



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 204634, JALAN PLATINUM UTAMA,
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JOHOR DARUL TAKZIM, MALAYSIA
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http://www.pantech-group.com



Cert. No.: ISO9001-0047465
PED CERTIFICATE NO.:
6038/PED/MUM/1110006/1



SIRIM
Cert. No.: PP087201



Kurumannya Paribhāmetan Air Negara
NO. 5111, PENDAFARAN : SPAN/XP/A/00883-2011

INSPECTION DOCUMENT: EN 10204: 2004 Type 3.1

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

Certificate No : PSA2-24944
Date : 05/08/2020

PO No.	Invoice No.	Product Specification	Dimensional & Inspection Specification	Delivery Condition																																																																			
APO-2006-0132	L000010128	ASTM A312/A312M - 19/ ASME SA312/SA312M - 19	ASTM A999/A999M - 18/ ASME SA999/SA999M - 19 B 36.19M-04 & B36.10M-04	Solution Treated, Pickled-Passivated, Plain Ends Square Cut																																																																			
Heat No.	Size	Grade	Quantity (Length)	Non Destructive Test	Inter-Granular Corrosion Test	Hydrostatic Test	Dimensional / PMI/ Visual Inspection																																																																
JSA427-02112	4 inch Sch 10S x 6M	TP 304/304L	60	Eddy Current PASSED Flattening PASSED	PASSED	1600 PSI, 5s PASSED	GOOD																																																																
<p>Specification</p> <table border="1"> <thead> <tr> <th colspan="8">Chemical Composition (%)</th> </tr> <tr> <th>C</th> <th>Si</th> <th>Mn</th> <th>P</th> <th>S</th> <th>Cr</th> <th>Ni</th> <th>Pb</th> </tr> </thead> <tbody> <tr> <td>0.035</td> <td>1.00</td> <td>2.00</td> <td>0.045</td> <td>0.030</td> <td>20.00</td> <td>11.00</td> <td>-</td> </tr> <tr> <td>-</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> <td>18.00</td> <td>8.00</td> <td>-</td> </tr> <tr> <td>0.017</td> <td>0.50</td> <td>1.16</td> <td>0.031</td> <td>0.001</td> <td>18.06</td> <td>8.01</td> <td>< 0.10</td> </tr> </tbody> </table> <table border="1"> <thead> <tr> <th colspan="4">Tensile Test¹</th> <th colspan="2">Hardness, HRB</th> </tr> <tr> <th>YS</th> <th>TS</th> <th>E</th> <th>TS</th> <th>E</th> <th>(%)</th> </tr> </thead> <tbody> <tr> <td>205</td> <td>515</td> <td>35</td> <td>90</td> <td>-</td> <td>-</td> </tr> <tr> <td>338</td> <td>642</td> <td>55</td> <td>80</td> <td>-</td> <td>-</td> </tr> </tbody> </table>								Chemical Composition (%)								C	Si	Mn	P	S	Cr	Ni	Pb	0.035	1.00	2.00	0.045	0.030	20.00	11.00	-	-	-	-	-	-	18.00	8.00	-	0.017	0.50	1.16	0.031	0.001	18.06	8.01	< 0.10	Tensile Test ¹				Hardness, HRB		YS	TS	E	TS	E	(%)	205	515	35	90	-	-	338	642	55	80	-	-
Chemical Composition (%)																																																																							
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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 1" ABOVE, 1" INCLUDE AND BELOW DIRECT TEST FROM PIPE. LONGITUDINAL DIRECTION. GAUGE LENGTH 2" (50mm)

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

WELDED BY ELECTRIC FUSION WELDING WITH PROCESS WITH NO FILLER METAL.

INTERGRANULAR CORROSION TEST ACCORDING TO ASTM A362-10 PRACTICE B

HARDNESS ACCORDING TO NACE-MR0175-2015 / ISO 15156-2015 & NACE-MR0105-2015

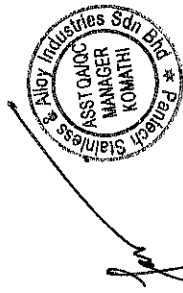
HEAT TREATMENT: SOLUTION TREATED AT MINIMUM 1050°C, RAPIDLY COOLED WITH WATER

CHEMICAL COMPOSITION CAPTURED FROM RAW MATERIAL'S HEAT ANALYSIS

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

*2: NI: Not Hydrostatically Tested

EDDY CURRENT ACCORDING TO ASTM E246-98 (Reapproved 2003)² REQUIREMENTS (REFERENCES TO ASTM A999/A999M-12 REQUIREMENTS, DISCONTINUITY ACC. TO CLAUSE: 22.3.8.4, PROCEDURE ACC. TO CLAUSE 22.3.9)



Head of Quality Assurance Department



MILL TEST CERTIFICATE

PANTECH STAINLESS & ALLOY INDUSTRIES SDN. BHD. (733428W)
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http://www.pantech-group.com

INSPECTION DOCUMENT: EN 10204: 2004 Type 3.1



Cert. No.: ISO9001-0047465

ISO 9001 CERTIFIED
PED CERTIFICATE NO.:
0038/PED/MUM/1110006/1



SIRIM
Cert. No.: PP087201



Suruhanjaya Perkhidmatan Air Negara
NO. SUJIL PENDAFTARAN: SPAN/KP/A/00883-2011

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

Certificate No : PSA2-24945
Date : 05/08/2020

PO No.	Invoice No.	Product Specification		Dimensional & Inspection Specification										Delivery Condition												
		ASTM A312/A312M - 19 / ASME SA312/ISA312M - 19	ASTM A999/A999M - 18/ ASME SA999/SA999M - 19 B 36.19M-04 & B36.10M-04	Solution	Treated, Pickled-Passivated, Plain Ends Square Cut	Hydrostatic Test	Pressure / Hold	Result	Inter-Granular Corrosion Test	Flattening	Eddy Current	Non Destructive Test	Quantity (Length)	Grade	Mn	P	S	Cr	Ni	Pb	YS (ksi / MPa)	TS (%)	E (%)	Hardness, HRB	Remarks	
JGA083-01112	1 inch Sch 10S x 6M	TP 304/304L	50	PASSED	PASSED	PASSED	PASSED	PASSED	PASSED	PASSED	PASSED	2500 PSI, 5s	PASSED	GOOD												
JGA084-01112	1 inch Sch 10S x 6M	TP 304/304L	120	PASSED	PASSED	PASSED	PASSED	PASSED	PASSED	PASSED	PASSED	2500 PSI, 5s	PASSED	GOOD												
JGA109-01112	1 inch Sch 10S x 6M	TP 304/304L	46	PASSED	PASSED	PASSED	PASSED	PASSED	PASSED	PASSED	PASSED	2500 PSI, 5s	PASSED	GOOD												
JGA110-01112	1 inch Sch 10S x 6M	TP 304/304L	98	PASSED	PASSED	PASSED	PASSED	PASSED	PASSED	PASSED	PASSED	2500 PSI, 5s	PASSED	GOOD												
JGA115-01112	1 inch Sch 10S x 6M	TP 304/304L	50	PASSED	PASSED	PASSED	PASSED	PASSED	PASSED	PASSED	PASSED	2500 PSI, 5s	PASSED	GOOD												
Specification		Chemical Composition (%)																								
Max	C	0.035	Si	1.00	Mn	2.00	P	0.045	S	0.030	Cr	20.00	Ni	11.00	Pb	-	YS	-	TS	-	E	-	Hardness, HRB	90	Remarks	
Min	C	-	Si	-	Mn	-	P	-	S	-	Cr	18.00	Ni	8.00	Pb	-	YS	205	TS	515	E	35	Hardness, HRB	-		
Heat No.	JGA083-01112	0.027	0.41	1.37	0.033	0.002	18.10	8.03	< 0.10	336	645	56	83													
JGA084-01112	0.024	0.40	1.38	0.031	0.002	18.33	8.04	< 0.10	340	645	59	84														
JGA109-01112	0.023	0.40	1.15	0.029	0.001	18.25	8.01	< 0.10	397	686	51	89														
JGA110-01112	0.023	0.40	1.15	0.029	0.001	18.25	8.01	< 0.10	336	645	56	80														
JGA115-01112	0.024	0.40	1.14	0.026	0.002	18.14	8.03	< 0.10	390	689	51	86														

WE HEREBY CERTIFY THAT THE PRODUCT DESCRIBED THEREIN 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 1" ABOVE, 1" INCLUDE AND BELOW DIRECT TEST FROM PIPE. LONGITUDINAL DIRECTION, GAUGE LENGTH 2" (50mm)

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

WELDED BY ELECTRIC FUSION WELDING WITH PROCESS WITH NO FILLER METAL

INTERGRANULAR CORROSION TEST ACCORDING TO ASTM A262-10 PRACTICE E

HARDNESS ACCORDING TO NAC1-MR173-2015 / ISO 15156-2015 & NACE-MR0103-2015

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

CHEMICAL COMPOSITION: CAPTURED FROM RAW MATERIALS (HEAT ANALYSIS

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

EDDY CURRENT ACCORDING TO ASTM E309-98 (Revised 2005) *1 REQUIREMENTS (REFERENCE TO ASTM A999/A999M-12 REQUIREMENTS, DISCONTINUITY ACC. TO CLAUSE 22.3.8.4. PROCEDURE ACC. TO CLAUSE 22.3.9)



Head of Quality Assurance Department



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 http://www.pantech-group.com



Cert. No.: ISO9001-0047465

ISO 9001
 CERTIFIED

SIRM
 Cert. No.: P0687201



NO. SULL PENDAFTARAN: SPAN/KP/A/00883-2011

INSPECTION DOCUMENT: EN 10204: 2004 Type 3.1

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

Certificate No : PSA2-24946
 Date : 05/08/2020

PO No.	Invoice No.	Product Specification		Dimensional & Inspection Specification										Delivery Condition	
		ASTM A312/A312M - 19 / ASME SA312/SA312M - 19	ASTM A999/A999M - 18/ ASME SA999/SA999M - 19 B 36.19M-04 & B36.10M-04	Solution Treated, Pickled-Passivated, Plain Ends Square Cut	Dimensional Inspection	Visual Inspection	Remarks								
Heat No.	Size	Grade	Quantity (Length)	Non Destructive Test			Inter-Granular Corrosion Test	Hydrostatic Test		Dimensional Inspection		Remarks			
				Eddy Current	Flattening	Corrosion Test		Pressure / Hold	Result	Pressure / Hold	Result				
JGA115-01112	3 inch Sch 10S x 6M	TP 304/304L	19	PASSED	PASSED	PASSED	PASSED	2100 PSI, 5s	PASSED	2100 PSI, 5s	PASSED	GOOD			
JGA077-01112	4 inch Sch 10S x 6M	TP 304/304L	10	PASSED	PASSED	PASSED	PASSED	1600 PSI, 5s	PASSED	1600 PSI, 5s	PASSED	GOOD			
JGA113-01112	4 inch Sch 10S x 6M	TP 304/304L	60	PASSED	PASSED	PASSED	PASSED	1600 PSI, 5s	PASSED	1600 PSI, 5s	PASSED	GOOD			
JGA116-01112	4 inch Sch 10S x 6M	TP 304/304L	10	PASSED	PASSED	PASSED	PASSED	1600 PSI, 5s	PASSED	1600 PSI, 5s	PASSED	GOOD			
JSA427-02112	4 inch Sch 10S x 6M	TP 304/304L	20	PASSED	PASSED	PASSED	PASSED	1600 PSI, 5s	PASSED	1600 PSI, 5s	PASSED	GOOD			
Specification	Chemical Composition (%)														
	C	Si	Mn	P	S	Cr	Ni	Pb	YS (ksi / MPa)	TS (%)	E (%)	Hardness, HRB	Remarks		
Max	0.035	1.00	2.00	0.045	0.030	20.00	11.00	-	-	-	-	90			
Min	-	-	-	-	-	18.00	8.00	-	-	-	-	-			
Heat No.	JGA115-01112	0.40	1.14	0.026	0.002	18.14	8.03	< 0.10	205	515	35	-			
JGA077-01112	0.020	0.46	1.16	0.028	0.001	18.20	8.02	< 0.10	351	647	53	85			
JGA113-01112	0.024	0.40	1.14	0.026	0.002	18.14	8.03	< 0.10	350	644	54	83			
JGA116-01112	0.024	0.40	1.14	0.026	0.002	18.14	8.03	< 0.10	345	652	59	82			
JSA427-02112	0.017	0.50	1.16	0.031	0.001	18.06	8.01	< 0.10	334	618	51	83			
									338	642	55	80			

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 1" ABOVE, 1" INCLUDE AND BELOW DIRECT TEST FROM PIPE. LONGITUDINAL DIRECTION, GAUGE LENGTH 2" (50mm)

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

WELDED BY ELECTRIC FUSION WELDING WITH 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

EDDY CURRENT ACCORDING TO ASTM E309-98 (Reapproved 2003) *2: NFI: Not Hydrostatically Tested

REQUIREMENTS (REFERENCE TO ASTM A999/A999M-12 REQUIREMENTS, DISCONTINUITY ACC. TO CLAUSE 22.3.8.4, PROCEDURE ACC. TO CLAUSE 22.3.9)



Head of Quality Assurance Department



MILL TEST CERTIFICATE

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Cert. No.: ISO9001-0047465
PED CERTIFICATE NO.:
0058/PED/NUM/1110006/1



SIRM
Cert. No.: PP087201



NO. SILL PENDAFTARAN: SPAN/KP/A/00883-2011

INSPECTION DOCUMENT: EN 10204: 2004 Type 3.1

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

Certificate No : PSA2-24941
Date : 04/08/2020

PO No.	Invoice No.	Product Specification	Dimensional & Inspection Specification		Delivery Condition								
			ASTM A312/A312M - 19 / ASME SA312/SA312M - 19	ASTM A999/A999M - 18 / ASME SA999/SA999M - 19 B 36.19M-04 & B36.10M-04	Solution Treated, Pickled-Passivated, Plain Ends Square Cut								
Heat No.	Size	Grade	Quantity (Length)	Non Destructive Test		Dimensional / PMI/ Visual Inspection							
				Eddy Current	Flattening								
JGA084-01112	2 inch Sch 10S x 6M	TP 304/304L	18	PASSED	PASSED	GOOD							
JSA428-01112	2 inch Sch 10S x 6M	TP 304/304L	19	PASSED	PASSED	GOOD							
ISA411-01112	6 inch Sch 10S x 6M	TP 304/304L	20	PASSED	PASSED	GOOD							
Chemical Composition (%)													
Specification		C	Si	Mn	P	S	Cr	Ni	Pb	Tensile Test ¹		Hardness, HRB	Remarks
Max		0.035	1.00	2.00	0.045	0.030	20.00	11.00	-	YS (ksi / MPa)	TS		
Min		-	-	-	-	-	18.00	8.00	-	-	-	-	90
Heat No.		JGA084-01112	0.40	1.38	0.031	0.002	18.33	8.04	< 0.10	205	515	35	
		JSA428-01112	0.020	0.46	0.029	0.001	18.10	8.02	< 0.10	427	653	53	
		ISA411-01112	0.014	0.39	0.029	0.002	18.18	8.19	< 0.10	364	694	54	
										357	655	48	

