

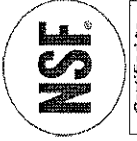
MILL TEST CERTIFICATE

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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http://www.pantech-group.com



Cert. No.: PC004871



Certified to NSF/ANSI 61



Cert. No.: ISO9001-0047455



SUTERAJAYA PERKILANGAN AIR NEGARA
NO. SUIL PENDAFTARAN: SPAN/BPI/300-10/553/AN-1

MATERIAL MANUFACTURER APPROVAL ACCORDING TO PED 2014/68/EU, ANNEX 1, PARA 4.3.
PED CERTIFICATE NO.: 0343/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 : PSA2-27340
Date : 29/12/2021

PO No.	Invoice No.	Product Specification		Dimensional & Inspection Specification										Delivery Condition					
		ASTM A312/A312M - 21 / ASME SA312/SA312M - 21	ASTM A999/A999M - 18 / ASME SA999/SA999M - 21 B 36.19M-2018 & B36.10M-2018 / ASME SECTION II PART A-2021	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	YS	TS	E	Hardness, HRB	Remarks										
KG396-10	1 inch Sch 40S x 6M	TP 304/304L	PASSED	PASSED	205	515	35	-											
KG430-10	1 inch Sch 40S x 6M	TP 304/304L	PASSED	PASSED	385	662	58	84											
KS126-10	1 inch Sch 40S x 6M	TP 304/304L	PASSED	PASSED	380	689	53	88											
KG352-10	1 1/4 inch Sch 10S x 6M	TP 304/304L	PASSED	PASSED	397	696	54	84											
KG354-10	1 1/4 inch Sch 10S x 6M	TP 304/304L	PASSED	PASSED	383	670	47	80											
Specification		Chemical Composition (%)										Tensile Test ¹							
Max	C	Si	Mn	P	S	Cr	Ni	Pb											
Min	0.035	1.00	2.00	0.045	0.030	20.00	11.00	-	-	-	-	-	-	-	-	-	-		
Heat No.	-	-	-	-	-	18.00	8.00	-	-	205	515	35	-	-	-	-	-		
KG396-10	0.024	0.43	1.17	0.036	0.002	18.25	8.01	< 0.01	-	385	662	58	84						
KG430-10	0.025	0.45	1.16	0.025	0.002	18.06	8.04	< 0.01	-	380	689	53	88						
KS126-10	0.024	0.52	1.00	0.028	0.001	18.14	8.02	< 0.01	-	397	696	54	84						
KG352-10	0.021	0.38	1.16	0.034	0.001	18.22	8.04	< 0.01	-	383	670	47	80						
KG354-10	0.024	0.40	1.17	0.028	0.001	18.23	8.01	< 0.01	-	394	710	50	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 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

O/MC
MANAGER
HASSA HUDDIN
Head of Quality Assurance Department



MILL TEST CERTIFICATE
PANTECH STAINLESS & ALLOY INDUSTRIES SDN. BHD. (733428W)
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PTD 204334, JALAN PLATINUM UTAMA,
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INSPECTION DOCUMENT: EN 10204:2004 Type 3.1

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



Cert. No.: PC004871



Certified to
 NSF/ANSI 61



Cert. No.: ISO9001-
 0047465



Sarabanjaya Perkubintan Air Negeri
 NO. SUIL PENDAFTARAN : SPAN/BPI/300-10/553/AW-1

MATERIAL MANUFACTURER APPROVAL ACCORDING TO
 PED 2014/68/EU, ANNEX 1, PARA 4.3.
 PED CERTIFICATE NO. :
 0343/PED/MUM/1110006/1

