



# 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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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 Pendaftaran Air Bersih  
NO. SIJIL PENDAFTARAN : SPAN/KPA/00883-2011

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

Certificate No : PSA3-11788  
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-85 & B36.10M-04	Quantity (Length)	Grade	TP 316/316L	7	Non Destructive Test		Inter-Granular Corrosion Test		Hydrostatic Test		Dimensional / PMI/ Visual Inspection			
Heat No.	Size	3/4 inch Sch 40S x 6M	TP 316/316L	7	TP 316/316L	Eddy Current	Flattening	PASSED	PASSED	PASSED	Pressure / Hold	Result	2500 PSI, 5s	PASSED	GOOD		
<b>Chemical Composition (%)</b>																	
Specification	C	Si	Mn	P	S	Cr	Ni	Mo	Pb	Tensile Test <sup>1</sup>		Hardness, HRB		Remarks			
Max	0.035	1.00	2.00	0.045	0.030	18.00	14.00	3.00	-	YS	TS	E	90				
Min	-	-	-	-	-	16.00	10.00	2.00	-	-(KSI / MPa)		(%)	-				
Heat No.	-	-	-	-	-	-	-	-	-	205	515	35	-				
IGA039-01113	0.021	0.48	1.38	0.025	0.002	16.71	10.05	2.03	< 0.01	344	571	64	78				

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 19.3MM 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 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

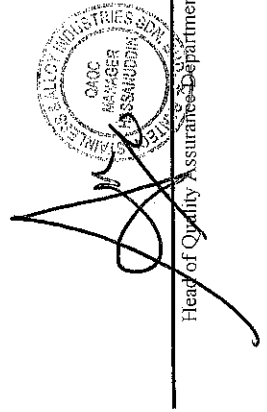
HEAT TREATMENT: SOLUTION TREATED AT MINIMUM 1050°C. RAPIDLY COOLED WITH WATER

CHEMICAL COMPOSITION CAPTURED FROM RAW MATERIAL'S HEAT ANALYSIS

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

\*2: NH: Not Hydrostatically Tested

REQUIREMENTS (REFERENCE TO ASTM E420-08 (Reapproved 2003) \*1 REQUIREMENTS (REFERENCE TO ASTM A999/A999M-12 REQUIREMENTS, DISCONTINUITY ACC. TO CLAUSE 22.3.4.4. PROCEDURE ACC. TO CLAUSE 22.3.9)



Head of Quality Assurance Department



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 http://www.pantech-group.com

INSPECTION DOCUMENT: EN 10204: 2004 Type 3.1



Cert. No.: ISO9001-0047465

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



**SPAN**  
 Suruhanjaya Perkhidmatan Air Negeri  
 NO. SUJL PENDAFTARAN: SPAN/KP/A/00883-2011

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

Certificate No : PSA3-11768  
 Date : 26/06/2020

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-85 & B36.10M-04	Solution Treated, Pickled-Passivated, Plain Ends Square Cut								
Heat No.	Size	Grade	Quantity (Length)	Non Destructive Test			Hydrostatic Test		Dimensional / PMI/ Visual Inspection				
				Eddy Current	Flattening	Inter-Granular Corrosion Test	Pressure / Hold	Result					
IGA039-01113	3/4 inch Sch 40S x 6M	TP 316/316L	34	PASSED	PASSED	PASSED	2500 PSI, 5s	PASSED	GOOD				
ISA406-01113	3/4 inch Sch 40S x 6M	TP 316/316L	85	PASSED	PASSED	PASSED	2500 PSI, 5s	PASSED	GOOD				
IYA106-01113	3/4 inch Sch 40S x 6M	TP 316/316L	1	PASSED	PASSED	PASSED	2500 PSI, 5s	PASSED	GOOD				
ISA352-02113	3 inch Sch 40S x 6M	TP 316/316L	19	PASSED	PASSED	PASSED	2500 PSI, 5s	PASSED	GOOD				
Chemical Composition (%)													
Specification	C	Si	Mn	P	S	Cr	Ni	Mo	Pb	Tensile Test <sup>1</sup>		Hardness, HRB	Remarks
										YS	TS		
Max	0.035	1.00	2.00	0.045	0.030	18.00	14.00	3.00	-	-	-	90	
Min	-	-	-	-	-	16.00	10.00	2.00	-	-	-	-	
Heat No.													
IGA039-01113	0.021	0.48	1.38	0.025	0.002	16.71	10.05	2.03	< 0.10	205	515	35	
ISA406-01113	0.015	0.51	0.95	0.035	0.002	16.61	10.08	2.02	< 0.10	344	571	64	
IYA106-01113	0.022	0.56	1.11	0.028	0.001	16.70	10.10	2.25	< 0.10	355	580	57	
ISA352-02113	0.014	0.49	0.98	0.033	0.001	16.78	10.12	2.07	< 0.10	364	585	57	
										330	557	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.

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

TENSILE REQUIREMENT: CONFORMS TO ASTM A570 - 12a STANDARD. SPECIMEN GAUGE WIDTH 19.2MM FOR P 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 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:   
 Head of Quality Assurance Department