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 1" ABOVE, 1" INCLUDE AND BELOW DIRECT TEST FROM PIPE, LONGITUDINAL DIRECTION, GAUGE LENGTH 2" (50mm)

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

WELDED BY ELECTRIC FUSION WELDING WITH 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

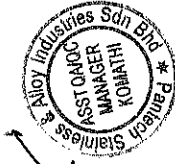
HEAT TREATMENT: SOLUTION TREATED AT MINIMUM 1050°C, RAPIDLY COOLED WITH WATER

CHEMICAL COMPOSITION CAPTURED FROM RAW MATERIALS HEAT ANALYSIS

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

*2: NH: Not Hydrostatically Tested

EDDY CURRENT ACCORDING TO ASTM E426-98 (Reapproved 2003),⁴¹ REQUIREMENTS (REFERENCE TO ASTM A999/A999M-12 REQUIREMENTS, DISCONTINUITY ACC. TO CLAUSE 22.3.8.4, PROCEDURE ACC. TO CLAUSE 22.3.9)



Head of Quality Assurance Department



MILL TEST CERTIFICATE

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SPAN

Suruhanjaya Perkhidmatan Air Negara
NO. SITI PENDAFTARAN : SPAN/KP/A/00883-2011



Cert. No.: ISO9001-0047465
PED CERTIFICATE NO.:
0038/PED/MUM/1110006/1

SIRBM
Cert. No.: PP087201

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

Certificate No : PSA2-25048
Date : 26/08/2020

INSPECTION DOCUMENT: EN 10204: 2004 Type 3.1

PO No.	Invoice No.	Product Specification		Dimensional & Inspection Specification				Delivery Condition				
		ASTM A312/A312M - 19 / ASME SA312/SA312M - 19	ASTM A999/A999M - 18 / ASME SA999/SA999M - 19	B 36.19M-04 & B36.10M-04	Solution Treated, Pickled-Passivated, Plain Ends Square Cut	Hydrostatic Test	Dimensional / PMI/ Visual Inspection					
Heat No.	Size	Grade	Quantity (Length)	Non Destructive Test			Inter-Granular Corrosion Test	Pressure / Hold	Result			
				Eddy Current	Flattening	Flattening						
JGA097-01112	4 inch Sch 10S x 6M	TP 304/304L	7	PASSED	PASSED	PASSED	PASSED	1600 PSI, 5s	PASSED	GOOD		
JGA117-01112	4 inch Sch 10S x 6M	TP 304/304L	2	PASSED	PASSED	PASSED	PASSED	1600 PSI, 5s	PASSED	GOOD		
JGA119-01112	4 inch Sch 10S x 6M	TP 304/304L	87	PASSED	PASSED	PASSED	PASSED	1600 PSI, 5s	PASSED	GOOD		
Specification		Chemical Composition (%)										
Max	C	Si	Mn	P	S	Cr	Ni	Pb	Tensile Test ¹		Hardness, HRB	Remarks
Min	0.035	1.00	2.00	0.045	0.030	20.00	11.00	-	YS (ksi / MPa)	TS		
Heat No.	-	-	-	-	-	18.00	8.00	-	205	515	35	90
JGA097-01112	0.018	0.45	1.39	0.024	0.002	18.10	8.04	< 0.10	352	670	53	84
JGA117-01112	0.024	0.40	1.14	0.026	0.002	18.14	8.03	< 0.10	343	653	56	83
JGA119-01112	0.022	0.39	1.16	0.027	0.002	18.30	8.02	< 0.10	357	656	56	83

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 1" ABOVE, 1" INCLUDE AND BELOW DIRECT TEST FROM PIPE. LONGITUDINAL DIRECTION, GAUGE LENGTH 2" (50mm)

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

WELDED BY ELECTRIC FUSION WELDING WITH 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

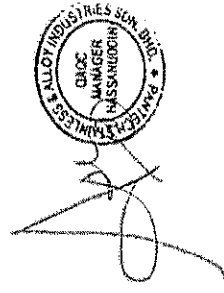
HEAT TREATMENT: SOLUTION TREATED AT MINIMUM 1050°C, RAPIDLY COOLED WITH WATER

CHEMICAL COMPOSITION CAPTURED FROM RAW MATERIALS HEAT ANALYSIS

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

EDDY CURRENT ACCORDING TO ASTM E456-98 (Reapproved 2003) *1 REQUIREMENTS (REFERENCE TO ASTM A999/A999M-12 REQUIREMENTS, DISCONTINUITY ACC. TO CLAUSE 22.3.3.4.4. PROCEDURE ACC. TO CLAUSE 22.3.3.9)

*2: ME: Not Hydrostatically Tested



Head of Quality Assurance Department



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 2/M4334, JALAN PLATINUM UTAMA,
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 http://www.pantech-group.com



Cert No.: ISO9001-0047465
 PED CERTIFICATE NO.:
 00938/PED/MUM/1110006/1



SIRM
 Cert. No.: PP087201



INSPECTION DOCUMENT: EN 10204: 2004 Type 3.1

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

Certificate No : PSA2-25055
 Date : 26/08/2020

PO No.	Invoice No.	Product Specification	Dimensional & Inspection Specification	Delivery Condition									
APO-2006-0132	L000010233	ASTM A312/A312M - 19 / ASME SA312/SA312M - 19	ASTM A999/A999M - 18 / ASME SA999/SA999M - 19 B 36.19M-04 & B36.10M-04	Solution Treated, Pickled-Passivated, Plain Ends Square Cut									
Heat No.	Size	Grade	Quantity (Length)	Non Destructive Test	Inter-Granular Corrosion Test	Hydrostatic Test	Dimensional / PMI / Visual Inspection						
JGA101-01112	3 inch Sch 10S x 6M	TP 304/304L	19	Eddy Current PASSED Flattening PASSED	PASSED	Pressure / Hold 2100 PSI, 5s PASSED	GOOD						
JGA109-01112	3 inch Sch 10S x 6M	TP 304/304L	20	PASSED	PASSED	2100 PSI, 5s PASSED	GOOD						
JGA114-01112	3 inch Sch 10S x 6M	TP 304/304L	56	PASSED	PASSED	2100 PSI, 5s PASSED	GOOD						
Chemical Composition (%)													
Specification	C	Si	Mn	P	S	Cr	Ni	Pb	YS (ksi / MPa)	TS (ksi / MPa)	E (%)	Hardness, HRB	Remarks
Max	0.035	1.00	2.00	0.045	0.030	20.00	11.00	-	-	-	-	90	
Min	-	-	-	-	-	18.00	8.00	-	205	515	35	-	
Heat No.													
JGA101-01112	0.022	0.40	1.16	0.029	0.002	18.13	8.04	< 0.10	351	671	56	83	
JGA109-01112	0.023	0.40	1.15	0.029	0.001	18.25	8.01	< 0.10	379	666	48	85	
JGA114-01112	0.024	0.40	1.14	0.026	0.002	18.14	8.03	< 0.10	389	666	51	85	

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*1 CONFORMS TO ASTM A370 - 12a STANDARD. SPECIMEN GAUGE WIDTH 19.2MM FOR '1' ABOVE, '1' INCLUDE AND BELOW DIRECT TEST FROM PIPE. LONGITUDINAL DIRECTION. GAUGE LENGTH 12.5 (50mm)

NOTE: MADE IN MALAYSIA STEEL-MAKING PROCESS : AOD / VOD
 WELDED BY ELECTRIC FUSION WELDING WITH 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 1059°C, RAPIDLY COOLED WITH WATER
 CHEMICAL COMPOSITION CAPTURED FROM RAW MATERIALS HEAT ANALYSIS

*1: YS: YIELD STRENGTH TS: TENSILE STRENGTH E: ELONGATION
 *2: NH: Net Hydrostatically Tested
 EDDY CURRENT ACCORDING TO ASTM E426-98 (Reapproved 2003)*3: REQUIREMENTS (REFERENCE TO ASTM A999/A999M-12 REQUIREMENTS, DISCONTINUITY ACC. TO CLAUSE 22.2.8.4. PROCEDURE ACC. TO CLAUSE 22.2.9.1)

[Signature]
 QMCC
 MANAGER
 PANGSANGUDIN
 PANTECH STAINLESS & ALLOY INDUSTRIES SDN BHD
 Head of Quality Assurance Department



MILL TEST CERTIFICATE

PANTECH STAINLESS & ALLOY INDUSTRIES SDN. BHD. (733428W)
 (A MEMBER OF PANTECH GROUP HOLDINGS BERHAD, LISTED ON MAIN MARKET OF BURSA MALAYSIA)

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 http://www.pantech-group.com



Cert. No.: ISO9001-0047465
 PED CERTIFICATE NO.:
 0038/PED/MUM/1110066/1



SIRM
 Cert. No.: PP087201



SIRIM & PANTEN GROUP BERHAD, Atr. No. 0011
 NO. SUKLL PENDAFARAN : SPAN/RP/A/00883-2011

INSPECTION DOCUMENT: EN 10204: 2004 Type 3.1

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

Certificate No : PSA2-25052
 Date : 26/08/2020

PO No.	Invoice No.	Product Specification	Dimensional & Inspection Specification	Delivery Condition									
APO-2006-0040	L000010232	ASTM A312/A312M - 19 / ASME SA312/SA312M - 19	ASTM A999/A999M - 1B/ ASME SA999/SA999M - 19 B 36.19M-04 & B36.10M-04	Solution Treated, Pickled-Passivated, Plain Ends Square Cut									
Heat No.	Size	Grade	Quantity (Length)	Non Destructive Test	Inter-Granular Corrosion Test	Hydrostatic Test	Dimensional / PMI/ Visual Inspection						
JGA111-01112	2 inch Sch 10S x 6M	TP 304/304L	4	Eddy Current PASSED	Flattening PASSED	Pressure / Hold 2500 PSI, 5s PASSED	GOOD						
JGA112-01112	2 inch Sch 10S x 6M	TP 304/304L	17	PASSED	PASSED	2500 PSI, 5s PASSED	GOOD						
ISA411-01112	6 inch Sch 10S x 6M	TP 304/304L	15	PASSED	PASSED	1300 PSI, 5s PASSED	GOOD						
IYA146-01112	6 inch Sch 10S x 6M	TP 304/304L	10	PASSED	PASSED	1300 PSI, 5s PASSED	GOOD						
Specification	C	Si	Mn	P	S	Cr	Ni	Pb	YS	TS	E (%)	Hardness, HRB	Remarks
Max	0.035	1.00	2.00	0.045	0.030	20.00	11.00	-	-	-	-	90	
Min	-	-	-	-	-	18.00	8.00	-	205	515	35	-	
Heat No.													
JGA111-01112	0.023	0.40	1.15	0.029	0.001	18.25	8.01	<0.10	358	653	51	86	
JGA112-01112	0.023	0.40	1.15	0.029	0.001	18.25	8.01	<0.10	363	681	52	85	
ISA411-01112	0.014	0.39	0.98	0.029	0.002	18.18	8.19	<0.10	354	647	51	80	
IYA146-01112	0.016	0.50	1.56	0.027	0.002	18.00	8.00	<0.10	368	661	53	81	

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 1" ABOVE, 1" INCLUDE AND BELOW DIRECT TEST FROM PIPE. LONGITUDINAL DIRECTION, GAUGE LENGTH 1" (50mm)

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

WELDED BY ELECTRIC FUSION WELDING WITH PROCESS WITH NO FILLER METAL

INTERGRANULAR CORROSION TEST ACCORDING TO ASTM A362-10 PRACTICE E

HARDNESS ACCORDING TO NACE-MR0175-2015 / ISO 15156 - 2015 & NACE-MR0105-2015

HEAT TREATMENT: SOLUTION TREATED AT MINIMUM 1030°C, RAPIDLY COOLED WITH WATER

CHEMICAL COMPOSITION CAPTURED FROM RAW MATERIALS HEAT ANALYSIS

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

*2: NH: Not Hydrostatically Tested

EDDY CURRENT ACCORDING TO ASTM E426-98 (Reapproved 2003) *1 REQUIREMENTS (REFERENCE TO ASTM A999/A999M-12 REQUIREMENTS, DISCONTINUITY ACC. TO CLAUSE 22.3.8.4. PROCEDURE ACC. TO CLAUSE 22.3.9)

[Signature]
 QAQC MANAGER
 HASSANUDEEN
 ECH SAMBESS & ALL OT INDUSTRIES SDN BHD
 Head of Quality Assurance Department



MILL TEST CERTIFICATE

PANTECH STAINLESS & ALLOY INDUSTRIES SDN. BHD. (733428W)
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Cert. No.: ISO9001-0047465
PED CERTIFICATE NO.:
0038/PED/MUM/1110006/1



SIRM
Cert. No.: PP087201



KUALA LUMPUR, BERHAD, AIR NEGARA
NO. SUJIL PENDAFTARAN : SPAN/RP/A/00883-2011

INSPECTION DOCUMENT: EN 10204: 2004 Type 3.1

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

Certificate No : PSA2-25051
Date : 26/08/2020

PO No.	Invoice No.	Product Specification	Dimensional & Inspection Specification				Delivery Condition						
			ASTM A312/A312M - 19 / ASME SA312/SA312M - 19	ASTM A999/A999M - 18 / ASME SA999/SA999M - 19	B 36.19M-04 & B36.10M-04	Solution Treated, Pickled-Passivated, Plain Ends Square Cut							
Heat No.	Size	Grade	Quantity (Length)	Non Destructive Test		Inter-Granular Corrosion Test	Hydrostatic Test	Dimensional / PMI/ Visual Inspection					
				Eddy Current	Flattening				Pressure / Hold	Result			
JGA118-01112	3 inch Sch 10S x 6M	TP 304/304L	6	PASSED	PASSED	PASSED	2100 PSI, 5s	PASSED	GOOD				
JSA419-01112	3 inch Sch 10S x 6M	TP 304/304L	46	PASSED	PASSED	PASSED	2100 PSI, 5s	PASSED	GOOD				
Chemical Composition (%)													
Specification	C	Si	Mn	P	S	Cr	Ni	Pb	Tensile Test ¹				
Max	0.035	1.00	2.00	0.045	0.030	20.00	11.00	-	YS (ksi) / MPa	TS	E (%)	Hardness, HRB	Remarks
Min	-	-	-	-	-	18.00	8.00	-	205	515	35		
Heat No.	JGA118-01112	0.023	0.39	0.027	0.001	18.03	8.02	< 0.10	357	666	60	82	
	JSA419-01112	0.014	0.46	0.028	0.001	18.04	8.04	< 0.10	355	655	50	82	

