



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



Cert. No.: PC004371



Suruhanjaya Perindustrian Air Bersih
NO. SIJIL PENDAFTARAN: SPAN/PP/300-10/553/AW-1

INSPECTION DOCUMENT: EN 10204: 2004 Type 3.1

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

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	Quantity (Length)	Non Destructive Test		Inter-Granular Corrosion Test	Hydrostatic Test		Dimensional / PMI/ Visual Inspection																																																																																																		
Heat No.	Size	Grade	Quantity (Length)	Eddy Current	Flattening	PASSED	PASSED	Pressure / Hold	Result	Pressure / Hold	Result																																																																																																	
JG151-10	4 inch Sch 10S x 6M	TP 304/304L	20	PASSED	PASSED	PASSED	PASSED	1600 PSI, 5s	PASSED	1600 PSI, 5s	PASSED																																																																																																	
JG183-10	4 inch Sch 10S x 6M	TP 304/304L	20	PASSED	PASSED	PASSED	PASSED	1600 PSI, 5s	PASSED	1600 PSI, 5s	PASSED																																																																																																	
<table border="1"> <thead> <tr> <th rowspan="2">Specification</th> <th colspan="10">Chemical Composition (%)</th> <th rowspan="2">Tensile Test¹</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>-</td> <td>-</td> <td>-</td> <td>-</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> <td>-</td> <td>-</td> <td>-</td> </tr> <tr> <td>Heat No.</td> <td>0.022</td> <td>0.41</td> <td>1.13</td> <td>0.028</td> <td>0.002</td> <td>18.18</td> <td>8.01</td> <td>< 0.01</td> <td>205</td> <td>515</td> <td>35</td> <td>363</td> <td>683</td> <td>47</td> <td>82</td> <td>-</td> <td>-</td> </tr> <tr> <td>JG151-10</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>< 0.01</td> <td>369</td> <td>700</td> <td>45</td> <td>369</td> <td>700</td> <td>45</td> <td>80</td> <td>-</td> <td>-</td> </tr> </tbody> </table>												Specification	Chemical Composition (%)										Tensile Test ¹	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	-	-	-	-	-	-	-	-	-	-	Min	-	-	-	-	-	18.00	8.00	-	-	-	-	-	-	-	-	-	-	Heat No.	0.022	0.41	1.13	0.028	0.002	18.18	8.01	< 0.01	205	515	35	363	683	47	82	-	-	JG151-10	0.025	0.40	1.17	0.027	0.001	18.12	8.05	< 0.01	369	700	45	369	700	45	80	-	-
Specification	Chemical Composition (%)										Tensile Test ¹		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	-	-	-	-	-	-	-	-	-	-																																																																																											
Min	-	-	-	-	-	18.00	8.00	-	-	-	-	-	-	-	-	-	-																																																																																											
Heat No.	0.022	0.41	1.13	0.028	0.002	18.18	8.01	< 0.01	205	515	35	363	683	47	82	-	-																																																																																											
JG151-10	0.025	0.40	1.17	0.027	0.001	18.12	8.05	< 0.01	369	700	45	369	700	45	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 TYPE ABOVE, TYPE 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 1099°C, RAPIDLY COOLED WITH WATER

CHEMICAL COMPOSITION CAPTURED FROM RAW MATERIAL'S HEAT ANALYSIS

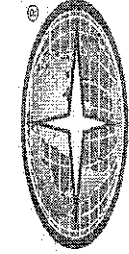
*1: YS: YIELD STRENGTH TS: TENSILE STRENGTH E: ELONGATION

*2: NH: Not Hydrostatically Tested

EDDY CURRENT ACCORDING TO ASTM E426-98 (Reapproved 2003) REQUIREMENTS (REFERENCE TO ASTM A999/A999M-12 REQUIREMENTS, DISCONTINUITY ACC. TO CLAUSE 22.3.8.4, PROCEDURE ACC. TO CLAUSE 22.3.9)

