



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@pantechgroup.com
 http://www.pantech-group.com

INSPECTION DOCUMENT: EN 10204: 2004 Type 3.1



Lloyd's Register

Cert. No.: ISO9001-0067665

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



SIRM
 Cert. No.: PP087201



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

Certificate No : PSA2-24138
 Date : 21/10/2019

PO No.	Invoice No.	Product Specification	Dimensional & Inspection Specification	Delivery Condition									
APO-1909-0074	L000009426	ASTM A312/A312M - 17 / ASME SA312/SA312M - 17	ASTM A999/A999M - 16/ ASME SA999/SA999M - 15 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						
ISA393-01112	1 inch Sch 40S x 6M	TP 304/304L	182	Eddy Current PASSED	Flattening PASSED	Pressure / Hold 2500 PSI, 5s PASSED	GOOD						
Chemical Composition (%)													
Specification	C	Si	Mn	P	S	Cr	Ni	Pb	YS -((σ) / 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. ISA393-01112	0.025	0.47	1.08	0.033	0.001	18.11	8.10	< 0.10	262	684	52	81	

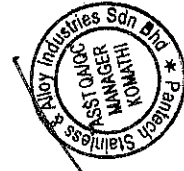
WE HEREBY CERTIFY THAT THE PRODUCT DESCRIBED HEREIN HAS BEEN MANUFACTURED, SAMPLED, TESTED & INSPECTED IN ACCORDANCE WITH THE REQUIREMENTS OF THE ABOVE SPECIFICATION & PURCHASE ORDER AND WAS FOUND SATISFIED TO THE REQUIREMENTS. MATERIAL IS FREE FROM MERCURY & RADIOACTIVE CONTAMINATION.
 TENSILE REQUIREMENT: 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 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)

*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 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@pantechstainless.com
 http://www.pantech-group.com



SPAN

SEKUTUP, PERINDUSTRIAN AIR NEGARA
 NO. 5/ULI PINDAFTARAN: SPAN/K9/A/00883-2011



Cert. No.: 509001-0047465

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

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 : PSA2-24271
 Date : 25/11/2019

PO No.	Invoice No.	Product Specification		Dimensional & Inspection Specification				Delivery Condition		
		ASTM A312/A312M - 17 / ASME SA312/SA312M - 17	ASTM A999/A999M - 16 / ASME SA999/SA999M - 15	B 36.19M-85 & B36.10M-04	Flattening	Inter-Granular Corrosion Test	Hydrostatic Test	Dimensional /PMI/ Visual Inspection		
Heat No.	Size	Grade	Quantity (Length)	Non Destructive Test		Tensile Test ¹		Remarks		
Specification	C	Si	Mn	P	S	Cr	Ni	Pb	E	
									YS	TS
ISA401-03112	2 inch Sch 40S x 6M	TP 304/304L	37	PASSED	PASSED	205	515	35	85	GOOD
ISA402-02112	2 inch Sch 40S x 6M	TP 304/304L	37	PASSED	PASSED	266	655	51	79	GOOD
IYA099-04112	2 inch Sch 40S x 6M	TP 304/304L	36	PASSED	PASSED	346	661	47	80	GOOD
IYA118-04112	2 1/2 inch Sch 40S x 6M	TP 304/304L	19	PASSED	PASSED	377	684	52	82	GOOD
IYA137-01112	2 1/2 inch Sch 40S x 6M	TP 304/304L	31	PASSED	PASSED	370	655	52	81	GOOD
<p>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.</p> <p>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)</p> <p>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 1039°C, RAPIDLY COOLED WITH WATER CHEMICAL COMPOSITION CAPTURED FROM RAW MATERIAL'S HEAT ANALYSIS</p> <p>*1: YS: YIELD STRENGTH TS: TENSILE STRENGTH E: ELONGATION EDDY CURRENT ACCORDING TO ASTM E426-98 (Reapproved 2005)⁶⁷ REQUIREMENTS (REFERENCE TO ASTM A999/A999M-12 REQUIREMENTS, DISCONTINUITY ACC. TO CLAUSE 22.3.8.4, PROCEDURE ACC. TO CLAUSE 22.3.9)</p> <p>*2: NH: Not Hydrogenatically Treated</p>										



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

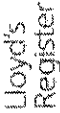
JOHOR DARUL TAKZIM, MALAYSIA

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

http://www.pantech-group.com



SERVISI TEKNIK DAN PEMERIKSAAN SITI MOGAYAH
NO. SUKIL PENDAFTARAN: SPAN/KP/A/00889-2011



Cert. No.: ISO9001-0047465

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



SIRIM
Cert. No.: PP087201

Certificate No : PSA2-24272

Date : 25/11/2019

INSPECTION DOCUMENT: EN 10204: 2004 Type 3.1

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 - 17 / ASME SA312/SA312M - 17	ASTM A999/A999M - 16/ ASME SA999/SA999M - 15 B 36.19M-85 & B36.10M-04	Quantity (Length)	Flattening	Inter-Granular Corrosion Test	Hydrostatic Test	Solution Treated, Pickled-Passivated, Plain Ends Square Cut	Dimensional /PMI/ Visual Inspection																																																					
Heat No.	Size	Grade	Eddy Current	Non Destructive Test	Pressure / Hold	Result	Pressure / Hold	Result	Remarks																																																					
ISA394-04112	10 inch Sch 40S x 6M	TP 304/304L	PASSED	PASSED	NH	-	NH	-	GOOD																																																					
<table border="1"> <thead> <tr> <th rowspan="2">Specification</th> <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>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>0.021</td> <td>0.43</td> <td>1.02</td> <td>0.033</td> <td>0.001</td> <td>18.06</td> <td>8.21</td> <td>< 0.10</td> </tr> <tr> <td>ISA394-04112</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table>										Specification	Chemical Composition (%)								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.	0.021	0.43	1.02	0.033	0.001	18.06	8.21	< 0.10	ISA394-04112								
Specification	Chemical Composition (%)																																																													
	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.	0.021	0.43	1.02	0.033	0.001	18.06	8.21	< 0.10																																																						
ISA394-04112																																																														
<table border="1"> <thead> <tr> <th rowspan="2">Tensile Test¹⁾</th> <th colspan="2">YS</th> <th colspan="2">TS</th> <th rowspan="2">E (%)</th> </tr> <tr> <th>MPa</th> <th>ksi</th> <th>MPa</th> <th>ksi</th> </tr> </thead> <tbody> <tr> <td></td> <td>205</td> <td>29.5</td> <td>515</td> <td>74.2</td> <td>35</td> </tr> <tr> <td></td> <td>346</td> <td>49.8</td> <td>688</td> <td>99.4</td> <td>52</td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table>										Tensile Test ¹⁾	YS		TS		E (%)	MPa	ksi	MPa	ksi		205	29.5	515	74.2	35		346	49.8	688	99.4	52																															
Tensile Test ¹⁾	YS		TS		E (%)																																																									
	MPa	ksi	MPa	ksi																																																										
	205	29.5	515	74.2	35																																																									
	346	49.8	688	99.4	52																																																									

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 15156-2:2015 & 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: NH- Not Hydrostatically Tested

EDDY CURRENT ACCORDING TO ASTM E246-98 (Reapproved 2005) *3: 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