Si	Mn	P	S	Cr	Ni	Pb	YS (KSI / MPa)	TS (KSI / MPa)	E (%)			
	Max	Min	Heat No.											
	0.030	1.00	2.00	0.045	0.030	20.00	11.00	-		-	-	90		
	-	-	-	-	-	18.00	8.00	-		205	515	28	-	
JG050-1	0.018	0.10	1.10	0.025	0.003	18.22	8.03	< 0.01		350	653	44	83	PASSED

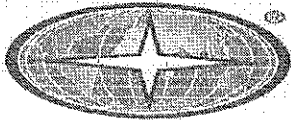
WE HEREBY CERTIFY THAT THE PRODUCT DESCRIBED HEREIN HAS BEEN MANUFACTURED, SAMPLED, TESTED & INSPECTED IN ACCORDANCE WITH THE REQUIREMENTS OF THE ABOVE SPECIFICATION & PURCHASE ORDER;

AND WAS FOUND SATISFIED TO THE REQUIREMENTS. MATERIAL IS FREE FROM MERCURY & RADIOACTIVE CONTAMINATION.

TENSILE REQUIREMENT: CONFORMS TO ASTM A370-12a STANDARD, SPECIMEN GAUGE WIDTH 19.2MM FOR 3" ABOVE & 3" BELOW DONE SIMULATION TEST FROM PIPE. LONGITUDINAL DIRECTION, GAUGE LENGTH 2" (50mm)

NOTE: MADE IN MALAYSIA STEEL MAKING PROCESS : AOD / VOD
PIPE RAW MATERIAL - WELDED BY ELECTRIC FUSION WELDING PROCESS WITH NO FILLER METAL
INTERGRANULAR CORROSION TEST ACCORDING TO ASTM A262-10 PRACTICE E
HARDNESS ACCORDING TO NACE-MR0175-2015 / ISO 15156 -2015 & NACE-MR0103-2015
HEAT TREATMENT: SOLUTION TREATED AT MINIMUM 1050°C, RAPIDLY COOLED WITH WATER
CHEMICAL COMPOSITION CAPTURED FROM RAW MATERIAL'S HEAT ANALYSIS
*1: YS: YIELD STRENGTH TS: TENSILE STRENGTH E: ELONGATION
MATERIAL CONFORMS TO THE SPECIFICATION / STANDARD SHOWN

[Signature]
Head of Quality Assurance Department
QACC MANAGER HASSANUDDIN



MILL TEST CERTIFICATE

PANTECH STAINLESS & ALLOY INDUSTRIES SDN. BHD. (733428W)

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MATERIAL MANUFACTURER APPROVAL ACCORDING TO PED 2014/68/EU, ANNEX 1, PARA 4.3. PED CERTIFICATE NO.: 0038/PED/MUM/1110006/1

INSPECTION DOCUMENT: EN 10204: 2004 Type 3.1

Customer: Unimech Engineering (M) Sdn Bhd
Product: Welded Austenitic Stainless Steel Fitting

Certificate No: PSA2-FT-4150
Date: 16 Dec 2020

PO No.	Invoice No.	Product Specification	Dimension & Inspection Specification			Delivery Condition
APO-2011-0175	L000010876	ASTM A403/A403M - 20 / ASME SA 403/SA403M - 19	ASME B16.9 - 18 / ASTM A960/A960M - 20 / ASME SA 960/SA960M - 19			Solution Treated, Pickled-Passivated
Heat No.	Product & Size		Quantity (pcs)	Material Grade	Visual / Dimension / PMI Examination	Remarks
IYA101-01-182CR	3" X 2 1/2"	SCH 10s CON-REDUCER	10	WP304/304L-W	PASSED	-
IYA119-01-112CR	3" X 2 1/2"	SCH 10s CON-REDUCER	35	WP304/304L-W	PASSED	-
FSA078-02-182CR	4" X 2 1/2"	SCH 10s CON-REDUCER	4	WP304/304L-W	PASSED	-
GSA136-02-112CR	4" X 2 1/2"	SCH 10s CON-REDUCER	9	WP304/304L-W	PASSED	-
IYA094-01-112CR	4" X 2 1/2"	SCH 10s CON-REDUCER	15	WP304/304L-W	PASSED	-
JG103-1	6" X 4"	SCH 10s CON-REDUCER	110	WP304/304L-W	PASSED	-

Specification	Chemical Composition (%)									Tensile Test ^{*1}			Hardness (HRB)	Inter-granular corrosion test
	C	Si	Mn	P	S	Cr	Ni	Pb	YS (KSI / MPa)	TS (KSI / MPa)	E (%)			
Max	0.030	1.00	2.00	0.045	0.030	20.00	11.00	-	-	-	-	90	PASSED	
Min	-	-	-	-	-	18.00	8.00	-	205	515	28	-		
Heat No.	-	-	-	-	-	-	-	-	-	-	-	-		
IYA101-01-182CR	0.023	0.50	1.56	0.030	0.001	18.00	8.00	< 0.01	367	677	50	82	PASSED	
IYA119-01-112CR	0.024	0.52	1.60	0.030	0.001	18.10	8.00	< 0.01	343	647	59	83	PASSED	
FSA078-02-182CR	0.020	0.41	1.54	0.038	0.001	18.07	8.28	< 0.01	344	598	63	83	PASSED	
GSA136-02-112CR	0.029	0.29	1.15	0.038	0.003	18.48	8.18	< 0.01	266	844	53	82	PASSED	
IYA094-01-112CR	0.019	0.52	1.57	0.029	0.002	18.10	8.00	< 0.01	336	645	55	82	PASSED	
JG103-1	0.023	0.48	1.17	0.028	0.002	18.09	8.02	< 0.01	357	669	51	81	PASSED	