Signature of QACC Manager
QACC MANAGER
M. HASSANUDDIN
QACC
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 12R, 81700 PASIR GUDANG
 JHJHOR DARUL TAKZIM, MALAYSIA
 Tel: +607-2518888 Fax: +607-2519999 E-mail: info@pantechgroup.com
 http://www.pantechgroup.com



Cert. No.: ISO9001-0047465

Certified to NSF/ANSI 61

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



NO. SUJ. PENDAFTARAN : SPAN/BP/300-10/553/ANW-1

INSPECTION DOCUMENT: EN 10204: 2004 Type 3.1

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

Certificate No : PSA2-26081
 Date : 18/02/2021

PO No.	Invoice No.	Product Specification	Dimensional & Inspection Specification	Delivery Condition									
APO-2101-0038	L000011212	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									
JS172-10	2 1/2 inch Sch 10S x 6M	TP 304/304L	76	Eddy Current PASSED Flattening PASSED									
				Inter-Granular Corrosion Test PASSED									
				Hydrostatic Test Pressure / Hold Result PASSED									
				Dimensional / PMI/ Visual Inspection GOOD									
Chemical Composition (%)													
Specification	C	Si	Mn	P	S	Cr	Ni	Pb	Tensile Test ¹		Hardness, HRB	Remarks	
Max	0.035	1.00	2.00	0.045	0.030	20.00	11.00	-	YS (ksi) / MPa	TS			E (%)
Min	-	-	-	-	-	18.00	8.00	-	-	-			-
Heat No.	0.022	0.47	1.09	0.028	0.001	18.02	8.03	< 0.01	205	515			35
JS172-10									372	681	53	86	

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 SATISFACTORY TO THE REQUIREMENTS. MATERIAL IS FREE FROM MERCURY & RADIOACTIVE CONTAMINATION.

TENSILE REQUIREMENT: CONFORMS TO ASTM A370 - 12a STANDARD. SPECIMEN GAUGE WIDTH 19.3MM FOR "A" 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

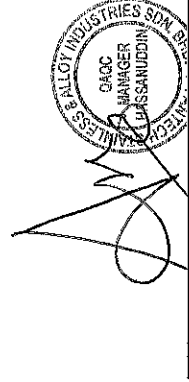
HEAT TREATMENT: SOLUTION TREATED AT MINIMUM 1050°C, RAPIDLY COOLED WITH WATER

CHEMICAL COMPOSITION CAPTURED FROM RAW MATERIAL'S HEAT ANALYSIS

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

EDDY CURRENT ACCORDING TO ASTM E246-98 (Reapproved 2003) *1 REQUIREMENTS (REFERENCE TO ASTM A999/A999M-18 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)

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@pantechsteel.com

http://www.pantech-group.com

INSPECTION DOCUMENT: EN 10204: 2004 Type 3.1

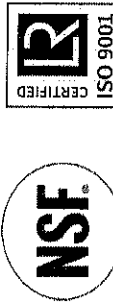
Customer : Unimech Engineering (M) Sdn Bhd
Product : Welded Austenitic Stainless Steel Pipe



Cert. No.: PC004871



Sarabhaiya Perishambharan A/S Registrar
NO. SUIL PENDAFTARAN : SPAN/SP/300-10/553/A/W-1