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 GALLIE WIDTH 19.2MM FOR 1" ABOVE. 1" INCLUDE AND BELOW DIRECT TEST FROM PIPE. LONGITUDINAL DIRECTION. GALLIE LENGTH 2" (50mm)

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

WELDED BY ELECTRIC FUSION WELDING WITH 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 MATERIALS HEAT ANALYSIS

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

*2. NH: Not Hydrostatically Tested

EDDY CURRENT ACCORDING TO ASTM F456-98 (Reapproved 2003)¹ REQUIREMENTS (REFERENCE TO ASTM A999/A999M-12 REQUIREMENTS, DISCONTINUITY ACC. TO CLAUSE 22.3.8.4. PROCEDURE ACC. TO CLAUSE 22.3.9)

Signature of QAQC Manager
QAQC MANAGER
HASSANUDDIN
HEAD OF QUALITY ASSURANCE DEPARTMENT



MILL TEST CERTIFICATE

PANTECH STAINLESS & ALLOY INDUSTRIES SDN. BHD. (733428W)
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http://www.pantech-group.com



Cert. No.: ISO9001-0047465
PED CERTIFICATE NO.:
90383/PED/MUM/1110006/1



SIRM
Cert. No.: PP087201



KUALITI PERKHIDMATAN ALI-KUASA
NO. SML PENDAFTARAN: SPAN/RP/A/00883-2011

INSPECTION DOCUMENT: EN 10204: 2004 Type 3.1

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

Certificate No : PSA2-25050
Date : 26/08/2020

PO No.	Invoice No.	Product Specification	Dimensional & Inspection Specification				Delivery Condition					
			ASTM A312/A312M - 19 / ASME SA312/SA312M - 19	ASTM A999/A999M - 18 / ASME SA999/SA999M - 19 B 36.19M-04 & B36.10M-04	Solution Treated, Pickled-Passivated, Plain Ends Square Cut	Hydrostatic Test Pressure / Hold	Result	Dimensional / PMI/ Visual Inspection				
Heat No.	Size	Grade	Quantity (Length)	Non Destructive Test		Inter-Granular Corrosion Test						
JGA066-01112	3 inch Sch 10S x 6M	TP 304/304L	3	Eddy Current	Flattening	PASSED	PASSED	2100 PSI, 5s	PASSED	GOOD		
JGA097-01112	3 inch Sch 10S x 6M	TP 304/304L	20	PASSED	PASSED	PASSED	PASSED	2100 PSI, 5s	PASSED	GOOD		
JGA101-01112	3 inch Sch 10S x 6M	TP 304/304L	1	PASSED	PASSED	PASSED	PASSED	2100 PSI, 5s	PASSED	GOOD		
JGA103-01112	3 inch Sch 10S x 6M	TP 304/304L	1	PASSED	PASSED	PASSED	PASSED	2100 PSI, 5s	PASSED	GOOD		
JGA115-01112	3 inch Sch 10S x 6M	TP 304/304L	8	PASSED	PASSED	PASSED	PASSED	2100 PSI, 5s	PASSED	GOOD		
Chemical Composition (%)												
Specification	C	Si	Mn	P	S	Cr	Ni	Pb	Tensile Test ¹		Hardness, HRB	Remarks
Max	0.035	1.00	2.00	0.045	0.030	20.00	11.00	-	YS -((F6) / MPa)	TS		
MIn	-	-	-	-	-	18.00	8.00	-	-	-	-	90
Heat No.									205	515	35	
JGA066-01112	0.021	0.39	1.18	0.031	0.003	18.21	8.04	< 0.10	368	648	57	86
JGA097-01112	0.018	0.45	1.39	0.024	0.002	18.10	8.04	< 0.10	354	655	55	83
JGA101-01112	0.022	0.40	1.16	0.029	0.002	18.13	8.04	< 0.10	351	671	56	83
JGA103-01112	0.022	0.40	1.16	0.029	0.002	18.13	8.04	< 0.10	354	665	54	82
JGA115-01112	0.024	0.40	1.14	0.026	0.002	18.14	8.03	< 0.10	351	647	53	85

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 1" ABOVE, 1" INCLUDE AND BELOW DIRECT TEST FROM PIPE. LONGITUDINAL DIRECTION. GAUGE LENGTH 2" (50mm)

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

WELDED BY ELECTRIC FUSION WELDING WITH 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 MATERIALS HEAT ANALYSIS

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

EDDY CURRENT ACCORDING TO ASTM F486-98 (Reapproved 2003)¹ REQUIREMENTS (REFERENCE TO ASTM A999/A999M-12 REQUIREMENTS, DISCONTINUITY ACC. TO CLAUSE 22.3.8.4. PROCEDURE ACC. TO CLAUSE 22.3.9)

* 2: NH: Non Hydrogenated¹ Tested

QACC
MANAGER
HASSA MUDDIN
PANTECH STAINLESS & ALLOY INDUSTRIES SDN. BHD.
Head of Quality Assurance Department



MILL TEST CERTIFICATE

PANTECH STAINLESS & ALLOY INDUSTRIES SDN. BHD. (733428W)
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Cert. No.: IS09001-0047465
PED CERTIFICATE NO.:
0038/PED/MUM/1110006/1



SIRM
Cert. No.: PP087201



KUALA LUMPUR, PANGKALAN PERSEKUTUAN AIR NEGARA
NO. SUK PANDAFTARAN: SPAN/RP/A/00883-2011

INSPECTION DOCUMENT: EN 10204: 2004 Type 3.1

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

Certificate No : PSA2-25049
Date : 26/08/2020

PO No.	Invoice No.	Product Specification	Dimensional & Inspection Specification	Delivery Condition									
APO-2006-0076	L000010231	ASTM A312/A312M - 19 / ASME SA312/SA312M - 19	ASTM A999/A999M - 18/ ASME SA999/SA999M - 19 B 36.19M-04 & B36.10M-04	Solution Treated, Pickled-Passivated, Plain Ends Square Cut									
Heat No.	Size	Grade	Quantity (Length)	Non Destructive Test	Inter-Granular Corrosion Test	Hydrostatic Test	Dimensional / PMI/ Visual Inspection						
IGA024-01112	3 inch Sch 10S x 6M	TP 304/304L	1	Eddy Current PASSED	PASSED	2100 PSI, 5s	GOOD						
IGA033-01112	3 inch Sch 10S x 6M	TP 304/304L	3	PASSED	PASSED	2100 PSI, 5s	GOOD						
IYA130-02112	3 inch Sch 10S x 6M	TP 304/304L	1	PASSED	PASSED	2100 PSI, 5s	GOOD						
IYA140-01112	3 inch Sch 10S x 6M	TP 304/304L	3	PASSED	PASSED	2100 PSI, 5s	GOOD						
JG005-10	3 inch Sch 10S x 6M	TP 304/304L	59	PASSED	PASSED	2100 PSI, 5s	GOOD						
Chemical Composition (%)													
Specification	C	Si	Mn	P	S	Cr	Ni	Pb	YS (ksi / MPa)	TS	E (%)	Hardness, HRB	Remarks
Max	0.035	1.00	2.00	0.045	0.030	20.00	11.00	-	-	-	-	-	-
Min	-	-	-	-	-	18.00	8.00	-	205	515	35	90	-
Heat No.	-	-	-	-	-	-	-	-	372	630	57	79	-
IGA024-01112	0.024	0.40	1.41	0.026	0.002	18.32	8.04	< 0.10	358	851	50	79	-
IGA033-01112	0.018	0.50	1.12	0.028	0.002	18.34	8.03	< 0.10	356	682	53	83	-
IYA130-02112	0.023	0.64	1.57	0.025	0.002	18.10	8.00	< 0.10	382	650	55	85	-
IYA140-01112	0.024	0.45	1.61	0.024	0.002	18.10	8.00	< 0.10	370	656	46	84	-
JG005-10	0.019	0.39	1.19	0.031	0.001	18.25	8.01	< 0.10					

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 GAGE WIDTH 19.2MM FOR 1" ABOVE, 1" INCLUDE AND BELOW DIRECT TEST FROM PIPE LONGITUDINAL DIRECTION, GUAGE LENGTH 2" (50mm)

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

WELDED BY ELECTRIC FUSION WELDING WITH PROCESS WITHING FILLER METAL

INTERGRANULAR CORROSION TEST ACCORDING TO ASTM A262-10 PRACTICE E

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

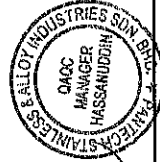
HEAT TREATMENT: SOLUTION TREATED AT MINIMUM 1090°C, RAPIDLY COOLED WITH WATER

CHEMICAL COMPOSITION CAPTURED FROM RAW MATERIALS HEAT ANALYSIS

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

EDDY CURRENT ACCORDING TO ASTM F436-98 (Reapproved 2005) REQUIREMENTS (REFERENCE TO ASTM A999/A999M-12 REQUIREMENTS, DISCONTINUITY ACC. TO CLAUSE 2.3.3 & 4, PROCEDURE: ACC. TO CLAUSE 2.3.3.9)

*2. NH: Not Hydrogenarily Treated



Signature of Head of Quality Assurance Department

Head of Quality Assurance Department



MILL TEST CERTIFICATE

PANTECH STAINLESS & ALLOY INDUSTRIES SDN. BHD. (733428W)
 (A MEMBER OF PANTECH GROUP HOLDINGS BERHAD, LISTED ON MAIN MARKET OF BURSA MALAYSIA)

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 http://www.pantech-group.com



Cert. No.: ISO9001-0047465
 PED CERTIFICATE NO.:
 0058/PED/MUM/1110006/1



SIRIM
 Cert. No.: PP087203



SPAN
 No. Sijil Pendaftaran: SPAN/KPA/00883-2011

INSPECTION DOCUMENT: EN 10204: 2004 Type 3.1

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

Certificate No : PSA2-25048
 Date : 26/08/2020

PO No.	Invoice No.	Product Specification	Dimensional & Inspection Specification				Delivery Condition	
APO-2007-0064	L000010230	ASTM A312/A312M - 19 / ASME SA312/SA312M - 19	ASTM A999/A999M - 18/ ASME SA999/SA999M - 19 B 36.19M-04 & B36.10M-04				Solution Treated, Pickled-Passivated, Plain Ends Square Cut	
Heat No.	Size	Grade	Quantity (Length)	Non Destructive Test		Dimensional / PMI/ Visual Inspection		
JGA097-01112	4 inch Sch 10S x 6M	TP 304/304L	7	Eddy Current	Flattening	Hydrostatic Test Pressure / Hold	Result	
JGA117-01112	4 inch Sch 10S x 6M	TP 304/304L	2	PASSED	PASSED	1600 PSI, 5s	PASSED	
JGA119-01112	4 inch Sch 10S x 6M	TP 304/304L	87	PASSED	PASSED	1600 PSI, 5s	PASSED	
Chemical Composition (%)								
Specification	C	Si	Mn	P	S	Cr	Ni	Pb
Max	0.035	1.00	2.00	0.045	0.030	20.00	11.00	-
Min	-	-	-	-	-	18.00	8.00	-
Heat No.	Tensile Test¹							
JGA097-01112	0.018	0.45	1.39	0.024	0.002	18.10	8.04	< 0.10
JGA117-01112	0.024	0.40	1.14	0.026	0.002	18.14	8.03	< 0.10
JGA119-01112	0.022	0.39	1.16	0.027	0.002	18.30	8.02	< 0.10
Hardness, HRB								
90								
Remarks								

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 1" ABOVE, 1" ABOVE, 1" INCLUDE AND BELOW DIRECT TEST FROM PIPE. LONGITUDINAL DIRECTION, GAUGE LENGTH 2" (50mm)

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

WELDED BY ELECTRIC FUSION WELDING WITH 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

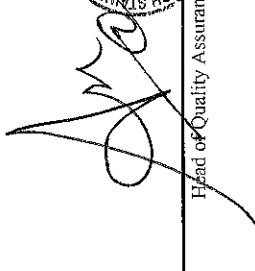
HEAT TREATMENT: SOLUTION TREATED AT MINIMUM 1050°C, RAPIDLY COOLED WITH WATER

CHEMICAL COMPOSITION CAPTURED FROM RAW MATERIALS HEAT ANALYSIS

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

*2: NH: Not Hydrostatically Tested

EDDY CURRENT ACCORDING TO ASTM E436-98 (Reapproval 2003),¹ REQUIREMENTS (REFERENCE TO ASTM A999/A999M-12 REQUIREMENTS, DISCONTINUITY ACC. TO CLAUSE 22.3.4, PROCEDURE ACC. TO CLAUSE 22.3.9)


 OACC
 MANAGER
 HASSARUDDIN
 PANTech STAINLESS & ALLOY INDUSTRIES SDN BHD
 Head 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@pantechalloy.com
http://www.pantech-group.com



Cert. No.: ISO9001-0047465
PED CERTIFICATE NO.:
0098/PED/MUM/1110006/1



SIRIM
Cert. No.: PP087201

SPAN

Suruhanjaya Perkhidmatan Air Negara
NO. SUIL PENDAFTARAN: SPAN/KP/A/00883-2011

INSPECTION DOCUMENT: EN 10204: 2004 Type 3.1

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

Certificate No : PSA2-25095
Date : 03/09/2020

PO No.	Invoice No.	Product Specification	Dimensional & Inspection Specification	Delivery Condition								
APO-2006-0040	L000010276	ASTM A312/A312M - 19 / ASME SA312/SA312M - 19	ASTM A999/A999M - 18/ ASME SA999/SA999M - 19 B 36.19M-04 & B36.10M-04	Solution Treated, Pickled-Passivated, Plain Ends Square Cut								
Heat No.	Size	Grade	Quantity (Length)	Non Destructive Test	Inter-Granular Corrosion Test	Hydrostatic Test	Dimensional / P/M / Visual Inspection					
JG011-10	6 inch Sch 10S x 6M	TP 304/304L	24	Eddy Current PASSED Flattening PASSED	PASSED	Pressure / Hold 1300 PSI, 5s PASSED	GOOD					
JGA091-01112	6 inch Sch 10S x 6M	TP 304/304L	1	PASSED	PASSED	1300 PSI, 5s PASSED	GOOD					
JSA426-01112	6 inch Sch 10S x 6M	TP 304/304L	5	PASSED	PASSED	1300 PSI, 5s PASSED	GOOD					
Chemical Composition (%)												
Specification	C	Si	Mn	P	S	Cr	Ni	Pb	TS	E (%)	Hardness, HRB	Remarks
Max	0.035	1.00	2.00	0.045	0.030	20.00	11.00	-	-	-	-	-
Min	-	-	-	-	-	18.00	8.00	-	-	-	-	-
Heat No.	0.025	0.44	1.14	0.029	0.002	18.13	8.02	< 0.10	205	515	35	90
JG011-10	0.022	0.37	1.17	0.027	0.001	18.12	8.03	< 0.10	341	855	57	80
JGA091-01112	0.012	0.39	1.03	0.031	0.002	18.04	8.00	< 0.10	353	882	51	82
JSA426-01112	-	-	-	-	-	-	-	-	347	671	49	83

