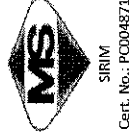




**MILL TEST CERTIFICATE**  
**PANTECH STAINLESS & ALLOY INDUSTRIES SDN. BHD.** (733428W)  
 (A MEMBER OF PANTECH GROUP HOLDINGS BERHAD, LISTED ON MAIN MARKET OF BURSA MALAYSIA)

KAWASAN PERINDUSTRIAN PASIR GUDANG, ZON 12B, 81700 PASIR GUDANG  
 JOHOR DARUL TAKZIM, MALAYSIA  
 FTD 204334, JALAN PLATINIUM UTAMA  
 Tel: +607-2518888 Fax: +607-2519999 E-mail: info@pantechsteel.com  
 http://www.pantech-group.com



Cert. No.: ISO9001-0047465

MATERIAL MANUFACTURER APPROVAL ACCORDING TO  
 PED 2014/68/EU, ANNEX 1, PARA 4.3.  
 PED CERTIFICATE NO.:  
 0038/PED/MUM/11.10006/1



INSPECTION DOCUMENT: EN 10204: 2004 Type 3.1

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

Certificate No : PSA2-25780  
 Date : 21/12/2020

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																																																																																																			
Heat No.	Size	Grade	Eddy Current		Flattening		PASSED		PASSED		PASSED																																																																																																			
JG141-10	1 1/4 inch Sch 10S x 6M	TP 304/304L	PASSED		PASSED		PASSED		2500 PSI, 5s		PASSED																																																																																																			
JG099-10	3 inch Sch 40S x 6M	TP 304/304L	PASSED		PASSED		PASSED		2500 PSI, 5s		PASSED																																																																																																			
<table border="1"> <thead> <tr> <th rowspan="2">Specification</th> <th colspan="10">Chemical Composition (%)</th> <th rowspan="2">Tensile Test<sup>1</sup></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>-</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> <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> <td></td> </tr> <tr> <td>JG141-10</td> <td>0.025</td> <td>0.40</td> <td>1.17</td> <td>0.027</td> <td>0.001</td> <td>18.12</td> <td>8.05</td> <td>&lt; 0.01</td> <td>205</td> <td>515</td> <td>35</td> <td>79</td> <td></td> </tr> <tr> <td>JG099-10</td> <td>0.022</td> <td>0.41</td> <td>1.13</td> <td>0.030</td> <td>0.002</td> <td>18.08</td> <td>8.03</td> <td>&lt; 0.01</td> <td>355</td> <td>652</td> <td>47</td> <td>83</td> <td></td> </tr> </tbody> </table>													Specification	Chemical Composition (%)										Tensile Test <sup>1</sup>	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.															JG141-10	0.025	0.40	1.17	0.027	0.001	18.12	8.05	< 0.01	205	515	35	79		JG099-10	0.022	0.41	1.13	0.030	0.002	18.08	8.03	< 0.01	355	652	47	83	
Specification	Chemical Composition (%)										Tensile Test <sup>1</sup>	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 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 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: Non-Hydrostatically Tested

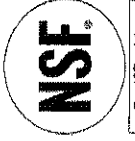
*(Signature)*  
 Head of Quality Assurance Department  
 OACQ MANAGER HASSANUDDIN  
 ALLOY INDUSTRIES SDN. BHD.