Certified to NSF/ANSI 61

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

Cert. No.: ISO9001-0047465

Certificate No : PSA2-26080
Date : 18/02/2021

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	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	Quantity (Length)	Eddy Current		Flattening		Corrosion Test		Pressure / Hold		Result		Remarks	
				PASSED	PASSED	PASSED	PASSED	PASSED	PASSED	2100 PSI, 5s	2100 PSI, 5s	1600 PSI, 5s	1600 PSI, 5s		PASSED
KG016-10	3 inch Sch 10S x 6M	TP 304/304L	57	PASSED	PASSED	PASSED	PASSED	PASSED	PASSED	2100 PSI, 5s	2100 PSI, 5s	PASSED	PASSED	GOOD	
KG019-10	3 inch Sch 10S x 6M	TP 304/304L	63	PASSED	PASSED	PASSED	PASSED	PASSED	PASSED	2100 PSI, 5s	2100 PSI, 5s	PASSED	PASSED	GOOD	
JG151-10	4 inch Sch 10S x 6M	TP 304/304L	10	PASSED	PASSED	PASSED	PASSED	PASSED	PASSED	1600 PSI, 5s	1600 PSI, 5s	PASSED	PASSED	GOOD	
JG183-10	4 inch Sch 10S x 6M	TP 304/304L	20	PASSED	PASSED	PASSED	PASSED	PASSED	PASSED	1600 PSI, 5s	1600 PSI, 5s	PASSED	PASSED	GOOD	
JS172-10	4 inch Sch 10S x 6M	TP 304/304L	30	PASSED	PASSED	PASSED	PASSED	PASSED	PASSED	1600 PSI, 5s	1600 PSI, 5s	PASSED	PASSED	GOOD	
Specification		Chemical Composition (%)													
Max		C	Si	Mn	P	S	Cr	Ni	Pb	Tensile Test ¹		Hardness, HRB			
Min		0.035	1.00	2.00	0.045	0.030	20.00	11.00	-	YS	TS	E (%)			
Heat No.		-	-	-	-	-	18.00	8.00	-	205	515	35	90		
KG016-10	0.023	0.39	1.18	0.033	0.033	0.001	18.25	8.04	< 0.01	356	663	55	79		
KG019-10	0.021	0.40	1.16	0.028	0.028	0.001	18.10	8.01	< 0.01	379	694	48	85		
JG151-10	0.022	0.41	1.13	0.028	0.028	0.002	18.18	8.01	< 0.01	363	683	47	82		
JG183-10	0.025	0.40	1.17	0.027	0.027	0.001	18.12	8.05	< 0.01	369	700	45	80		
JS172-10	0.022	0.47	1.09	0.028	0.028	0.001	18.02	8.03	< 0.01	379	718	52	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 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)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: NH: Not Hydrostatically Tested

Signature of Head of Quality Assurance Department
CAGC MANAGER HASSANUDDIN
TECHNICAL OFFICERS & ALLOY ANALYSTS 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@pantechsteel.com
http://www.pantech-group.com



Cert. No.: PC004871



NO. SUIL PENDAFTARAN: SPAN/BP/300-10/553/A/W-1



Certified to NSF/ANSI 61



Cert. No.: ISO9001-0047465

MATERIAL MANUFACTURER APPROVAL ACCORDING TO PED 2014/88/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 : PSA2-26079
Date : 18/02/2021

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	Quantity (Length)	Non Destructive Test		Inter-Granular Corrosion Test	Hydrostatic Test		Dimensional / PMI/ Visual Inspection																																																																																				
Heat No.	Size	Grade	Quantity (Length)	Eddy Current	Flattening	Corrosion Test	Pressure / Hold	Result	Pressure / Hold	Result	Dimensional / PMI/ Visual Inspection																																																																																			
JE053-10	12 inch Sch 10S x 6M	TP 304/304L	1	PASSED	PASSED	PASSED	NH	-	NH	-	GOOD																																																																																			
KE003-10	12 inch Sch 10S x 6M	TP 304/304L	14	PASSED	PASSED	PASSED	NH	-	NH	-	GOOD																																																																																			
<table border="1"> <thead> <tr> <th rowspan="2">Specification</th> <th colspan="10">Chemical Composition (%)</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>E (%)</th> <th>Hardness, HRB</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>90</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> </tr> <tr> <td>Heat No.</td> <td>JE053-10</td> <td>0.025</td> <td>0.47</td> <td>0.027</td> <td>0.001</td> <td>18.00</td> <td>8.02</td> <td>< 0.01</td> <td>205</td> <td>515</td> <td>35</td> </tr> <tr> <td></td> <td>KE003-10</td> <td>0.029</td> <td>0.33</td> <td>0.039</td> <td>0.006</td> <td>18.27</td> <td>8.04</td> <td>< 0.01</td> <td>343</td> <td>638</td> <td>47</td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>327</td> <td>600</td> <td>57</td> </tr> </tbody> </table>												Specification	Chemical Composition (%)										Remarks	C	Si	Mn	P	S	Cr	Ni	Pb	YS (ksi) / MPa	E (%)	Hardness, HRB	Max	0.035	1.00	2.00	0.045	0.030	20.00	11.00	-	-	-	90	Min	-	-	-	-	-	18.00	8.00	-	-	-	-	Heat No.	JE053-10	0.025	0.47	0.027	0.001	18.00	8.02	< 0.01	205	515	35		KE003-10	0.029	0.33	0.039	0.006	18.27	8.04	< 0.01	343	638	47										327	600	57
Specification	Chemical Composition (%)										Remarks																																																																																			
	C	Si	Mn	P	S	Cr	Ni	Pb	YS (ksi) / MPa	E (%)		Hardness, HRB																																																																																		
Max	0.035	1.00	2.00	0.045	0.030	20.00	11.00	-	-	-	90																																																																																			
Min	-	-	-	-	-	18.00	8.00	-	-	-	-																																																																																			
Heat No.	JE053-10	0.025	0.47	0.027	0.001	18.00	8.02	< 0.01	205	515	35																																																																																			
	KE003-10	0.029	0.33	0.039	0.006	18.27	8.04	< 0.01	343	638	47																																																																																			
									327	600	57																																																																																			