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 GAGE WIDTH 19.3MM FOR 1" ABOVE, 1" INCLUDE AND BELOW DIRECT TEST FROM PIPE LONGITUDINAL DIRECTION, GAGE LENGTH 2" (50mm)

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

WELDED BY ELECTRIC FUSION WELDING WITH 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

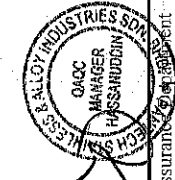
CHEMICAL COMPOSITION CAPTURED FROM RAW MATERIALS HEAT ANALYSIS

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

*2: NH: Non Hydrostatically Tested

EDDY CURRENT ACCORDING TO ASTM E646-98 (Reapproved 2005) *1 REQUIREMENTS (REFERENCE TO ASTM A999/A999M-12 REQUIREMENTS, DISCONTINUITY ACC. TO CLAUSE 2.2.3.8.4, PROCEDURE ACC. TO CLAUSE 2.2.3.9)

Signature of Head of Quality Assurance
Head 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 206334, JALAN PLATINUM UTAMA,
KAWASAN PERINDUSTRIAN PASIR GUDANG, ZON 12B, 81700 PASIR GUDANG
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http://www.pantech-group.com



Cert. No.: ISO9001-0047465
PED CERTIFICATE NO.:
0038/PED/MUM/1110006/1



SIRM
Cert. No.: PP087201



Korporat, Persendirian, Air, Merga
NO. SUKLE PENDAFTARAN : SPAN/R/A/00893-2011

INSPECTION DOCUMENT: EN 10204: 2004 Type 3.1

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

Certificate No : PSA2-25094
Date : 03/09/2020

PO No.	Invoice No.	Product Specification	Dimensional & Inspection Specification										Delivery Condition																																																																																																																									
			ASTM A312/A312M - 19 / ASME SA312/SA312M - 19					ASTM A999/A999M - 18 / ASME SA999/SA999M - 19 B 36.19M-04 & B36.10M-04																																																																																																																														
Heat No.	Size	Grade	Quantity (Length)	Non Destructive Test			Inter-Granular Corrosion Test	Hydrostatic Test		Dimensional / PMI / Visual Inspection																																																																																																																												
				Eddy Current	Flattening	PASSED		Pressure / Hold	Result	Pressure / Hold	Result																																																																																																																											
JG011-10	6 inch Sch 10S x 6M	TP 304/304L	59	PASSED	PASSED	PASSED	PASSED	1300 PSI, 5s	PASSED	GOOD	GOOD																																																																																																																											
JGA091-01112	6 inch Sch 10S x 6M	TP 304/304L	4	PASSED	PASSED	PASSED	PASSED	1300 PSI, 5s	PASSED	GOOD	GOOD																																																																																																																											
JSA426-01112	6 inch Sch 10S x 6M	TP 304/304L	1	PASSED	PASSED	PASSED	PASSED	1300 PSI, 5s	PASSED	GOOD	GOOD																																																																																																																											
<table border="1"> <thead> <tr> <th rowspan="2">Specification</th> <th colspan="10">Chemical Composition (%)</th> <th rowspan="2">Hardness, HRB</th> <th rowspan="2">Remarks</th> </tr> <tr> <th>C</th> <th>Si</th> <th>Mn</th> <th>P</th> <th>S</th> <th>Cr</th> <th>Ni</th> <th>Pb</th> <th>YS (KSI) / MPa</th> <th>TS</th> <th>E (%)</th> </tr> </thead> <tbody> <tr> <td>Max</td> <td>0.035</td> <td>1.00</td> <td>2.00</td> <td>0.045</td> <td>0.030</td> <td>20.00</td> <td>11.00</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> <td>90</td> <td></td> </tr> <tr> <td>Min</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> <td>18.00</td> <td>8.00</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> <td></td> </tr> <tr> <td>Heat No.</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> <td></td> </tr> <tr> <td>JG011-10</td> <td>0.025</td> <td>0.44</td> <td>1.14</td> <td>0.029</td> <td>0.002</td> <td>18.13</td> <td>8.02</td> <td>< 0.10</td> <td>205</td> <td>515</td> <td>35</td> <td>-</td> <td></td> </tr> <tr> <td>JGA091-01112</td> <td>0.022</td> <td>0.37</td> <td>1.17</td> <td>0.027</td> <td>0.001</td> <td>18.12</td> <td>8.03</td> <td>< 0.10</td> <td>341</td> <td>655</td> <td>57</td> <td>80</td> <td></td> </tr> <tr> <td>JSA426-01112</td> <td>0.012</td> <td>0.39</td> <td>1.03</td> <td>0.031</td> <td>0.002</td> <td>18.04</td> <td>8.00</td> <td>< 0.10</td> <td>353</td> <td>682</td> <td>51</td> <td>82</td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>347</td> <td>671</td> <td>49</td> <td>83</td> <td></td> </tr> </tbody> </table>													Specification	Chemical Composition (%)										Hardness, HRB	Remarks	C	Si	Mn	P	S	Cr	Ni	Pb	YS (KSI) / MPa	TS	E (%)	Max	0.035	1.00	2.00	0.045	0.030	20.00	11.00	-	-	-	-	90		Min	-	-	-	-	-	18.00	8.00	-	-	-	-	-		Heat No.	-	-	-	-	-	-	-	-	-	-	-	-		JG011-10	0.025	0.44	1.14	0.029	0.002	18.13	8.02	< 0.10	205	515	35	-		JGA091-01112	0.022	0.37	1.17	0.027	0.001	18.12	8.03	< 0.10	341	655	57	80		JSA426-01112	0.012	0.39	1.03	0.031	0.002	18.04	8.00	< 0.10	353	682	51	82											347	671	49	83	
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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 1/2 INCH FOR 1" ABOVE, 1" INCLUDE AND BELOW DIRECT TEST FROM PIPE LONGITUDINAL DIRECTION, GAUGE LENGTH 2" (50mm)

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

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 MATERIALS HEAT ANALYSIS

*1: YS, YIELD STRENGTH E: ELONGATION

BIDDY CURRENT ACCORDING TO ASTM E246-98 (Reapproved 2003),⁴ REQUIREMENTS (REFERENCE TO ASTM A999/A999M-12 REQUIREMENTS, DISCONTINUITY ACC. TO CLAUSE 22.3.8.4, PROCEDURE ACC. TO CLAUSE 22.3.9)

Signature of QAQC Manager
QAQC MANAGER
ASS-SRUDIND
HEAD OF QUALITY ASSURANCE DEPARTMENT



MILL TEST CERTIFICATE

PANTECH STAINLESS & ALLOY INDUSTRIES SDN. BHD. (733428 W)
(A MEMBER OF PANTECH GROUP HOLDINGS BERHAD, LISTED ON MAIN MARKET OF BURSA MALAYSIA)

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Cert. No.: ISO9001-0047465
PED CERTIFICATE NO.:
0038/PED/MUM/1110006/1



SIRIM
Cert. No.: P0887201



Suruhanjaya Perkhidmatan Air, Negara
NO. SITI PENDAFTARAN: SPAN/MP/A/00883-2011

INSPECTION DOCUMENT: EN 10204: 2004 Type 3.1

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

Certificate No : PSA2-25155
Date : 21/09/2020

PO No.	Invoice No.	Product Specification	Dimensional & Inspection Specification	Delivery Condition									
APO-2007-0064	L000010334	ASTM A312/A312M - 19 / ASME SA312/SA312M - 19	ASTM A999/A999M - 18/ ASME SA999/SA999M - 19 B 36.19M-04 & B36.10M-04	Solution Treated, Pickled-Passivated, Plain Ends Square Cut									
Heat No.	Size	Grade	Quantity (Length)	Non Destructive Test	Inter-Granular Corrosion Test	Hydrostatic Test	Dimensional /PMI/ Visual Inspection						
JG027-10	4 inch Sch 10S x 6M	TP 304/304L	4	Eddy Current PASSED	Flattening PASSED	Pressure / Hold 1600 PSI, 5s PASSED	GOOD						
Chemical Composition (%)													
Specification	C	Si	Mn	P	S	Cr	Ni	Pb	YS (KSI / MPa)	TS	E (%)	Hardness, HRB	Remarks
Max	0.035	1.00	2.00	0.045	0.030	20.00	11.00	-	-	-	-	90	
Min	-	-	-	-	-	18.00	8.00	-	205	515	35	-	
Heat No.	0.023	0.40	1.15	0.029	0.001	18.25	8.01	<0.01	346	655	56	80	
JG027-10													

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 1" ABOVE, 1" INCLUDE AND BELOW DIRECT TEST FROM PIPE. LONGITUDINAL DIRECTION; GAUGE LENGTH 2" (50mm)

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

WELDED BY ELECTRIC FUSION WELDING WITH PROCESS WITH NO FILLER METAL.

INTERGRANULAR CORROSION TEST ACCORDING TO ASTM A362-10 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

EDDY CURRENT ACCORDING TO ASTM F426-98 (Reapproved 2003)*2: REQUIREMENTS (REFERENCE TO ASTM A999/A999M-12 REQUIREMENTS; DISCONTINUITY ACC. TO CLAUSE 22.3.8.4; PROCEDURE ACC. TO CLAUSE 22.3.9)

*2: NH: Not Hydrostatically Tested

HEAD OF QUALITY ASSURANCE DEPARTMENT



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 204394, JALAN PLATINUM UTAMA,
 KAWASAN PERINDUSTRIAN PASIR GUDANG, ZON 12B, 81700 PASIR GUDANG
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 http://www.pantech-group.com



Cert. No.: ISO9001-0047465
 PED CERTIFICATE NO.:
 0038/PED/MUM/1110006/1



SIRM
 Cert. No.: PPO87201



SPAN
 NO. SUK PONDOK: SPAN/KP/A00885-2011

INSPECTION DOCUMENT: EN 10204: 2004 Type 3.1

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

Certificate No : PSA2-25154
 Date : 21/09/2020

PO No.	Invoice No.	Product Specification		Dimensional & Inspection Specification				Delivery Condition		Remarks																																													
		ASTM A312/A312M - 19 / ASME SA312/SA312M - 19	ASTM A999/A999M - 18 / ASME SA999/SA999M - 19	B 36.19M-04 & B36.10M-04	Solution Treated, Pickled-Passivated, Plain Ends Square Cut	Hydrostatic Test Pressure / Hold 2500 PSI, 5s NH	Result PASSED -	Dimensional / PMI/ Visual Inspection GOOD GOOD																																															
Heat No.	Size	Grade	Quantity (Length)	Non Destructive Test		Inter-Granular Corrosion Test	Tensile Test ¹		Hardness, HRB																																														
				Eddy Current	Flattening		YS (KSI / MPa)	E (%)																																															
JGA112-01112	1 1/4 inch Sch 10S x 6M	TP 304/304L	6	PASSED	PASSED	PASSED	205	515	90																																														
IGA034-01112	12 inch Sch 10S x 6M	TP 304/304L	12	PASSED	PASSED	PASSED	433	692	84																																														
							343	647	83																																														
Chemical Composition (%) <table border="1"> <thead> <tr> <th></th> <th>C</th> <th>Si</th> <th>Mn</th> <th>P</th> <th>S</th> <th>Cr</th> <th>Ni</th> <th>Pb</th> </tr> </thead> <tbody> <tr> <td>Max</td> <td>0.035</td> <td>1.00</td> <td>2.00</td> <td>0.045</td> <td>0.030</td> <td>20.00</td> <td>11.00</td> <td>-</td> </tr> <tr> <td>Min</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> <td>18.00</td> <td>8.00</td> <td>-</td> </tr> <tr> <td>Heat No.</td> <td>0.023</td> <td>0.40</td> <td>1.15</td> <td>0.029</td> <td>0.001</td> <td>18.25</td> <td>8.01</td> <td>< 0.01</td> </tr> <tr> <td>IGA034-01112</td> <td>0.020</td> <td>0.49</td> <td>1.08</td> <td>0.030</td> <td>0.002</td> <td>18.27</td> <td>8.01</td> <td>< 0.01</td> </tr> </tbody> </table>												C	Si	Mn	P	S	Cr	Ni	Pb	Max	0.035	1.00	2.00	0.045	0.030	20.00	11.00	-	Min	-	-	-	-	-	18.00	8.00	-	Heat No.	0.023	0.40	1.15	0.029	0.001	18.25	8.01	< 0.01	IGA034-01112	0.020	0.49	1.08	0.030	0.002	18.27	8.01	< 0.01
	C	Si	Mn	P	S	Cr	Ni	Pb																																															
Max	0.035	1.00	2.00	0.045	0.030	20.00	11.00	-																																															
Min	-	-	-	-	-	18.00	8.00	-																																															
Heat No.	0.023	0.40	1.15	0.029	0.001	18.25	8.01	< 0.01																																															
IGA034-01112	0.020	0.49	1.08	0.030	0.002	18.27	8.01	< 0.01																																															

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 - 12b STANDARD, SPECIMEN GAUGE WIDTH 19.2MM FOR "A" ABOVE, "1" INCLUDE AND BELOW DIRECT TEST FROM PIPE. LONGITUDINAL DIRECTION, GAUGE LENGTH 2" (50mm)

NOTE: MADE IN MALAYSIA STEEL MAKING PROCESS : AOD / VOD
 WELDED BY ELECTRIC FUSION WELDING WITH PROCESS WITH NO FILLER METAL
 INTERGRANULAR CORROSION TEST ACCORDING TO ASTM A369-10 PRACTICE E
 HARDNESS ACCORDING TO NACE-MR0175-2015 / ISO 15156-2015 & NACE-MR0109-2015
 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
 EDDY CURRENT ACCORDING TO ASTM E426-98 (Reapproved 2003)¹ REQUIREMENTS (REFERENCE TO ASTM A999/A999M-12 REQUIREMENTS, DISCONTINUITY ACC. TO CLAUSE 22.3.3.4, PROCEDURE ACC. TO CLAUSE 22.3.1.9)

*2: NH: Non Hydrostatically Tested

Signature of QAQC Manager
 QAQC MANAGER
 HASSANUDDIN
 Head of Quality Assurance Department