WE HEREBY CERTIFY THAT THE PRODUCT DESCRIBED HEREIN HAS BEEN MANUFACTURED, SAMPLED, TESTED & INSPECTED IN ACCORDANCE WITH THE REQUIREMENTS OF THE ABOVE SPECIFICATION & PURCHASE ORDER;

AND WAS FOUND SATISFIED TO THE REQUIREMENTS. MATERIAL IS FREE FROM MERCURY & RADIOACTIVE CONTAMINATION
TENSILE REQUIREMENT: CONFORMS TO ASTM A370-12a STANDARD, SPECIMEN GAUGE WIDTH 19.2MM FOR 3" ABOVE & 3" BELOW DONE SIMULATION TEST FROM PIPE. LONGITUDINAL DIRECTION, GAUGE LENGTH 2" (50mm)

NOTE: MADE IN MALAYSIA STBEL MAKING PROCESS : AOD / VOD
PIPE RAW MATERIAL - WELDED BY ELECTRIC FUSION WELDING PROCESS WITH NO FILLER METAL
INTERGRANULAR CORROSION TEST ACCORDING TO ASTM A262-10 PRACTICE E
HARDNESS ACCORDING TO NACE-MR0175-2015 / ISO 15156 -2015 & NACE-MR0103-2015
HEAT TREATMENT: SOLUTION TREATED AT MINIMUM 1050°C, RAPIDLY COOLED WITH WATER
CHEMICAL COMPOSITION CAPTURED FROM RAW MATERIAL'S HEAT ANALYSIS
*1: YS: YIELD STRENGTH TS: TENSILE STRENGTH E: ELONGATION
MATERIAL CONFORMS TO THE SPECIFICATION / STANDARD SHOWN

Signature of Head of Quality Assurance Department
QAQC MANAGER HASSANUDDIN



MILL TEST CERTIFICATE

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Certified to NSF/ANSI 61

Cert. No.: ISO9001-0047465

MATERIAL MANUFACTURER APPROVAL ACCORDING TO PED 2014/58/EU, ANNEX 1, PARA 4.3. PED CERTIFICATE NO.: 0038/PED/MUM/1110006/1



SIRIM Cert. No.: PC005078

INSPECTION DOCUMENT: EN 10204: 2004 Type 3.1

Customer: Unimech Engineering (M) Sdn Bhd
Product: Welded Austenitic Stainless Steel Fitting

Certificate No: PSA2-FT-4163
Date: 29 Dec 2020

PO No.	Invoice No.	Product Specification	Dimension & Inspection Specification	Delivery Condition		
APO-2012-0081	L000010978	ASTM A403/A403M - 20 / ASME SA 403/SA403M - 19	ASME B16.9 - 18 / ASTM A960/A960M - 20 / ASME SA 960/SA960M - 19	Solution Treated, Pickled-Passivated		
Heat No.	Product & Size		Quantity (pcs)	Material Grade	Visual / Dimension / PMI Examination	Remarks
JSA427-03-112LR	14"	SCH 10s 90° LR ELBOW	2	WP304/304L-W	PASSED	-
IEA267-03-112Lr	14"	SCH 10s 45° Lr ELBOW	4	WP304/304L-W	PASSED	-

Specification	Chemical Composition (%)									Tensile Test ^{*1}			Hardness (HRB)	Inter-granular corrosion test
	C	Si	Mn	P	S	Cr	Ni	Pb	YS (KSI / MPa)	TS (KSI / MPa)	E (%)			
Max	0.030	1.00	2.00	0.045	0.030	20.00	11.00	-	-	-	-	90		
Min	-	-	-	-	-	18.00	8.00	-	205	515	28	-		
Heat No.	-	-	-	-	-	18.00	8.00	-	205	515	28	-		
JSA427-03-112LR	0.017	0.50	1.16	0.031	0.001	18.06	8.01	< 0.01	337	651	55	77	PASSED	
IEA267-03-112Lr	0.019	0.36	1.14	0.040	0.006	18.07	8.02	< 0.01	317	572	60	79	PASSED	

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NOTE: MADE IN MALAYSIA STEEL MAKING PROCESS : AOD / VOD

PIPE RAW MATERIAL - WELDED BY ELECTRIC FUSION WELDING PROCESS WITH NO FILLER METAL

INTERGRANULAR CORROSION TEST ACCORDING TO ASTM A262-10 PRACTICE E

HARDNESS ACCORDING TO NACE-MR0175-2015 / ISO 15156 -2015 & NACE-MR0103-2015

HEAT TREATMENT: SOLUTION TREATED AT MINIMUM 1050°C, RAPIDLY COOLED WITH WATER

CHEMICAL COMPOSITION CAPTURED FROM RAW MATERIAL'S HEAT ANALYSIS

*1: YS: YIELD STRENGTH TS: TENSILE STRENGTH E: ELONGATION

MATERIAL CONFORMS TO THE SPECIFICATION / STANDARD SHOWN

QAQC MANAGER HASSANUDDIN
Head of Quality Management Department