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

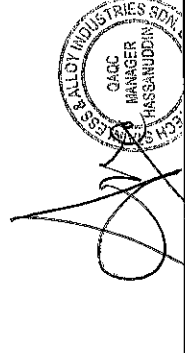
HEAT TREATMENT: SOLUTION TREATED AT MINIMUM 1020°C, RAPIDLY COOLED WITH WATER

CHEMICAL COMPOSITION CAPTURED FROM RAW MATERIAL'S HEAT ANALYSIS

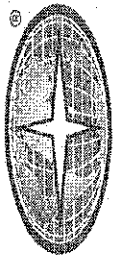
*1: YS: YIELD STRENGTH TS: TENSILE STRENGTH E: ELONGATION

*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 204354, 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



Cert. No.: PC004871



Certified to NSF/ANSI 61



Cert. No.: IS09001-0047465



Perusahaan Berdaftar / Registered Company No. 1060923
 NO. 5/UL, PENDAFTARAN : SPAN/EP/300-10/552/A/W-1

MATERIAL MANUFACTURER APPROVAL ACCORDING TO PED 2014/68/ED, ANNEX 1, PARA 4.3.
 PED CERTIFICATE NO.: 0036/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 : PSA2-26030
 Date : 05/02/2021

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	Inter-Granular Corrosion Test	Dimensional / PMI / Visual Inspection	
Heat No.	Size	Grade	Quantity (Length)	Non Destructive Test		Tensile Test ¹		Hardness, HRB	Remarks
				Eddy Current	Flattening	YS (ksi) / MPa	E (%)		
JS174-10	1 inch Sch 10S x 6M	TP 304/304L	11	PASSED	PASSED	PASSED	2500 PSI, 5s	PASSED	GOOD
JG205-10	3 inch Sch 10S x 6M	TP 304/304L	2	PASSED	PASSED	PASSED	2100 PSI, 5s	PASSED	GOOD
JG208-10	3 inch Sch 10S x 6M	TP 304/304L	36	PASSED	PASSED	PASSED	2100 PSI, 5s	PASSED	GOOD
JG208-10	4 inch Sch 10S x 6M	TP 304/304L	52	PASSED	PASSED	PASSED	1600 PSI, 5s	PASSED	GOOD
JG211-10	4 inch Sch 10S x 6M	TP 304/304L	108	PASSED	PASSED	PASSED	1600 PSI, 5s	PASSED	GOOD
Chemical Composition (%)									
Specification	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.									
JS174-10	0.021	0.48	1.10	0.028	0.002	18.00	8.00	< 0.01	205
JG205-10	0.022	0.43	1.13	0.031	0.001	18.11	8.02	< 0.01	356
JG208-10	0.023	0.44	1.14	0.029	0.002	18.14	8.01	< 0.01	371
JG208-10	0.023	0.44	1.14	0.029	0.002	18.14	8.01	< 0.01	348
JG211-10	0.026	0.45	1.16	0.033	0.002	18.21	8.01	< 0.01	342