MILL TEST CERTIFICATE

PANTECH STAINLESS & ALLOY INDUSTRIES SDN. BHD. (733428W)
(A MEMBER OF PANTECH GROUP HOLDINGS BERHAD, LISTED ON MAIN MARKET OF BUKSA MALAYSIA)

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http://www.pantech-group.com



Cert. No.: ISO9001-0047465
PED CERTIFICATE NO.:
0035/PED/MUM/1110006/1



SPAN

Perusahaan Perdagangan Air Negara
NO. SJIL PENDAFTARAN : SPAN/RP/A/00883-2011

SIRIM
Cert. No.: PP087201

INSPECTION DOCUMENT: EN 10204: 2004 Type 3.1

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

Certificate No : PSA2-25153
Date : 21/09/2020

PO No.	Invoice No.	Product Specification	Dimensional & Inspection Specification	Delivery Condition									
APO-2008-0164	L000010332	ASTM A312/A312M - 19 / ASME SA312/SA312M - 19	ASTM A999/A999M - 1B / ASME SA999/SA999M - 19 B 36.19M-04 & B36.10M-04	Solution Treated, Pickled-Passivated, Plain Ends Square Cut									
Heat No.	Size	Grade	Quantity (Length)	Inter-Granular Corrosion Test									
JGA084-01112	1 inch Sch 10S x 6M	TP 304/304L	2	PASSED									
				Non Destructive Test									
				Eddy Current									
				Flattening									
				PASSED									
				Hydrostatic Test									
				Pressure / Hold									
				Result									
				2500 PSI, 5s									
				PASSED									
				Dimensional / PMI / Visual Inspection									
				GOOD									
Specification	Chemical Composition (%)			Remarks									
Max	C	Si	Mn	P	S	Cr	Ni	Pb	YS	TS	E	Hardness, HRB	
Min	0.035	1.00	2.00	0.045	0.030	20.00	11.00	-	-	-	-	90	
Heat No.	-	-	-	-	-	18.00	8.00	-	205	515	35	-	
JGA084-01112	0.024	0.40	1.38	0.031	0.002	18.33	8.04	< 0.01	340	645	59	84	

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 1" ABOVE, 1" INCLUDE AND BELOW DIRECT TEST FROM PIPE. LONGITUDINAL DIRECTION. GAUGE LENGTH 2" (50mm)

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

WELDED BY ELECTRIC FUSION WELDING WITH 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

EDDY CURRENT ACCORDING TO ASTM E245-96 (Reapproved 2003) *2: Nf: Not Hydrostatically Tested

*3: REQUIREMENTS (REFERENCE TO ASTM A999/A999M-12 REQUIREMENTS, DISCONTINUITY ACC. TO CLAUSE 22.3.8.4, PROCEDURE ACC. TO CLAUSE 22.3.9)

DAGC
MANAGER
HASAN BIN
SALIM
PANTECH GROUP INDUSTRIES SDN BHD

Head of Quality Assurance Department



MILL TEST CERTIFICATE

PANTECH STAINLESS & ALLOY INDUSTRIES SDN. BHD. (733428W)
 (A MEMBER OF PANTECH GROUP HOLDINGS BERHAD, LISTED ON MAIN MARKET OF BURSA MALAYSIA)

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SPAN

Perusahaan Perbidanan Atr. Negara
 NO. SUI Pendaftaran : SPAN/KP/A/00883-2011



Cert. No.: ISO9001-0047465
 PED CERTIFICATE NO.:
 0038/PED/MUM/1110006/1

SIRIM
 Cert. No.: PP087201

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

Certificate No : PSA2-25151
 Date : 21/09/2020

INSPECTION DOCUMENT: EN 10204: 2004 Type 3.1

PO No.	Invoice No.	Product Specification	Dimensional & Inspection Specification				Delivery Condition				
			ASTM A312/A312M - 19 / ASME SA312/SA312M - 19	ASTM A999/A999M - 18 / ASME SA999/SA999M - 19	B 36.19M-04 & B36.10M-04	Solution Treated, Pickled-Passivated, Plain Ends Square Cut	Hydrostatic Test	Dimensional / PMI/ Visual Inspection			
Heat No.	Size	Grade	Quantity (Length)	Non Destructive Test		Inter-Granular Corrosion Test	Pressure / Hold	Result	Hardness, HRB	Remarks	
				Eddy Current	Flattening						
JGA087-01112	2 inch Sch 10S x 6M	TP 304/304L	6	PASSED	PASSED	PASSED	2500 PSI, 5s	PASSED	90	GOOD	
JGA120-01112	2 inch Sch 10S x 6M	TP 304/304L	37	PASSED	PASSED	PASSED	2500 PSI, 5s	PASSED	84	GOOD	
JGA121-01112	2 inch Sch 10S x 6M	TP 304/304L	105	PASSED	PASSED	PASSED	2500 PSI, 5s	PASSED	84	GOOD	
Chemical Composition (%)											
Specification		C	Si	Mn	P	S	Cr	Ni	Pb	Tensile Test ¹	
Max		0.035	1.00	2.00	0.045	0.030	20.00	11.00	-	YS	TS
Min		-	-	-	-	-	18.00	8.00	-	-(KSI / MPa)	
Heat No.		-	-	-	-	-	18.00	8.00	-	205	515
JGA087-01112		0.027	0.45	1.40	0.030	0.001	18.22	8.02	< 0.01	354	663
JGA120-01112		0.022	0.39	1.16	0.027	0.002	18.30	8.02	< 0.01	375	673
JGA121-01112		0.022	0.39	1.16	0.027	0.002	18.30	8.02	< 0.01	352	640

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 1" ABOVE, 1" INCLUDE AND BELOW DIRECT TEST FROM PIPE. LONGITUDINAL DIRECTION, GAUGE LENGTH 2" (50mm)

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

WELDED BY ELECTRIC FUSION WELDING WITH 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

*2: NH: Not Hydrostatically Tested

EDDY CURRENT ACCORDING TO ASTM E246-98 (Reapproved 2003)¹ REQUIREMENTS (REFERENCE TO ASTM A999/A999M-12 REQUIREMENTS, DISCONTINUITY ACC. TO CLAUSE 22.3.8.4, PROCEDURE ACC. TO CLAUSE 22.3.9)

Head of Quality Assurance Department



MILL TEST CERTIFICATE

PANTECH STAINLESS & ALLOY INDUSTRIES SDN. BHD. (733428W)
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 http://www.pantech-group.com

INSPECTION DOCUMENT: EN 10204: 2004 Type 3.1



Cert. No.: ISO9001-0047465
 PED CERTIFICATE NO.:
 0038/PED/MUM/1110006/1



SIRM
 Cert. No.: PP087201



Suruhanjaya Perkhidmatan Air Negara
 NO. SUIL PENDAFTARAN: SPAN/KP/A/00883-2011

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

Certificate No : PSA2-25150
 Date : 21/09/2020

PO No.	Invoice No.	Product Specification		Dimensional & Inspection Specification						Delivery Condition		Remarks
		ASTM A312/A312M - 19 / ASME SA312/SA312M - 19	ASTM A998/A998M - 18 / ASME SA998/SA998M - 19	ASTM A998/A998M - 18 / ASME SA998/SA998M - 19		ASTM A998/A998M - 18 / ASME SA998/SA998M - 19		ASTM A998/A998M - 18 / ASME SA998/SA998M - 19		Solution Treated, Pickled-Passivated, Plain Ends Square Cut		
Heat No.	Size	Grade	Quantity (Length)	Non Destructive Test			Inter-Granular Corrosion Test	Hydrostatic Test		Dimensional /PMI/ Visual Inspection		
				Eddy Current	Flattening	Corrosion Test		Pressure / Hold	Result			
JGA111-01112	2 inch Sch 10S x 6M	TP 304/304L	40	PASSED	PASSED	PASSED	PASSED	2500 PSI, 5s	PASSED	GOOD		
JGA112-01112	2 inch Sch 10S x 6M	TP 304/304L	34	PASSED	PASSED	PASSED	PASSED	2500 PSI, 5s	PASSED	GOOD		
Chemical Composition (%)												
Specification	C	P	S	Cr	Ni	Pb	Tensile Test ¹					
	0.035	0.045	0.030	20.00	11.00	-	YS	TS	E	Hardness, HRB		
Max	-	-	-	18.00	8.00	-	(ksi / MPa)	(%)				
Min	-	-	-	18.25	8.01	< 0.01	205	515	35			
Heat No.	0.023	0.029	0.001	18.25	8.01	< 0.01	358	653	51			
JGA111-01112	0.023	0.029	0.001	18.25	8.01	< 0.01	363	681	52			
JGA112-01112												

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 1" ABOVE, 1" INCLUDE AND BELOW DIRECT TEST FROM PIPE. LONGITUDINAL DIRECTION, GAUGE LENGTH 2" (50mm)

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

WELDED BY ELECTRIC FUSION WELDING WITH PROCESS WITH NO FILLER METAL
 INTERGRANULAR CORROSION TEST ACCORDING TO ASTM A361-10 PRACTICE E
 HARDNESS ACCORDING TO NACE-MR0175-2015 / ISO 15156-2:2015 & 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

*2: NF: No Hydrostatically Tested

*3: REQUIREMENTS (REFERENCE TO ASTM E426-98 (Reapproved 2003))

Head of Quality Assurance Department



MILL TEST CERTIFICATE

PANTECH STAINLESS & ALLOY INDUSTRIES SDN. BHD. (733428W)
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http://www.pantech-group.com



Cert. No.: ISO9001-0047465
PED CERTIFICATE NO.:
0038/PED/MUM/1110006/1



SIRM
Cert. No.: PP087201



SURUTERBUKTI PERKUALIFIKASIAN ALI NEBARA
NO. SUKIL PENDAFTARAN: SPAN/KP/A/00883-2011

INSPECTION DOCUMENT: EN 10204: 2004 Type 3.1

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

Certificate No : PSA2-25148
Date : 21/09/2020

PO No.	Invoice No.	Product Specification	Dimensional & Inspection Specification										Delivery Condition	
			ASTM A312/A312M - 19 / ASME SA312/SA312M - 19					ASTM A999/A999M - 18 / ASME SA999/SA999M - 19 B 36.19M-04 & B36.10M-04					Solution Treated, Pickled-Passivated, Plain Ends Square Cut	
Heat No.	Size	Grade	Quantity (Length)	Non Destructive Test			Inter-Granular Corrosion Test	Hydrostatic Test		Dimensional/PMI/ Visual Inspection		Remarks		
				Eddy Current	Flattening	PASSED		Pressure / Hold	Result	Pressure / Hold	Result			
JG004-10	1 inch Sch 10S x 6M	TP 304/304L	50	PASSED	PASSED	PASSED	PASSED	2500 PSI, 5s	PASSED	2500 PSI, 5s	PASSED	GOOD		
JG008-10	1 inch Sch 10S x 6M	TP 304/304L	19	PASSED	PASSED	PASSED	PASSED	2500 PSI, 5s	PASSED	2500 PSI, 5s	PASSED	GOOD		
JG027-10	1 inch Sch 10S x 6M	TP 304/304L	22	PASSED	PASSED	PASSED	PASSED	2500 PSI, 5s	PASSED	2500 PSI, 5s	PASSED	GOOD		
JGA110-01112	1 inch Sch 10S x 6M	TP 304/304L	49	PASSED	PASSED	PASSED	PASSED	2500 PSI, 5s	PASSED	2500 PSI, 5s	PASSED	GOOD		
JGA121-01112	1 inch Sch 10S x 6M	TP 304/304L	42	PASSED	PASSED	PASSED	PASSED	2500 PSI, 5s	PASSED	2500 PSI, 5s	PASSED	GOOD		
Specification	Chemical Composition (%)													
	C	Si	Mn	P	S	Cr	Ni	Pb	YS (KSI / MPa)	TS	E (%)	Hardness, HRB	Remarks	
Max	0.035	1.00	2.00	0.045	0.030	20.00	11.00	-	-	-	-	90		
Min	-	-	-	-	-	18.00	8.00	-	-	-	-	-		
Heat No.														
JG004-10	0.019	0.39	1.19	0.031	0.001	18.25	8.01	< 0.01	205	515	35	-		
JG008-10	0.023	0.40	1.15	0.029	0.001	18.25	8.01	< 0.01	342	652	48	86		
JG027-10	0.023	0.40	1.15	0.029	0.001	18.25	8.01	< 0.01	346	654	55	85		
JGA110-01112	0.023	0.40	1.15	0.029	0.001	18.25	8.01	< 0.01	348	650	52	84		
JGA121-01112	0.022	0.39	1.16	0.027	0.002	18.30	8.02	< 0.01	336	645	56	80		
									348	659	49	83		

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 1" ABOVE, 1" INCLUDE AND BELOW DIRECT TEST FROM PIPE. LONGITUDINAL DIRECTION, GAUGE LENGTH 2" (50mm)

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

WELDED BY ELECTRIC FUSION WELDING WITH PROCESS WITH NO FILLER METAL
INTERGRANULAR CORROSION TEST ACCORDING TO ASTM A262-10 PRACTICE E
HARDNESS ACCORDING TO NACH-AR0175-2015 / ISO 15156-2015 & NACE-MR0103-2015
HEAT TREATMENT: SOLUTION TREATED AT MINIMUM 1050°C, RAPIDLY COOLED WITH WATER
CHEMICAL COMPOSITION CAPTURED FROM RAW MATERIALS HEAT ANALYSIS

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

*2: NH: Not Hydrostatically Tested

FEDDY CURRENT ACCORDING TO ASTM E26-98 (Reapproved 2003) *1 REQUIREMENTS (REFERENCE TO ASTM A999/A999M-12 REQUIREMENTS, DISCONTINUITY ACC. TO CLAUSE 22.3.8.4. PROCEDURE ACC. TO CLAUSE 22.3.9)

Signature of Head of Quality Assurance Department
Head of Quality Assurance Department



MILL TEST CERTIFICATE

PANTECH STAINLESS & ALLOY INDUSTRIES SDN. BHD. (733428W)
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http://www.pantech-group.com