# 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



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

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

Certificate No : PSA2-25779  
Date : 21/12/2020

INSPECTION DOCUMENT- EN 10204 : 2004 Type 3.1

PO No.	Invoice No.	Product Specification	Dimensional & Inspection Specification	Delivery Condition									
APO-2012-0039	L000010921	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	PASSED		Pressure / Hold	Result				
JG143-10	3/4 inch Sch 40S x 6M	TP 304/304L	127	PASSED	PASSED	PASSED	PASSED	2500 PSI, 5s	PASSED	GOOD			
ISA409-05112	1 1/4 inch Sch 10S x 6M	TP 304/304L	22	PASSED	PASSED	PASSED	PASSED	2500 PSI, 5s	PASSED	GOOD			
ISA410-03112	1 1/4 inch Sch 10S x 6M	TP 304/304L	40	PASSED	PASSED	PASSED	PASSED	2500 PSI, 5s	PASSED	GOOD			
JG081-10	1 1/4 inch Sch 10S x 6M	TP 304/304L	60	PASSED	PASSED	PASSED	PASSED	2500 PSI, 5s	PASSED	GOOD			
JG140-10	1 1/4 inch Sch 10S x 6M	TP 304/304L	61	PASSED	PASSED	PASSED	PASSED	2500 PSI, 5s	PASSED	GOOD			
Specification	Chemical Composition (%)												
	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.													
JG143-10	0.019	0.43	1.15	0.028	0.002	18.19	8.03	< 0.01	368	653	52	85	
ISA409-05112	0.014	0.43	1.13	0.029	0.001	18.01	8.02	< 0.01	356	679	56	78	
ISA410-03112	0.021	0.47	0.99	0.029	0.001	18.04	8.02	< 0.01	486	723	47	79	
JG081-10	0.022	0.41	1.13	0.028	0.002	18.18	8.01	< 0.01	397	677	48	85	
JG140-10	0.022	0.43	1.15	0.028	0.001	18.17	8.02	< 0.01	362	716	51	76	

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 A302-10 PRACTICE E

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

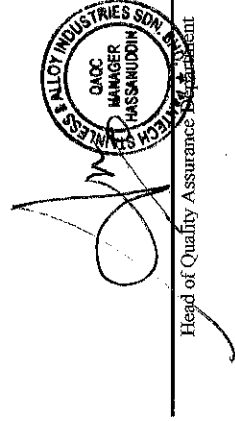
HEAT TREATMENT: SOLUTION TREATED AT MINIMUM 1050°C, RAPIDLY COOLED WITH WATER

CHEMICAL COMPOSITION CAPTURED FROM RAW MATERIAL'S HEAT ANALYSIS

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

\*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)



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 204534, 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.: PC004871



SEREMBAN PARKING MALAYSIA AIR BERSEKUTU  
NO. SUKUL PINDAFTARAN: SPAN/PP/5300-10/553/A/W-1

INSPECTION DOCUMENT: EN 10204: 2004 Type 3.1

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



Cert. No.: ISO9001-0047465



Certified to NSF/ANSI 61

MATERIAL MANUFACTURER APPROVAL ACCORDING TO PED 2014/08/EU, ANNEX I, PARA 4.3.  
PED CERTIFICATE NO.: 0038/PED/MUM/1110006/1

Certificate No : PSA2-25838  
Date : 31/12/2020

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	Dimensional / PMI/ Visual Inspection				
Heat No.	Size	Grade	Quantity (Length)	Non Destructive Test			Inter-Granular Corrosion Test	Pressure / Hold	Result	Dimensional / PMI/ Visual Inspection	
				Eddy Current	Flattening	Corrosion Test					
JG141-10	1/2 inch Sch 40S x 6M	TP 304/304L	93	PASSED	PASSED	PASSED	PASSED	2500 PSI, 5s	PASSED	GOOD	
JG149-10	1/2 inch Sch 40S x 6M	TP 304/304L	76	PASSED	PASSED	PASSED	PASSED	2500 PSI, 5s	PASSED	GOOD	
JG147-10	1 inch Sch 10S x 6M	TP 304/304L	57	PASSED	PASSED	PASSED	PASSED	2500 PSI, 5s	PASSED	GOOD	
Specification		Chemical Composition (%)									
Max	C	Si	Mn	P	S	Cr	Ni	Pb	Tensile Test <sup>*1</sup>		Hardness, HRB
Min	0.035	1.00	2.00	0.045	0.030	20.00	11.00	-	YS (ksi / MPa)	E (%)	
Heat No.	-	-	-	-	-	18.00	8.00	-	205	35	90
JG141-10	0.025	0.40	1.17	0.027	0.001	18.12	8.05	< 0.01	345	640	81
JG149-10	0.023	0.44	1.13	0.028	0.002	18.05	8.02	< 0.01	358	661	85
JG147-10	0.024	0.39	1.14	0.026	0.001	18.23	8.04	< 0.01	343	659	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 GAUGE WIDTH 12MM. 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 E426-98 (Reapproved 2003)<sup>#1</sup> REQUIREMENTS (REFERENCE TO ASTM A999/A999M-12 REQUIREMENTS, DISCONTINUITY ACC. TO CLAUSE 22.3.8.4, PROCEDURE ACC. TO CLAUSE 22.3.9)