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

*2: NH: Not Hydrostatically Tested

EDDY CURRENT ACCORDING TO ASTM E26-98 (Reapproved 2003)⁴⁷ REQUIREMENTS (REFERENCE TO ASTM A999/A999M-12 REQUIREMENTS, DISCONTINUITY ACC. TO CLAUSE 22.5.8.4. 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)

FTD 204834, JALAN PLATINUM UTAMA,
KAWASAN PERINDUSTRIAN PASIR GUJANG, ZON 12B, 81700 PASIR GUJANG,
JOHOR DARUL TAKZIM, MALAYSIA
Tel: +607-2518888 Fax: +607-2519999 E-mail: info@pantechalloy.com
http://www.pantech-group.com



Cert. No.: PC004871



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 2014/68/EU, ANNEX 1, PARA 4.3.
PED CERTIFICATE NO.: 0038/PED/MUM/1110006/1

Certificate No : PSA2-26028
Date : 05/02/2021

PO No.	Invoice No.	Product Specification	Dimensional & Inspection Specification										Delivery Condition	
APO-2012-0039	L000011167	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	PASSED		Pressure / Hold	Result					
JG140-10	1 1/2 inch Sch 10S x 6M	TP 304/304L	102	PASSED	PASSED	PASSED	PASSED	2500 PSI, 5s	PASSED	GOOD				
JG141-10	1 1/2 inch Sch 10S x 6M	TP 304/304L	49	PASSED	PASSED	PASSED	PASSED	2500 PSI, 5s	PASSED	GOOD				
JS174-10	1 1/2 inch Sch 10S x 6M	TP 304/304L	32	PASSED	PASSED	PASSED	PASSED	2500 PSI, 5s	PASSED	GOOD				
JG187-10	2 inch Sch 10S x 6M	TP 304/304L	37	PASSED	PASSED	PASSED	PASSED	2500 PSI, 5s	PASSED	GOOD				
Specification		Chemical Composition (%)										Tensile Test ¹		Remarks
		C	Si	Mn	P	S	Cr	Ni	Pb	YS (KSI / MPa)	TS (%)	E (%)	Hardness, HRB	
Max	0.035	1.00	0.43	2.00	0.045	0.030	20.00	11.00	-	-	-	-	90	
Min	-	-	-	-	-	-	18.00	8.00	-	-	-	-	-	
Heat No.														
JG140-10		0.022	0.40	1.15	0.028	0.001	18.17	8.02	< 0.01	205	515	35	-	
JG141-10		0.025	0.40	1.17	0.027	0.001	18.12	8.05	< 0.01	424	709	46	84	
JS174-10		0.021	0.48	1.10	0.028	0.002	18.00	8.00	< 0.01	449	708	48	87	
JG187-10		0.024	0.39	1.14	0.026	0.001	18.23	8.04	< 0.01	378	707	44	85	
										348	656	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)

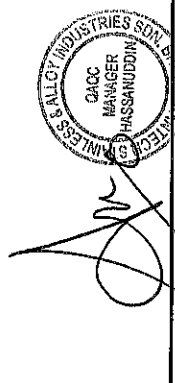
NOTE: MADE IN MALAYSIA STEEL MAKING PROCESS: AOD / VOD

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

*2: NH: Not Hydrostatically Tested

EDDY CURRENT ACCORDING TO ASTM F2926-98 (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@pantechalloy.com
http://www.pantech-group.com