SPAN

NO. SUHL PENDAFTARAN : SPAN/RP/A/00883-2011

INSPECTION DOCUMENT: EN 10204: 2004 Type 3.1

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



Cert. No.: ISO9001-0047465
PED-CERTIFICATE NO.:
0036/PED/MUM/1110006/1



SIRIM
Cert. No.: PP087201

Certificate No : PSA2-25144
Date : 17/09/2020

PO No.	Invoice No.	Product Specification		Dimensional & Inspection Specification										Delivery Condition	
		ASTM A312/A312M - 19 / ASME SA312/SA312M - 19	ASTM A999/A999M - 18 / ASME SA999/SA999M - 19 B 36.19M-04 & B36.10M-04	Quantity (Length)	Grade	Non Destructive Test		Inter-Granular Corrosion Test	Hydrostatic Test		Dimensional / PMI/ Visual Inspection		Solution Treated, Pickled-Passivated, Plain Ends Square Cut		
Heat No.	Size	Grade	Quantity (Length)	Eddy Current	Flattening	PASSED	PASSED	PASSED	PASSED	Pressure / Hold	Result	2500 PSI, 5s	PASSED	GOOD	
JS001-10	1/2 inch Sch 10S x 6M	TP 304/304L	83	PASSED	PASSED	PASSED	PASSED	PASSED	PASSED	2500 PSI, 5s	PASSED	2500 PSI, 5s	PASSED	GOOD	
JSA417-01112	1/2 inch Sch 10S x 6M	TP 304/304L	50	PASSED	PASSED	PASSED	PASSED	PASSED	PASSED	2500 PSI, 5s	PASSED	2500 PSI, 5s	PASSED	GOOD	
JSA434-01112	1/2 inch Sch 10S x 6M	TP 304/304L	30	PASSED	PASSED	PASSED	PASSED	PASSED	PASSED	2500 PSI, 5s	PASSED	2500 PSI, 5s	PASSED	GOOD	
JSA434-01182	1/2 inch Sch 10S x 6M	TP 304/304L	6	PASSED	PASSED	PASSED	PASSED	PASSED	PASSED	2500 PSI, 5s	PASSED	2500 PSI, 5s	PASSED	GOOD	
Specification	Chemical Composition (%)														
	C	Si	Mn	P	S	Cr	Ni	Pb	YS (KSI / MPa)	TS	E (%)	Hardness, HRB		Remarks	
0.035	1.00	2.00	0.045	0.030	20.00	11.00	-	205	515	35	90				
Heat No.															
JS001-10	0.018	0.48	1.04	0.032	0.001	18.10	8.02	< 0.01	391	679	54	86			
JSA417-01112	0.009	0.46	1.18	0.028	0.001	18.11	8.04	< 0.01	393	664	50	87			
JSA434-01112	0.015	0.41	1.03	0.029	0.001	18.06	8.00	< 0.01	419	699	50	89			
JSA434-01182	0.015	0.41	1.03	0.029	0.001	18.06	8.00	< 0.01	419	699	50	89			

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 TO CONFORM TO THE REQUIREMENTS MAINTAINED IN FORCE FROM MERCURY & RADIOACTIVE CONTAMINATION

TENSILE REQUIREMENT CONFORMS TO ASTM A 370 - 12a STANDARD. SPECIMEN GAUGE WIDTH 19.2MM FOR 1" ABOVE. 1" BELOW AND BELOW DIRECT TEST FROM PIPE. LONGITUDINAL DIRECTION. GAUGE LENGTH 17.5mm

NOTE: MADE IN MALAYSIA STEEL MAKING PROCESS AOD / VOD

WELDED BY ELECTRIC FUSION WELDING WITH PROCESS WITH NO FILLER METAL.

INTERGRANULAR CORROSION TEST ACCORDING TO ASTM A262-10 PRACTICE E

HARDNESS ACCORDING TO NACM-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 MATERIALS HEAT ANALYSIS

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

*2. HRB: No Hydrostatic Test

EDDY CURRENT ACCORDING TO ASTM E120-98 (Reapproved 2003) REQUIREMENTS (REFERENCE TO ASTM A999/A999M-12 REQUIREMENTS, DISCONTINUITY ACC. TO CLAUSE 22.3.8.4, PROCEDURE ACC. TO CLAUSE 22.3.9)

Signature of QAQC Manager
QAQC MANAGER
PANTECH STAINLESS & ALLOY INDUSTRIES SDN. BHD.

Head of Quality Assurance Department



MILL TEST CERTIFICATE

PANTECH STAINLESS & ALLOY INDUSTRIES SDN. BHD. (733428W)
 (A MEMBER OF PANTECH GROUP HOLDINGS BERHAD, LISTED ON MAIN MARKET OF BURSA MALAYSIA)

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 http://www.pantech-group.com



Cert. No.: ISO9001-0047465
 PED CERTIFICATE NO.:
 0038/PED/MUM/1110006/1



SIRIM
 Cert. No.: PP087201



SURUTERANG PERUSAHAAN AIR NEGARA
 NO. SULLI PENDAFTARAN : SPAN/MP/A/00883-2011

INSPECTION DOCUMENT: EN 10204: 2004 Type 3.1

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

Certificate No : PSA2-25283
 Date : 07/10/2020

PO No.	Invoice No.	Product Specification		Dimensional & Inspection Specification						Delivery Condition		
		ASTM A312/A312M - 19 / ASME SA312/SA312M - 19	ASTM A999/A999M - 18/ ASME SA999/SA999M - 19 B 36.19M-04 & B36.10M-04	Quantity (Length)	Non Destructive Test		Inter-Granular Corrosion Test	Hydrostatic Test	Dimensional/PMI/ Visual Inspection	Solution Treated, Pickled-Passivated, Plain Ends Square Cut		
Heat No.	Size	Grade	Eddy Current	Flattening	PASSED	PASSED	PASSED	Pressure / Hold	Result	GOOD		
JG004-10	1 inch Sch 10S x 6M	TP 304/304L	PASSED	PASSED	PASSED	PASSED	2500 PSI, 5s	PASSED	GOOD	GOOD		
JGA120-01112	1 inch Sch 10S x 6M	TP 304/304L	PASSED	PASSED	PASSED	PASSED	2500 PSI, 5s	PASSED	GOOD	GOOD		
JSA417-03112	1 inch Sch 10S x 6M	TP 304/304L	PASSED	PASSED	PASSED	PASSED	2500 PSI, 5s	PASSED	GOOD	GOOD		
JSA417-03182	1 inch Sch 10S x 6M	TP 304/304L	PASSED	PASSED	PASSED	PASSED	2500 PSI, 5s	PASSED	GOOD	GOOD		
Chemical Composition (%)												
Specification	C	Si	Mn	P	S	Cr	Ni	Pb	Tensile Test ¹		Hardness, HRB	Remarks
	0.035	1.00	2.00	0.045	0.030	20.00	11.00	-	YS --(ksi / MPa)	TS		
JG004-10	0.019	0.39	1.19	0.031	0.001	18.25	8.01	< 0.01	205	515	35	-
JGA120-01112	0.022	0.39	1.16	0.027	0.002	18.30	8.02	< 0.01	342	652	48	86
JSA417-03112	0.009	0.46	1.18	0.028	0.001	18.11	8.04	< 0.01	352	674	52	84
JSA417-03182	0.009	0.46	1.18	0.028	0.001	18.11	8.04	< 0.01	357	653	51	87
									357	653	51	87

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 A 70 - 17a STANDARD, SPECIMEN GAUGE WIDTH 19.2MM FOR 1" ABOVE, 1" INCLUDE AND BELOW DIRECT TEST FROM PIPE. LONGITUDINAL DIRECTION, GAUGE LENGTH 2" (50mm)

NOTE: MADE IN MALAYSIA STEEL MAKING PROCESS: AOD / VOD
 WELDED BY ELECTRIC FUSION WELDING WITH 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

EDDY CURRENT ACCORDING TO ASTM E296-98 (Reapproved 2003)*1, REQUIREMENTS (REFERENCE TO ASTM A999/A999M-12 REQUIREMENTS, DISCONTINUITY ACC. TO CLAUSE 22.3.8.4, PROCEDURE ACC. TO CLAUSE 32.3.9)

*2: NIT: Not Hydrostatically Tested

(Signature)
 QAQC MANAGER
 HASSANUDDIN
 PANTECH STAINLESS & ALLOY INDUSTRIES SDN. BHD.

Head of Quality Assurance Department



MILL TEST CERTIFICATE

PANTECH STAINLESS & ALLOY INDUSTRIES SDN. BHD. (733428W)
(A MEMBER OF PANTECH GROUP HOLDINGS BERHAD, LISTED ON MAIN MARKET OF BURSA MALAYSIA)

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SPAN

SUKSES BERKUALITI ALI-KUALITI
NO. SUKSES BERKUALITI ALI-KUALITI
NO. SUKSES BERKUALITI ALI-KUALITI

INSPECTION DOCUMENT: EN 10204: 2004 Type 3.1

Cert. No.: ISO9001-0047465
PED CERTIFICATE NO.:
0038/PED/MUM/1110006/1
SIRIM
Cert. No.: PP087201

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

Certificate No : PSA2-25282
Date : 07/10/2020

PO No.	Invoice No.	Product Specification	Dimensional & Inspection Specification	Delivery Condition									
APO-2008-0164	L000010455	ASTM A312/A312M - 19 / ASME SA312/SA312M - 19	ASTM A999/A999M - 18/ ASME SA999/SA999M - 19 B 36.19M-04 & B36.10M-04	Solution Treated, Pickled-Passivated, Plain Ends Square Cut									
Heat No.	Size	Grade	Quantity (Length)	Non Destructive Test	Inter-Granular Corrosion Test	Hydrostatic Test	Dimensional /PMI/ Visual Inspection						
JGA099-01112	12 inch Sch 10S x 6M	TP 304/304L	6	Eddy Current PASSED	Flattening PASSED	Pressure / Hold NH	Result - GOOD						
Chemical Composition (%)													
Specification	C	Si	Mn	P	S	Cr	Ni	Pb	YS	TS	E	Hardness, HRB	Remarks
Max	0.035	1.00	2.00	0.045	0.030	20.00	11.00	-	-	-	-	90	
Min	-	-	-	-	-	18.00	8.00	-	205	515	35	-	
Heat No.	0.025	0.40	1.37	0.030	0.602	18.31	8.02	< 0.01	335	621	49	81	

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 1" ABOVE, 1" INCLUDE AND BELOW DIRECT TEST FROM PIPE. LONGITUDINAL DIRECTION. GAUGE LENGTH 2" (50mm)

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

WELDED BY ELECTRIC FUSION WELDING WITH 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

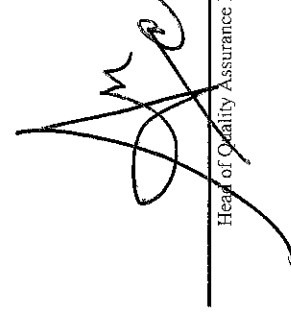
HEAT TREATMENT: SOLUTION TREATED AT MINIMUM 1050°C. RAPIDLY COOLED WITH WATER

CHEMICAL COMPOSITION CAPTURED FROM RAW MATERIAL'S HEAT ANALYSIS

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

EDDY CURRENT ACCORDING TO ASTM E309-98 (Reapproved 2003) *2: NH: Not Hydrostatically Tested

REQUIREMENTS (REFERENCE TO ASTM A999/A999M-12 REQUIREMENTS, DISCONTINUITY ACC. TO CLAUSE 22.3.8.4, PROCEDURE ACC. TO CLAUSE 22.3.9)


OACC
MANAGER
HASSAMUDDIN
PANTECH STAINLESS & ALLOY INDUSTRIES SDN. BHD.

Head of Quality Assurance Department



MILL TEST CERTIFICATE

PANTECH STAINLESS & ALLOY INDUSTRIES SDN. BHD. (733428W)
(A MEMBER OF PANTECH GROUP HOLDINGS BERHAD, LISTED ON MAIN MARKET OF BURSA MALAYSIA)

KAWASAN PERINDUSTRIAN PASIR GUDANG, ZON 12B, 81700 PASIR GUDANG
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Tel: +607-2518888 Fax: +607-2519999 E-mail: info@pantechgroup.com
http://www.pantech-group.com



Cert. No.: ISO9001-0047465

PED CERTIFICATE NO.:
0038/PED/MUM/1110006/1



SIRM
Cert. No.: PP087201



Kumpulan Syarikat Berhad
NO. SJIRI PENDAFTARAN: SPAN/KP/A/00883-2011

INSPECTION DOCUMENT: EN 10204: 2004 Type 3.1

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

Certificate No : PSA2-25281
Date : 07/10/2020

PO No.	Invoice No.	Product Specification		Dimensional & Inspection Specification				Delivery Condition				
		ASTM A312/A312M - 19 / ASME SA312/SA312M - 19	ASTM A999/A999M - 18 / ASME SA999/SA999M - 19 B 36.10M-04 & B36.10M-04	Quantity (Length)	Non Destructive Test			Hydrostatic Test		Visual Inspection		
Heat No.	Size	Grade	Eddy Current	Flattening	Inter-Granular Corrosion Test	Pressure / Hold	Result	Dimensional / PMI				
JE051-10	1/2 inch Sch 10S x 6M	TP 304/304L	PASSED	PASSED	PASSED	2500 PSI, 5s	PASSED	GOOD				
JS001-10	1/2 inch Sch 10S x 6M	TP 304/304L	PASSED	PASSED	PASSED	2500 PSI, 5s	PASSED	GOOD				
Chemical Composition (%)												
Specification Max Min	C	Si	Mn	P	S	Cr	Ni	Pb	Tensile Test ¹		Hardness, HRB	Remarks
	0.035	1.00	2.00	0.045	0.030	20.00	11.00	-	YS (ksi) / MPa	TS		
Heat No.									205	515	35	90
JE051-10									389	635	56	85
JS001-10									391	679	54	86

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 TO CONFORM TO THE REQUIREMENTS. MATERIAL IS FREE FROM MERCURY & RADIOACTIVE CONTAMINATION.