CHAO MANAGER  
WASSANUDDIN  
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  
 PTD 204334, JALAN PLATINUM UTAMA,  
 JOHOR DARUL-TAKZIM, MALAYSIA  
 Tel: +607-2518888 Fax: +607-2519999 E-mail: info@pantechssalloy.com  
 http://www.pantech-group.com



Cert. No.: PC004871



SATUKAN PANTACH GROUP HOLDINGS BERHAD  
 NO. SIJIL PENDAFTARAN: SPAN/BI/500-10/555/A/W-1



Cert. No.: ISO9001-0047465

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

Certificate No : PSA2-25896  
 Date : 15/01/2021

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-2018 & B36.10M-2018	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		
JG162-10	1 inch Sch 40S x 6M	TP 304/304L	15	PASSED	PASSED	PASSED	2500 PSI, 5s	PASSED	GOOD	
JG166-10	1 inch Sch 40S x 6M	TP 304/304L	62	PASSED	PASSED	PASSED	2500 PSI, 5s	PASSED	GOOD	
JS130-10	1 inch Sch 40S x 6M	TP 304/304L	14	PASSED	PASSED	PASSED	2500 PSI, 5s	PASSED	GOOD	
JG154-10	6 inch Sch 10S x 6M	TP 304/304L	17	PASSED	PASSED	PASSED	1300 PSI, 5s	PASSED	GOOD	
JG157-10	6 inch Sch 10S x 6M	TP 304/304L	16	PASSED	PASSED	PASSED	1300 PSI, 5s	PASSED	GOOD	
Specification		Chemical Composition (%)								
Max	C	Si	Mn	P	S	Cr	Ni	Pb	Tensile Test *1	
Min	0.035	1.00	2.00	0.045	0.030	20.00	11.00	-	YS	TS
Heat No.	-	-	-	-	-	18.00	8.00	-	E	
JG162-10	0.018	0.41	1.12	0.026	0.002	18.08	8.01	< 0.01	205	515
JG166-10	0.019	0.41	1.15	0.029	0.002	18.14	8.01	< 0.01	355	653
JS130-10	0.018	0.45	1.04	0.030	0.001	18.11	8.01	< 0.01	350	662
JG154-10	0.018	0.47	1.13	0.027	0.002	18.18	8.01	< 0.01	417	797
JG157-10	0.020	0.42	1.13	0.027	0.002	18.15	8.03	< 0.01	349	667
									Hardness, HRB	
									90	
									-	
									88	
									84	
									83	
									82	
									79	

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

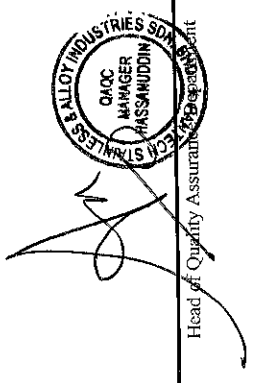
HARDNESS ACCORDING TO NACE-MR0175-2015 / ISO 15156-2015 & NACE-MR0103-2015

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 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)



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

INSPECTION DOCUMENT: EN 10204: 2004 Type 3.1

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



Cert. No.: PC004871



SPAN  
 NO. SIL PERDFTTARAN : SPAN/BI/300-10/553/A/W-1



Cert. No.: ISO9001-0047465

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

Certificate No : PSA2-25902  
 Date : 15/01/2021

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- 2018 & B36.10M-2018	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	Pressure / Hold	Result	Dimensional / PMI/ Visual Inspection			
JG096-10	1 1/2 inch Sch 40S x 6M	TP 304/304L	8	Eddy Current	Flattening	PASSED	2500 PSI, 5s	PASSED	GOOD			
JS172-10	3 inch Sch 10S x 6M	TP 304/304L	95	PASSED	PASSED	PASSED	2100 PSI, 5s	PASSED	GOOD			
<b>Chemical Composition (%)</b>												
Specification	C	Si	Mn	P	S	Cr	Ni	Pb	Tensile Test <sup>1</sup>	Hardness, HRB	Remarks	
Max	0.035	1.00	2.00	0.045	0.030	20.00	11.00	-				YS
Min	-	-	-	-	-	18.00	8.00	-	(ksi) / (MPa)	(%)	(%)	
Heat No.	-	-	-	-	-	-	-	-	205	515	35	90
JG096-10	0.024	0.43	1.19	0.025	0.001	18.17	8.04	< 0.01	356	644	51	80
JS172-10	0.022	0.47	1.09	0.028	0.001	18.02	8.03	< 0.01	333	633	45	79