Cert. No.: ISO9001-0047465

Certified to NSF/ANSI 61

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



SUKHABHAYA PERKUMHARAN ALI BEGARA
NO. SUK PANDAFTARAN : SPAN/BP/300-10/553/A/W-1

INSPECTION DOCUMENT: EN 10204: 2004 Type 3.1

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

Certificate No : PSA2-26029
Date : 05/02/2021

PO No.	Invoice No.	Product Specification		Dimensional & Inspector 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	Quantity (Length)	Non Destructive Test		Inter-Granular Corrosion Test		Hydrostatic Test		Dimensional / PMI/ Visual Inspection		Solution Treated, Pickled-Passivated, Plain Ends Square Cut	Pressure / Hold	Result	Dimensional / PMI/ Visual Inspection																																																																																																																																																														
Heat No.	Size	Grade	Quantity (Length)	Eddy Current	Flattening	YS	TS	E	Hardness, HRB	Remarks	Remarks	2500 PSI, 5s	PASSED	GOOD																																																																																																																																																																
JG182-10	1 inch Sch 10S x 6M	TP 304/304L	50	PASSED	PASSED	-	-	-	-	-	-	2500 PSI, 5s	PASSED	GOOD																																																																																																																																																																
JG185-10	1 inch Sch 10S x 6M	TP 304/304L	2	PASSED	PASSED	-	-	-	-	-	-	2500 PSI, 5s	PASSED	GOOD																																																																																																																																																																
JG186-10	1 inch Sch 10S x 6M	TP 304/304L	1	PASSED	PASSED	-	-	-	-	-	-	2500 PSI, 5s	PASSED	GOOD																																																																																																																																																																
JG188-10	1 inch Sch 10S x 6M	TP 304/304L	23	PASSED	PASSED	-	-	-	-	-	-	2500 PSI, 5s	PASSED	GOOD																																																																																																																																																																
JG189-10	1 inch Sch 10S x 6M	TP 304/304L	4	PASSED	PASSED	-	-	-	-	-	-	2500 PSI, 5s	PASSED	GOOD																																																																																																																																																																
<table border="1"> <thead> <tr> <th rowspan="2">Specification</th> <th colspan="10">Chemical Composition (%)</th> <th colspan="2">Tensile Test¹</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> <th>YS</th> <th>TS</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>205</td> <td>515</td> <td>35</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> <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> <td></td> <td></td> </tr> <tr> <td>JG182-10</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>< 0.01</td> <td>343</td> <td>659</td> <td>56</td> <td>88</td> <td>88</td> <td></td> <td></td> </tr> <tr> <td>JG185-10</td> <td>0.022</td> <td>0.43</td> <td>1.15</td> <td>0.028</td> <td>0.001</td> <td>18.17</td> <td>8.02</td> <td>< 0.01</td> <td>348</td> <td>672</td> <td>49</td> <td>86</td> <td>86</td> <td></td> <td></td> </tr> <tr> <td>JG186-10</td> <td>0.022</td> <td>0.43</td> <td>1.15</td> <td>0.028</td> <td>0.001</td> <td>18.17</td> <td>8.02</td> <td>< 0.01</td> <td>346</td> <td>666</td> <td>55</td> <td>85</td> <td>85</td> <td></td> <td></td> </tr> <tr> <td>JG188-10</td> <td>0.024</td> <td>0.39</td> <td>1.14</td> <td>0.026</td> <td>0.001</td> <td>18.23</td> <td>8.04</td> <td>< 0.01</td> <td>356</td> <td>683</td> <td>54</td> <td>83</td> <td>83</td> <td></td> <td></td> </tr> <tr> <td>JG189-10</td> <td>0.023</td> <td>0.44</td> <td>1.13</td> <td>0.028</td> <td>0.002</td> <td>18.05</td> <td>8.02</td> <td>< 0.01</td> <td>348</td> <td>673</td> <td>52</td> <td>83</td> <td>83</td> <td></td> <td></td> </tr> </tbody> </table>																Specification	Chemical Composition (%)										Tensile Test ¹		Hardness, HRB	Remarks	C	Si	Mn	P	S	Cr	Ni	Pb	YS (KSI) / MPa	TS	E (%)	YS	TS	Max	0.035	1.00	2.00	0.045	0.030	20.00	11.00	-	-	-	-	205	515	35	90		Min	-	-	-	-	-	18.00	8.00	-	-	-	-	-	-	-	-		Heat No.																	JG182-10	0.025	0.40	1.17	0.027	0.001	18.12	8.05	< 0.01	343	659	56	88	88			JG185-10	0.022	0.43	1.15	0.028	0.001	18.17	8.02	< 0.01	348	672	49	86	86			JG186-10	0.022	0.43	1.15	0.028	0.001	18.17	8.02	< 0.01	346	666	55	85	85			JG188-10	0.024	0.39	1.14	0.026	0.001	18.23	8.04	< 0.01	356	683	54	83	83			JG189-10	0.023	0.44	1.13	0.028	0.002	18.05	8.02	< 0.01	348	673	52	83	83		
Specification	Chemical Composition (%)										Tensile Test ¹		Hardness, HRB	Remarks																																																																																																																																																																
	C	Si	Mn	P	S	Cr	Ni	Pb	YS (KSI) / MPa	TS	E (%)	YS			TS																																																																																																																																																															
Max	0.035	1.00	2.00	0.045	0.030	20.00	11.00	-	-	-	-	205	515	35	90																																																																																																																																																															
Min	-	-	-	-	-	18.00	8.00	-	-	-	-	-	-	-	-																																																																																																																																																															
Heat No.																																																																																																																																																																														
JG182-10	0.025	0.40	1.17	0.027	0.001	18.12	8.05	< 0.01	343	659	56	88	88																																																																																																																																																																	
JG185-10	0.022	0.43	1.15	0.028	0.001	18.17	8.02	< 0.01	348	672	49	86	86																																																																																																																																																																	
JG186-10	0.022	0.43	1.15	0.028	0.001	18.17	8.02	< 0.01	346	666	55	85	85																																																																																																																																																																	
JG188-10	0.024	0.39	1.14	0.026	0.001	18.23	8.04	< 0.01	356	683	54	83	83																																																																																																																																																																	
JG189-10	0.023	0.44	1.13	0.028	0.002	18.05	8.02	< 0.01	348	673	52	83	83																																																																																																																																																																	