TENSILE REQUIREMENT: CONFORMS TO ASTM A370 - 12a STANDARD, SPECIMEN GAUGE WIDTH 19.2MM FOR 1" ABOVE, 1" INCLUDE AND BELOW DIRECT TEST FROM PIPE. LONGITUDINAL DIRECTION, GAUGE LENGTH 2' (50mm)

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

WELDED BY ELECTRIC FUSION WELDING WITH 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-MR0105-2015

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

REDDY CURRENT ACCORDING TO ASTM E1426-98 (Reapproved 2003)¹ REQUIREMENTS (REFERENCE TO ASTM A999/A999M-12 REQUIREMENTS, DISCONTINUITY ACC. TO CLAUSE 22.3.9)

*2: NLE: Not Hydrostatically Tested



[Signature]
Head of Quality Assurance Department



MILL TEST CERTIFICATE

PANTECH STAINLESS & ALLOY INDUSTRIES SDN. BHD. (733428W)
(A MEMBER OF PANTECH GROUP HOLDINGS BERHAD, LISTED ON MAIN MARKET OF BURSA MALAYSIA)

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http://www.pantech-group.com

INSPECTION DOCUMENT: EN 10204: 2004 Type 3.1



Cert. No.: ISO9001-0047465

PED CERTIFICATE NO.:
0038/PED/MUM/1110006/1



SIRM
Cert. No.: PP087201



SURUTANI, POKHIDMURAH, ALI MEGARA
NO. 5111, PONDOKTARAN, SPAN/KP/A/00883-2011

Customer : Unimech Engineering (M) SDN BHD
Product : Welded Austenitic Stainless Steel Pipe

Certificate No : PSA3-11791
Date : 22/09/2020

PO No.	Invoice No.	Product Specification	Dimensional & Inspection Specification	Delivery Condition				
APO-2009-0020	L000010348	ASTM A312/A312M - 19 / ASME SA312/SA312M - 19	ASTM A999/A999M - 18/ ASME SA999/SA999M - 19 B 36.19M-85 & B36.10M-04	Solution Treated, Pickled-Passivated, Plain Ends Square Cut				
Heat No.	Size	Grade	Quantity (Length)	Non Destructive Test	Inter-Granular Corrosion Test	Hydrostatic Test	Dimensional / PMI/ Visual Inspection	
ISA374-01113	5 inch Sch 10S x 6M	TP 316/316L	10	Eddy Current Flattening	PASSED PASSED	Pressure / Hold 1500 PSI, 5s	Result PASSED	
Specification					Tensile Test ^{*1}			Remarks
Chemical Composition (%)					YS	TS	E	
					-(KSI / MPa)			
					205	515	35	
					367	700	55	
					Hardness, HRB			
					90			
					-			
					83			

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 1" ABOVE, 1" INCLUDE AND BELOW DIRECT TEST FROM PIPE, LONGITUDINAL DIRECTION, GAUGE LENGTH 2" (50mm)

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

WELDED BY ELECTRIC FUSION WELDING PROCESS WITH NO FILLER METAL

INTERGRANULAR KORROSION TEST ACCORDING TO ASTM A262-10 PRACTICE E

HARDNESS ACCORDING TO NACE-MR0175-2015 / ISO 15156-2:2015 & NACE-MR0102-2015

HEAT TREATMENT: SOLUTION TREATED AT MINIMUM 1035°C, RAPIDLY COOLED WITH WATER

CHEMICAL COMPOSITION CAPTURED FROM RAW MATERIAL'S HEAT ANALYSIS

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

*2: NH: Not Hydrostatically Tested

EDDY CURRENT ACCORDING TO ASTM E426-98 (Reapproved 2005)⁴⁷ REQUIREMENTS (REFERENCE TO ASTM A999/A999M-12 REQUIREMENTS, DISCONTINUITY ACC. TO CLAUSE 22.3.8.4, PROCEDURE ACC. TO CLAUSE 22.3.9)

Head of Quality Assurance Department



MILL TEST CERTIFICATE

PANTECH STAINLESS & ALLOY INDUSTRIES SDN. BHD. (733428W)
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 http://www.pantech-group.com

INSPECTION DOCUMENT: EN 10204: 2004 Type 3.1



Cert. No.: ISO9001-0047465
 PED CERTIFICATE NO.:
 0038/PED/MUM/111006/1



SIRM
 Cert. No.: PP087201

SPAN
 SUTERA PAKSI, PANTENGAH, 81000 PASIR GUDANG
 NO. SUITE PANDAUFARAN : SPAN/KP/A/00885-2011

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

Certificate No : PSA2-25245
 Date : 29/09/2020

PO No.	Invoice No.	Product Specification	Dimensional & Inspection Specification	Delivery Condition									
APO-2008-0164	L000010420	ASTM A312/A312M - 19 / ASME SA312/SA312M - 19	ASTM A999/A999M - 18/ ASME SA999/SA999M - 19 B 36.19M-04 & B36.10M-04	Solution Treated, Pickled-Passivated, Plain Ends Square Cut									
Heat No.	Size	Grade	Quantity (Length)	Non Destructive Test	Inter-Granular Corrosion Test	Hydrostatic Test	Dimensional / PMI/ Visual Inspection						
JG027-10	4 inch Sch 10S x 6M	TP 304/304L	5	Eddy Current PASSED	Flattening PASSED	Pressure / Hold 1600 PSI, 5s PASSED	GOOD						
JGA113-01112	4 inch Sch 10S x 6M	TP 304/304L	4	PASSED	PASSED	1600 PSI, 5s PASSED	GOOD						
JGA116-01112	4 inch Sch 10S x 6M	TP 304/304L	6	PASSED	PASSED	1600 PSI, 5s PASSED	GOOD						
Chemical Composition (%)													
Specification	C	Si	Mn	P	S	Cr	Ni	Pb	YS (ksi / MPa)	TS	E (%)	Hardness, HRB	Remarks
Max	0.035	1.00	2.00	0.045	0.030	20.00	11.00	-	-	-	-	90	
Min	-	-	-	-	-	18.00	8.00	-	205	515	35	-	
Heat No.	JG027-10	0.023	0.40	1.15	0.029	18.25	8.01	< 0.01	348	655	56	80	
	JGA113-01112	0.024	0.40	1.14	0.026	18.14	8.03	< 0.01	345	652	59	82	
	JGA116-01112	0.024	0.40	1.14	0.026	18.14	8.03	< 0.01	334	618	51	83	

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 1" ABOVE, 1" INCLUDE AND BELOW DIRECT TEST FROM PIPE. LONGITUDINAL DIRECTION. GAUGE LENGTH 2" (50mm)

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

WELDED BY ELECTRIC FUSION WELDING WITH PROCESS WITH NO FILLER METAL

INTERGRANULAR CORROSION TEST ACCORDING TO ASTM A262-10 PRACTICE E

HARDNESS ACCORDING TO NACE-MR0175-2013 / 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

*2: NH: Non Hydrostatically Tested

EDDY CURRENT ACCORDING TO ASTM E416-98 (Reapproved 2003) *1 REQUIREMENTS (REFERENCE TO ASTM A999/A999M-12 REQUIREMENTS, DISCONTINUITY ACC. TO CLAUSE 22.3.8.4, PROCEDURE ACC. TO CLAUSE 22.3.9)

[Signature]
 Head of Quality Assurance Department



MILL TEST CERTIFICATE

PANTECH STAINLESS & ALLOY INDUSTRIES SDN. BHD. (733428W)
 (A MEMBER OF PANTECH GROUP HOLDINGS BERHAD, LISTED ON MAIN MARKET OF BURSA MALAYSIA)

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SPAN
 Sertifikasi Perkhidmatan Air Bersih
 NO. SUIL PENDAFTARAN: SPAN/RP/A/00883-2011



SIRM
 Cert. No.: PP087201



Cert. No.: ISO9001-0047465
 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 Pipe

Certificate No : PSA2-25240 ✓
 Date : 29/09/2020 ✓

PO No.	Invoice No.	Product Specification	Dimensional & Inspection Specification				Delivery Condition					
			ASTM A312/A312M - 19 / ASME SA312/SA312M - 19	ASTM A999/A999M - 18/ ASME SA999/SA999M - 19 B 36.19M-04 & B36.10M-04	Inter-Granular Corrosion Test	Solution Treated, Pickled-Passivated, Plain Ends Square Cut						
Heat No.	Size	Grade	Quantity (Length)	Non Destructive Test		Hydrostatic Test Pressure / Hold Result	Dimensional / PMI/ Visual Inspection					
				Eddy Current	Flattening							
JG016-10	10 inch Sch 10S x 6M	TP 304/304L	9	PASSED	PASSED	NH	GOOD					
Chemical Composition (%)												
Specification Max Min Heat No.	C	Si	Mn	P	S	Cr	Ni	Pb	Tensile Test ^{#1}		Hardness, HRB	Remarks
	0.035	1.00	2.00	0.045	0.030	20.00	11.00	-	YS (ksi / MPa)	TS		
JG016-10	0.028	0.41	1.18	0.032	0.002	18.00	8.00	-	205	515	35	90
						18.12	8.03	<0.01	335	546	54	83

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 1" ABOVE, 1" INCLUDE AND BELOW DIRECT TEST FROM PIPE. LONGITUDINAL DIRECTION, GAUGE LENGTH 117 (50mm)

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

WELDED BY ELECTRIC FUSION WELDING WITH 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 #2: NH: Not Hydrostatically Tested

#3: REQUIREMENTS (REFERENCE TO ASTM E426-98 (Reapproved 2003) #1 REQUIREMENTS DISCONTINUITY ACC. TO CLAUSE 22.3.4.4. PROCEDURE: ACC. TO CLAUSE 22.3.9)

[Signature]
 Head of Quality Assurance Department



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,
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Tel: +607-2518888 Fax: +607-2519999 E-mail: info@pantechstainless.com
http://www.pantech-group.com



Cert. No.: ISO9001-0047465
PED CERTIFICATE NO.:
0038/PED/MUM/110006/1
SIRM
Cert. No.: PP087201

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

Certificate No : PSA2-25239
Date : 29/09/2020

INSPECTION DOCUMENT: EN 10204: 2004 Type 3.1

PO No.	Invoice No.	Product Specification	Dimensional & Inspection Specification				Delivery Condition		
			ASTM A312/A312M - 19 / ASME SA312/SA312M - 19	ASTM A999/A999M - 18 / ASME SA999/SA999M - 19	B 36.19M-04 & B36.10M-04	Solution Treated, Pickled-Passivated, Plain Ends Square Cut	Hydrostatic Test	Dimensional /PMI/ Visual Inspection	
Heat No.	Size	Grade	Quantity (Length)	Non Destructive Test		Inter-Granular Corrosion Test	Pressure / Hold	Result	Remarks
				Eddy Current	Flattening				
JGA113-01112	4 inch Sch 10S x 6M	TP 304/304L	20	PASSED	PASSED	PASSED	1600 PSI, 5s	PASSED	GOOD
JGA116-01112	4 inch Sch 10S x 6M	TP 304/304L	30	PASSED	PASSED	PASSED	1600 PSI, 5s	PASSED	GOOD
Chemical Composition (%)									
Specification	C	P	S	Cr	Ni	Pb	Tensile Test ¹		Hardness, HRB
	0.035	0.045	0.030	20.00	11.00	-	YS (KSI / MPa)	TS	
Max	-	-	-	18.00	8.00	-	-	-	90
Min	-	-	-	18.14	8.03	< 0.01	205	515	35
Heat No.	-	-	-	18.14	8.03	< 0.01	345	652	59
JGA113-01112	0.024	0.026	0.002	18.14	8.03	< 0.01	334	618	51
JGA116-01112	0.024	0.026	0.002	18.14	8.03	< 0.01			

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 REQUIREMENT¹: CONFORMS TO ASTM A370 - 12a STANDARD. SPECIMEN GAUGE WIDTH 19.3MM FOR '1' ABOVE, '1' INCLUDE AND BELOW DIRECT TEST FROM PIPE LONGITUDINAL DIRECTION, GAUGE LENGTH 2" (50mm)

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

WELDED BY ELECTRIC FUSION WELDING WITH 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 MATERIALS HEAT ANALYSIS

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

*2: NI: Not Hydrostatically Tested

REQUIREMENTS (REFERENCE TO ASTM A999/A999M-12 REQUIREMENTS, DISCONTINUITY ACC. TO CLAUSE 22.3.8.4. PROCEDURE: ACC. TO CLAUSE 22.3.9)

Signature of Head of Quality Assurance Department
QAQC MANAGER
PANTECH INDUSTRIES SDN BHD

Head of Quality Assurance Department



MILL TEST CERTIFICATE

PANTECH STAINLESS & ALLOY INDUSTRIES SDN. BHD. (733428W)
(A MEMBER OF PANTECH GROUP HOLDINGS BERHAD, LISTED ON MAIN MARKET OF BURSA MALAYSIA)

FTD 204334, JALAN PLATINUM UTAMA,
KAWASAN PERINDUSTRIAN PASIR GUDANG, ZON 12B, 51700 PASIR GUDANG
JOHOR DARUL TAKZIM, MALAYSIA
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http://www.pantech-group.com



NO. SILL PENDATARAN : SPAN/KP/A/00883-2011

INSPECTION DOCUMENT: EN 10204: 2004 Type 3.1

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



Cert. No.: ISO9001-0047465

PED CERTIFICATE NO.:
0038/PED/MUM/1110006/1

SIRIM
Cert. No.: PP087201

Certificate No : PSA2-25244
Date : 29/09/2020

PO No.	Invoice No.	Product Specification		Dimensional & Inspection Specification				Delivery Condition																																																																																																																													
		ASTM A312/A312M - 19 / ASME SA312/SA312M - 19	ASTM A999/A999M - 18 / ASME SA999/SA999M - 19	ASTM A999/A999M - 18 / ASME SA999/SA999M - 19	ASTM A999/A999M - 18 / ASME SA999/SA999M - 19	Solution Treated, Pickled-Passivated, Plain Ends Square Cut																																																																																																																															
Heat No.	Size	Grade	Quantity (Length)	Non Destructive Test			Inter-Granular Corrosion Test		Hydrostatic Test		Dimensional / PMI/ Visual Inspection																																																																																																																										
				Eddy Current	Flattening	PASSED	PASSED	PASSED	Pressure / Hold	Result																																																																																																																											
JGA091-01112	5 inch Sch 10S x 6M	TP 304/304L	3	PASSED	PASSED	PASSED	PASSED	PASSED	1500 PSI, 5s	PASSED	GOOD																																																																																																																										
JGA133-01112	5 inch Sch 10S x 6M	TP 304/304L	2	PASSED	PASSED	PASSED	PASSED	PASSED	1500 PSI, 5s	PASSED	GOOD																																																																																																																										
JSA420-01112	5 inch Sch 10S x 6M	TP 304/304L	3	PASSED	PASSED	PASSED	PASSED	PASSED	1500 PSI, 5s	PASSED	GOOD																																																																																																																										
<table border="1"> <thead> <tr> <th rowspan="2">Specification</th> <th colspan="8">Chemical Composition (%)</th> <th colspan="2">Tensile Test¹</th> <th rowspan="2">Hardness, HRB</th> <th rowspan="2">Remarks</th> </tr> <tr> <th>C</th> <th>Si</th> <th>Mn</th> <th>P</th> <th>S</th> <th>Cr</th> <th>Ni</th> <th>Pb</th> <th>YS (ksi / MPa)</th> <th>TS</th> <th>E (%)</th> </tr> </thead> <tbody> <tr> <td>Max</td> <td>0.035</td> <td>1.00</td> <td>2.00</td> <td>0.045</td> <td>0.030</td> <td>20.00</td> <td>11.00</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> <td>90</td> <td></td> </tr> <tr> <td>Min</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> <td>18.00</td> <td>8.00</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> <td></td> </tr> <tr> <td>Heat No.</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> <td></td> </tr> <tr> <td>JGA091-01112</td> <td>0.022</td> <td>0.37</td> <td>1.17</td> <td>0.027</td> <td>0.001</td> <td>18.12</td> <td>8.03</td> <td>< 0.01</td> <td>205</td> <td>515</td> <td>35</td> <td>-</td> <td></td> </tr> <tr> <td>JGA133-01112</td> <td>0.022</td> <td>0.37</td> <td>1.17</td> <td>0.027</td> <td>0.001</td> <td>18.12</td> <td>8.03</td> <td>< 0.01</td> <td>341</td> <td>652</td> <td>56</td> <td>81</td> <td></td> </tr> <tr> <td>JSA420-01112</td> <td>0.013</td> <td>0.39</td> <td>1.17</td> <td>0.030</td> <td>0.002</td> <td>18.04</td> <td>8.02</td> <td>< 0.01</td> <td>341</td> <td>652</td> <td>56</td> <td>81</td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>343</td> <td>628</td> <td>59</td> <td>81</td> <td></td> </tr> </tbody> </table>												Specification	Chemical Composition (%)								Tensile Test ¹		Hardness, HRB	Remarks	C	Si	Mn	P	S	Cr	Ni	Pb	YS (ksi / MPa)	TS	E (%)	Max	0.035	1.00	2.00	0.045	0.030	20.00	11.00	-	-	-	-	90		Min	-	-	-	-	-	18.00	8.00	-	-	-	-	-		Heat No.	-	-	-	-	-	-	-	-	-	-	-	-		JGA091-01112	0.022	0.37	1.17	0.027	0.001	18.12	8.03	< 0.01	205	515	35	-		JGA133-01112	0.022	0.37	1.17	0.027	0.001	18.12	8.03	< 0.01	341	652	56	81		JSA420-01112	0.013	0.39	1.17	0.030	0.002	18.04	8.02	< 0.01	341	652	56	81											343	628	59	81	
Specification	Chemical Composition (%)								Tensile Test ¹		Hardness, HRB		Remarks																																																																																																																								
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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 1" ABOVE, 1" INCLUDE AND BELOW DIRECT TEST FROM PIPE. LONGITUDINAL DIRECTION, GAUGE LENGTH 2" (50mm)

