

MILL TEST CERTIFICATE

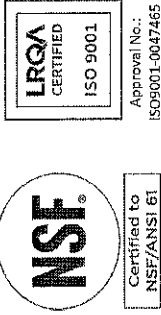
PANTECH STAINLESS & ALLOY INDUSTRIES SDN. BHD. (733428W)
 (A MEMBER OF PANTECH GROUP HOLDINGS BERHAD, LISTED ON MAIN MARKET OF BURSA MALAYSIA)

PTD 20434, JALAN PLATINUM UTAMA,
 KAWASAN PERINDUSTRIAN PASIR GUDANG, ZON 12B, 81700 PASIR GUDANG
 JOHOR DARUL TAKZIM, MALAYSIA
 Tel: +607-2518888 Fax: +607-2519999 Website: www.pantechalloy.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 2014/68/EU, ANNEX 1, PARA 4.3.
 PED CERTIFICATE NO.:
 0343/PED/MUM/11100068/1

Certificate No : PSA3-12254
 Date : 15/06/2022

PO No.	Invoice No.	Product Specification		Dimensional & Inspection Specification				Delivery Condition																																																																																						
		ASTM A312/A312M - 21 / ASME SA312/SA312M - 21	ASTM A999/A999M - 18/ ASME SECTION II PART A-2021	ASTM A999/A999M - 18/ 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	Dimensional / PMI/ Visual Inspection																																																																																					
				Eddy Current	Flattening					Pressure / Hold	Result																																																																																			
LE043-10	1/2 inch Sch 40S x 6M	TP 316/316L	104	PASSED	PASSED	PASSED	2500 PSI, 5s	PASSED	GOOD																																																																																					
LG098-10	1/2 inch Sch 40S x 6M	TP 316/316L	65	PASSED	PASSED	PASSED	2500 PSI, 5s	PASSED	GOOD																																																																																					
<table border="1"> <thead> <tr> <th rowspan="2">Specification</th> <th colspan="10">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>Mo</th> <th>Pb</th> <th>YS (ksi / MPa)</th> <th>TS (ksi / MPa)</th> <th>E (%)</th> <th rowspan="2">Hardness, HRB</th> <th rowspan="2">Remarks</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>18.00</td> <td>14.00</td> <td>3.00</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>16.00</td> <td>10.00</td> <td>2.00</td> <td>-</td> <td>205</td> <td>515</td> <td>35</td> <td>-</td> <td></td> </tr> <tr> <td>Heat No.</td> <td>0.014</td> <td>0.63</td> <td>1.04</td> <td>0.029</td> <td>0.001</td> <td>16.80</td> <td>10.07</td> <td>2.07</td> <td>< 0.01</td> <td>324</td> <td>565</td> <td>50</td> <td>82</td> <td></td> </tr> <tr> <td>LE043-10</td> <td>0.020</td> <td>0.45</td> <td>1.33</td> <td>0.028</td> <td>0.002</td> <td>16.77</td> <td>10.02</td> <td>2.02</td> <td>< 0.01</td> <td>365</td> <td>631</td> <td>57</td> <td>78</td> <td></td> </tr> </tbody> </table>										Specification	Chemical Composition (%)										C	Si	Mn	P	S	Cr	Ni	Mo	Pb	YS (ksi / MPa)	TS (ksi / MPa)	E (%)	Hardness, HRB	Remarks	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	-	205	515	35	-		Heat No.	0.014	0.63	1.04	0.029	0.001	16.80	10.07	2.07	< 0.01	324	565	50	82		LE043-10	0.020	0.45	1.33	0.028	0.002	16.77	10.02	2.02	< 0.01	365	631	57	78	
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NOTE: 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 CORROSION TEST ACCORDING TO ASTM A262-10 PRACTICE E

HARDNESS: ACCORDING TO NACE-MR0175-2015 / ISO 15136-2015 & NACE-MR0105-2015

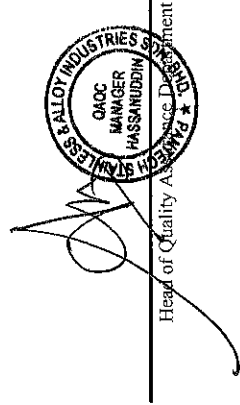
HEAT TREATMENT: SOLUTION TREATED AT MINIMUM 1050°C, RAPIDLY COOLED WITH WATER

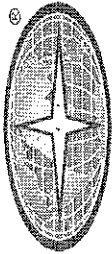
CHEMICAL COMPOSITION CAPTURED FROM RAW MATERIAL'S HEAT ANALYSIS

*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 22.3.3.9)





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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Cert. No.: PC000871



Certified to NSF/ANSI 61



Approval No.: IS09001-0047465



Suruhanjaya Perkhidmatan Air Negara
NO. Sijil Pendaftaran: SPAN/BP/300-10/553/A/W-1

MATERIAL MANUFACTURER APPROVAL ACCORDING TO
PED 2014/68/EU ANNEX 1, PARA 4.3.
PED CERTIFICATE NO.:
0343/PED/MUM/111.0006/1

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

Certificate No : PSA3-12231
Date : 12/05/2022

INSPECTION DOCUMENT: EN 10204: 2004 Type 3.1

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	Non Destructive Test		Inter-Granular Corrosion Test		Hydrostatic Test		Dimensional / PMI/ Visual Inspection		Solution Treated, Pickled-Passivated, Plain Ends Square Cut																																																																																																						
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KG496-10	1 inch Sch 40S x 6M	TP 316/316L	23	PASSED	PASSED	PASSED	2500 PSI, 5s	PASSED	GOOD	2500 PSI, 5s	PASSED	GOOD	GOOD																																																																																																						
LG101-10	1 inch Sch 40S x 6M	TP 316/316L	68	PASSED	PASSED	PASSED	2500 PSI, 5s	PASSED	GOOD	2500 PSI, 5s	PASSED	GOOD	GOOD																																																																																																						
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TENSILE REQUIREMENT: CONFORMS TO ASTM A370 - (2a) 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 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 Hydrochemically Treated
EDDY CURRENT ACCORDING TO ASTM E265-98 (Reapproved 2003) *3: 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
HASSARUDDIN
Head of Quality Assurance Department