Certificate No : PSA2-27345
 Date : 29/12/2021

PO No.	Invoice No.	Product Specification	Dimensional & Inspection Specification										Delivery Condition									
			ASTM A312/A312M - 21 / ASME SA312/SA312M - 21	ASTM A999/A999M - 18 / ASME SA999/SA999M - 21	B 36.19M-2018 & B36.10M-2018 / ASME SECTION II PART A-2021	Inter-Granular Corrosion Test	Flattening	Non Destructive Test			Hydrostatic Test	Result	Dimensional / PMI/ Visual Inspection									
Heat No.	Size	Grade	Quantity (Length)	Eddy Current	Pb	Ni	Cr	S	P	Mn	Si	C	Tensile Test ¹			Hardness, HRB	Remarks					
													YS	TS	E							
Chemical Composition (%)																						
KG262-10	3/4 inch Sch 40S x 6M	TP 304/304L	47	PASSED	-	8.01	18.00	-	-	2.00	0.39	0.035	18.00	8.00	0.02	0.028	1.14	205	515	35	90	
KG264-10	3/4 inch Sch 40S x 6M	TP 304/304L	50	PASSED	-	8.03	18.07	0.002	0.032	1.13	0.45	0.024	18.18	8.01	0.002	0.028	1.14	355	655	51	85	
KG354-10	3/4 inch Sch 40S x 6M	TP 304/304L	103	PASSED	-	8.01	18.23	0.001	0.028	1.17	0.40	0.024	18.07	8.01	0.001	0.028	1.17	354	628	59	85	
KG057-10	2 1/2 inch Sch 10S x 6M	TP 304/304L	31	PASSED	-	8.01	18.19	0.002	0.033	1.40	0.41	0.020	18.19	8.01	0.002	0.033	1.40	355	652	52	79	
KG319-10	2 1/2 inch Sch 10S x 6M	TP 304/304L	18	PASSED	-	8.01	18.02	0.001	0.030	1.16	0.38	0.021	18.02	8.01	0.001	0.030	1.16	361	675	56	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 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 15136-2015 & NACE-MR0108-2015

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

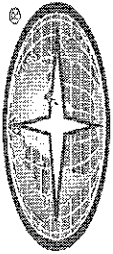
CHEMICAL COMPOSITION CAPTURED FROM RAW MATERIAL'S HEAT ANALYSIS

*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)

[Signature]
 Head of Quality Assurance Department



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



MATERIAL MANUFACTURER APPROVAL ACCORDING TO
 PED 2014/58/FEU ANNEX 1, PARA 4.3.
 PED CERTIFICATE NO. :
 0343/PED/MUM/1110006/1

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

Certificate No : PSA2-27348
 Date : 29/12/2021

PO No.	Invoice No.	Product Specification		Dimensional & Inspection Specification				Delivery Condition			
		ASTM A312/A312M - 21 / ASME SA312/SA312M - 21	ASTM A999/A999M - 18/ ASME SA999/SA999M - 21	B 36.19M-2018 & B36.10M-2018 / ASME SECTION II PART A-2021	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	Corrosion Test					
KG296-10	1 1/4 inch Sch 40S x 6M	TP 304/304L	13	PASSED	PASSED	PASSED	PASSED	2500 PSI, 5s	PASSED	GOOD	
KG302-10	1 1/4 inch Sch 40S x 6M	TP 304/304L	48	PASSED	PASSED	PASSED	PASSED	2500 PSI, 5s	PASSED	GOOD	
KG194-10	4 inch Sch 10S x 6M	TP 304/304L	3	PASSED	PASSED	PASSED	PASSED	1600 PSI, 5s	PASSED	GOOD	
KG389-10	4 inch Sch 10S x 6M	TP 304/304L	5	PASSED	PASSED	PASSED	PASSED	1600 PSI, 5s	PASSED	GOOD	
KG424-10	4 inch Sch 10S x 6M	TP 304/304L	72	PASSED	PASSED	PASSED	PASSED	1600 PSI, 5s	PASSED	GOOD	
Specification											
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 (ksi / MPa)	TS
Heat No.		-	-	-	-	-	18.00	8.00	-	-	-
KG296-10		0.026	0.41	1.14	0.031	0.001	18.10	8.03	< 0.01	205	515
KG302-10		0.024	0.37	1.16	0.032	0.002	18.13	8.02	< 0.01	361	668
KG194-10		0.025	0.39	1.12	0.033	0.001	18.16	8.03	< 0.01	433	686
KG389-10		0.026	0.35	1.20	0.033	0.002	18.25	8.03	< 0.01	349	636
KG424-10		0.022	0.38	1.15	0.029	0.001	18.11	8.03	< 0.01	370	657
										354	645
										E (%)	Hardness, HRB
										-	90
										35	82
										52	82
										50	80
										57	84
										53	82

WE HEREBY CERTIFY THAT THE PRODUCT DESCRIBED HEREIN HAS BEEN MANUFACTURED, SAMPLED, TESTED & INSPECTED IN ACCORDANCE WITH THE REQUIREMENTS OF 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 T ABOVE, T¹ 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-MR01-75-2015 / ISO 15156-2015 & NACE-MR01-03-2015
 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

EPDY CURRENT ACCORDING TO ASTM E426-98 (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: NFI: Not Hydrostatically Tested

(Signature)
 QA/QC MANAGER
 HASSANUDDIN
 Head of Quality Assurance Department