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

WELDED BY ELECTRIC FUSION WELDING WITH PROCESS WITH NO FILLER METAL

INTERGRANULAR CORROSION TEST ACCORDING TO ASTM A262-10 PRACTICE E

HARDNESS ACCORDING TO NACS-MR0175-2015 / ISO 15156-2:2015 & NACE-MR01-2015

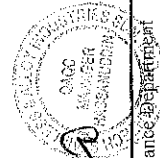
HEAT TREATMENT: SOLUTION TREATED AT MINIMUM 1050°C, RAPIDLY COOLED WITH WATER

CHEMICAL COMPOSITION CAPTURED FROM RAW MATERIAL'S HEAT ANALYSIS

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

*2: NH: Not Hydrostatically Tested

EDDY CURRENT ACCORDING TO ASTM F426-98 (Reapproved 2003) *1 REQUIREMENTS (REFERENCE TO ASTM A999/A999M-12 REQUIREMENTS, DISCONTINUITY ACC. TO CLAUSE 22.3.8.4, PROCEDURE ACC. TO CLAUSE 22.3.9)



Handwritten signature and name of the Head of Quality Assurance Department.

Head of Quality Assurance Department



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: +607-2518838 Fax: +607-2519999 E-mail: info@pantechstainless.com
 http://www.pantech-group.com

INSPECTION DOCUMENT: EN 10204: 2004 Type 3.1



Cert. No.: ISO9001-0047465
 PED CERTIFICATE NO.:
 0038/PED/MUM/1110006/1



SIRM
 Cert. No.: PP057201



Suruhanjaya Perindustrian, Air, Negara
 NO. SULL PENDAFTARAN: SPAN/KP/A/00883-2011

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

Certificate No : PSA2-25238
 Date : 29/09/2020

PO No.	Invoice No.	Product Specification	Dimensional & Inspection Specification	Delivery Condition											
APO-2008-0164	L000010415	ASTM A312/A312M - 19 / ASME SA312/SA312M - 19	ASTM A999/A999M - 19/ ASME SA999/SA999M - 19 B 36.19M-04 & B36.10M-04	Solution Treated, Pickled-Passivated, Plain Ends Square Cut											
Heat No.	Size	Grade	Quantity (Length)	Non Destructive Test											
JGA091-01112	5 inch Sch 10S x 6M	TP 304/304L	17	Eddy Current PASSED Flattening PASSED											
Chemical Composition (%)															
Specification	C	Si	Mn	P	S	Cr	Ni	Pb	Tensile Test ¹						
Max	0.035	1.00	2.00	0.045	0.030	20.00	11.00	-	YS	TS	E	Hardness, HRB			
Min	-	-	-	-	-	18.00	8.00	-	-	-	-	90			
Heat No.	0.022	0.37	1.17	0.027	0.001	18.12	8.03	< 0.01	205	515	35	-			
JGA091-01112									341	652	56	81			
													Inter-Granular Corrosion Test	Result	Dimensional /PM/ Visual Inspection
													PASSED	PASSED	GOOD

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 - 13a STANDARD, SPECIMEN GAUGE WIDTH 19.2MM FOR 1" ABOVE, 1" INCLUDE AND BELOW DIRECT TEST FROM PIPE. LONGITUDINAL DIRECTION, GAUGE LENGTH L₂ (50mm)

NOTE: MADE IN MALAYSIA STEEL MAKING PROCESS: AOD / VOD
 WELDED BY ELECTRIC FUSION WELDING WITH PROCESS WITH NO FILLER METAL
 INTERGRANULAR CORROSION TEST ACCORDING TO ASTM A262-10 PRACTICE E
 HARDNESS ACCORDING TO NACE-MR0173-2015 / ISO 15156 - 2015 & NACE-MR0103-2015
 HEAT TREATMENT: SOLUTION TREATED AT MINIMUM 1050°C, RAPIDLY COOLED WITH WATER
 CHEMICAL COMPOSITION CAPTURED FROM RAW MATERIALS HEAT ANALYSIS
 *1: YS: YIELD STRENGTH TS: TENSILE STRENGTH E: ELONGATION
 EDDY CURRENT ACCORDING TO ASTM B426-98 (Reapproved 2003) *2: REQUIREMENTS (REFERENCE TO ASTM A999/A999M-12 REQUIREMENTS, DISCONTINUITY ACC. TO CLAUSE 22.3.8.4. PROCEDURE ACC. TO CLAUSE 22.3.9)

[Signature]
 Head of Quality Assurance Department



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,
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JOHOR DARUL TAKZIM, MALAYSIA
Tel: +607-2518888 Fax: +607-2519999 E-mail: info@pantechsteel.com
http://www.pantech-group.com

INSPECTION DOCUMENT: EN 10204: 2004 Type 3.1

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



Cert. No.: ISO9001-0047465
PED CERTIFICATE NO.:
0038/PED/MUM/1110006/1



SIRIM
Cert. No.: PP087201



Suruhanjaya Perindustrian dan Perdagangan
NO. SUKIL PENDAFTARAN: SPAN/XP/A/00883-2011

Certificate No : PSA2-25223
Date : 29/09/2020

PO No.	Invoice No.	Product Specification		Dimensional & Inspection Specification				Delivery Condition		Remarks	
		ASTM A312/A312M - 19 / ASME SA312/SA312M - 19	ASTM A999/A999M - 18 / ASME SA999/SA999M - 19	Non Destructive Test		Inter-Granular Corrosion Test		Hydrostatic Test			Dimensional / PMI/ Visual Inspection
Heat No.	Size	Grade	Quantity (Length)	Eddy Current	Flattening	Corrosion Test		Pressure / Hold	Result		
JG005-10	3 inch Sch 10S x 6M	TP 304/304L	1	PASSED	PASSED	PASSED		2100 PSI, 5s	PASSED	GOOD	
JG027-10	3 inch Sch 10S x 6M	TP 304/304L	17	PASSED	PASSED	PASSED		2100 PSI, 5s	PASSED	GOOD	
JGA097-01112	3 inch Sch 10S x 6M	TP 304/304L	32	PASSED	PASSED	PASSED		2100 PSI, 5s	PASSED	GOOD	
Specification		Chemical Composition (%)									
Max	C	Si	Mn	P	S	Cr	Ni	Pb	Tensile Test ¹		Hardness, HRB
Min	0.035	1.00	2.00	0.045	0.030	20.00	11.00	-	YS	TS	
Heat No.	-	-	-	-	-	18.00	8.00	-	205	515	35
JG005-10	0.019	0.39	1.19	0.031	0.001	18.25	8.01	< 0.01	370	656	46
JG027-10	0.023	0.40	1.15	0.029	0.001	18.25	8.01	< 0.01	347	657	57
JGA097-01112	0.018	0.45	1.39	0.024	0.002	18.10	8.04	< 0.01	354	655	55

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 1" ABOVE, 1" INCLUDE AND BELOW DIRECT TEST FROM PIPE. LONGITUDINAL DIRECTION. GAUGE LENGTH 2" (50mm)

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

WELDED BY ELECTRIC FUSION WELDING WITH 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 MATERIALS HEAT ANALYSIS

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

*2: NF: Not Hydrostatically Tested

EDDY CURRENT ACCORDING TO ASTM E266-98 (Reapproved 2003)² REQUIREMENTS (REFERENCE TO ASTM A999/A999M-12 REQUIREMENTS, DISCONTINUITY ACC. TO CLAUSE 22.3.8.4. PROCEDURE ACC. TO CLAUSE 22.3.9)

OACC MANAGER
HASRANUDDIN
Head of Quality Assurance Department



MILL TEST CERTIFICATE

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http://www.pantech-group.com



Suruhanjaya Perkhidmatan Industri, Negeri Sembilan
NO. SUIK Pendaftar: SPAN/KP/A/00883-2011



Cert. No.: ISO9001-0047465
PED CERTIFICATE NO.:
0038/PED/MUM/1110006/1
SIRIM
Cert. No.: PP067201

Certificate No : PSA2-25222 ✓
Date : 29/09/2020 ✓

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

PO No.	Invoice No.	Product Specification		Dimensional & Inspection Specification				Delivery Condition				Remarks																																																																																																																																																		
		ASTM A312/A312M - 19 / ASME SA312/SA312M - 19	ASTM A999/A999M - 18 / ASME SA999/SA999M - 19	B 36.19M-04 & B36.10M-04	Solution Treated, Pickled-Passivated, Plain Ends Square Cut	Hydrostatic Test	Inter-Granular Corrosion Test	Flattening	Non Destructive Test	Eddy Current	Quantity (Length)		Grade	Size	Heat No.																																																																																																																																															
ISO411-01112	6 inch Sch 10S x 6M	TP 304/304L	10	PASSED	PASSED	PASSED	PASSED	PASSED	PASSED	10	TP 304/304L	6 inch Sch 10S x 6M	ISO411-01112																																																																																																																																																	
JG011-10	6 inch Sch 10S x 6M	TP 304/304L	4	PASSED	PASSED	PASSED	PASSED	PASSED	PASSED	4	TP 304/304L	6 inch Sch 10S x 6M	JG011-10																																																																																																																																																	
JGA091-01112	6 inch Sch 10S x 6M	TP 304/304L	1	PASSED	PASSED	PASSED	PASSED	PASSED	PASSED	1	TP 304/304L	6 inch Sch 10S x 6M	JGA091-01112																																																																																																																																																	
JSA426-01112	6 inch Sch 10S x 6M	TP 304/304L	4	PASSED	PASSED	PASSED	PASSED	PASSED	PASSED	4	TP 304/304L	6 inch Sch 10S x 6M	JSA426-01112																																																																																																																																																	
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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 1" ABOVE, 1" INCLUDE AND BELOW DIRECT TEST FROM PIPE. LONGITUDINAL DIRECTION, GAUGE LENGTH 2" (50mm)

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

WELDED BY ELECTRIC POSITION WELDING WITH 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

*2. NH: Not Hydrostatically Tested

*3. REQUIREMENTS (REFERENCE TO ASTM A426-98 (Reapproved 2003)) *4. REQUIREMENTS (REFERENCE TO ASTM A999/A999M-12 REQUIREMENTS, DISCONTINUITY ACC. TO CLAUSE 22.3.8.4. PROCEDURE ACC. TO CLAUSE 22.3.9)

HEAD OF QUALITY ASSURANCE DEPARTMENT
PANTECH STAINLESS & ALLOY INDUSTRIES SDN. BHD.
DAOC MANAGER
MAGSABUDOH



MILL TEST CERTIFICATE

PANTECH STAINLESS & ALLOY INDUSTRIES SDN. BHD. (733428W)
 (A MEMBER OF PANTECH GROUP HOLDINGS BERHAD, LISTED ON MAIN MARKET OF BURSA MALAYSIA)

FTD 204334, JALAN PLATINUM UTAMA,
 KAWASAN PERINDUSTRIAN PASIR GUDANG, ZON IZB, 81700 PASIR GUDANG,
 JOHOR DARUL TAKZIM, MALAYSIA
 Tel: +607-2518888 Fax: +607-2519999 E-mail: info@pantechssalky.com
 http://www.pantech-group.com

INSPECTION DOCUMENT: EN 10204, 2004 Type 3.1



Cert. No.: ISO9001-0047465
 PED CERTIFICATE NO.:
 0038/PED/MUM/1110006/1



SIRIM
 Cert. No.: PP067201



Suruhanjaya Perindustrian, KEMENTERIAN
 NO. SULIL PENDAFTARAN: SPAN/KP/A/00883-2011

Certificate No : PSA2-25221/
 Date : 29/09/2020

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

PO No.	Invoice No.	Product Specification		Dimensional & Inspection Specification				Delivery Condition																																																																																																				
		ASTM A312/A312M - 19 / ASME SA312/SA312M - 19	ASTM A999/A999M - 18 / ASME SA999/SA999M - 19	B 36.19M-04 & B36.10M-04	Solution Treated, Pickled-Passivated, Plain Ends Square Cut	Hydrostatic Test	Inter-Granular Corrosion Test	Flattening	Non Destructive Test	Hardness, HRB	Remarks																																																																																																	
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JG034-10	6 inch Sch 10S x 6M	TP 304/304L	20	PASSED	PASSED	PASSED	1300 PSI, 5s	PASSED	GOOD	GOOD																																																																																																		
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NOTE: MADE IN MALAYSIA STEEL MAKING PROCESS: AOD / VOD

WELDED BY ELECTRIC FUSION WELDING WITH 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

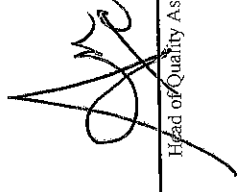
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*2: NH: Not Hydrostatically Tested

REQUIREMENTS (REFERENCE TO ASTM E426-98 (Reapproved 2003))

Signature: 
 QAQC MANAGER
 HASSANUREN
 Head of Quality Assurance Department