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 12" (30mm)

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 OBTAINED FROM RAW MATERIAL'S HEAT ANALYSIS

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

HIDDY CURRENT ACCORDING TO ASTM E426-98 (Reapproved 2003)<sup>6</sup> 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

*(Signature)*  
 CHOC  
 MANAGER  
 HASSANUDIN  
 PANTECH STAINLESS & ALLOY INDUSTRIES SDN. BHD.

Head of Quality Assurance Department

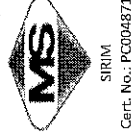
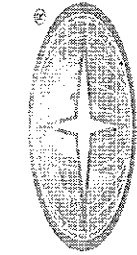
# MILL TEST CERTIFICATE

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

FTD 204334, JALAN PLATINUM UTAMA,  
 KAWASAN PERINDUSTRIAN PASTR GUDANG, ZON 12B, 81700 PASTR GUDANG  
 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



MATERIAL MANUFACTURER APPROVAL ACCORDING TO  
 PED 2034/68/EU, ANNEX 1, PARA 4.3.  
 PED CERTIFICATE NO.:  
 0038/PED/MUM/1110006/1

Certificate No : PSA2-25947  
 Date : 20/01/2021

PO No.	Invoice No.	Product Specification	Dimensional & Inspection Specification	Delivery Condition											
APO-2101-0038	L000011091	ASTM A312/A312M - 19 / ASME SA312/SA312M - 19	ASTM A999/A999M - 18/ASME SA999/SA999M - 19 B 36.19M- 2018 & B36.10M-2018	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								
JG014-10	2 1/2 inch Sch 40S x 6M	TP 304/304L	19	Eddy Current PASSED Flattening PASSED	PASSED	Pressure / Hold Result PASSED 2500 PSI, 5s	GOOD								
JS075-10	12 inch Sch 10S x 6M	TP 304/304L	16	PASSED	PASSED	NH	GOOD								
Chemical Composition (%)															
Specification		C	Si	Mn	P	S	Cr	Ni	Pb	Tensile Test <sup>1</sup>			Hardness, HRB	Remarks	
Max		0.035	1.00	2.00	0.045	0.030	20.00	11.00	-	YS	TS	E			
Min		-	-	-	-	-	18.00	8.00	-	((kSI) / MPa)					(%)
Heat No.		0.024	0.39	1.16	0.029	0.001	18.17	8.04	< 0.01	205	515	35			90
JG014-10		0.021	0.43	0.99	0.033	0.002	18.20	8.03	< 0.01	351	864	50	78		
JS075-10										338	843	52	79		

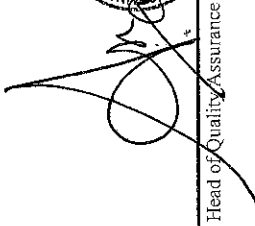
WE HEREBY CERTIFY THAT THE PRODUCT DESCRIBED HEREIN HAS BEEN MANUFACTURED, SAMPLED, TESTED & INSPECTED IN ACCORDANCE WITH THE REQUIREMENTS OF THE ABOVE SPECIFICATION & PURCHASE ORDER AND WAS FOUND SATISFIED TO THE REQUIREMENTS. MATERIAL IS FREE FROM MERCURY & RADIOACTIVE CONTAMINATION.

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 1.2" (30mm)

NOTE: MADE IN MALAYSIA STEEL MAKING PROCESS: AOD / VOD  
 WELDED BY ELECTRIC FUSION WELDING WITH PROCESS WITH INO FILLER METAL  
 INTERGRANULAR CORROSION TEST ACCORDING TO ASTM A361- 10 PRACTICE F.  
 HARDNESS ACCORDING TO NACE-AR8175-2015 / 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 E426-98 (Reapproved 2003) \*3: 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)

  
 OAC  
 MANAGER  
 HASSARUDDIN  
 PANTECH STAINLESS & ALLOY INDUSTRIES SDN. BHD.

Head of Quality Assurance Department