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" (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

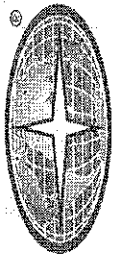
*1: YS: YIELD STRENGTH TS: TENSILE STRENGTH E: ELONGATION

EDDY CURRENT ACCORDING TO ASTM E26-98 (Reapproved 2003) *2: NF: Non Hydraulically Tested

REQUIREMENTS (REFERENCE TO ASTM A999/A999M-12 REQUIREMENTS, DISCONTINUITY ACC. TO CLAUSE 22.3 & 4. PROCEDURE ACC. TO CLAUSE 22.3.9)

Signature of Head of Quality Assurance Department
QAQC MANAGER
PANTECH STAINLESS & ALLOY INDUSTRIES SDN. BHD.
M. JASSANUDIN

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 20434, 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



SPAN Sdn. Bhd. (Publicly Listed)
 NO. SUK. PENDAFTARAN: SPAN/BP/300-10/555/A/W-1

INSPECTION DOCUMENT: EN 10204: 2004 Type 3.1



Cert. No.: ISO9001-0047465



Certified to NSF/ANSI 61

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 : PSA2-26031
 Date : 05/02/2021

PO No.	Invoice No.	Product Specification		Dimensional & Inspection Specification						Delivery Condition																																																																																																												
		ASTM A312/A312M - 19 / ASME SA312/SA312M - 19	Grade	Quantity (Length)	Eddy Current	Flattening	Inter-Granular Corrosion Test	Hydrostatic Test Pressure / Hold	Result	Solution Treated, Pickled-Passivated, Plain Ends Square Cut	Dimensional / PMI/ Visual Inspection																																																																																																											
Heat No.	Size	Grade	Quantity (Length)	Eddy Current	Flattening	Inter-Granular Corrosion Test	Hydrostatic Test Pressure / Hold <td>Result <td>Solution Treated, Pickled-Passivated, Plain Ends Square Cut</td> <td>Dimensional / PMI/ Visual Inspection</td> </td>	Result <td>Solution Treated, Pickled-Passivated, Plain Ends Square Cut</td> <td>Dimensional / PMI/ Visual Inspection</td>	Solution Treated, Pickled-Passivated, Plain Ends Square Cut	Dimensional / PMI/ Visual Inspection																																																																																																												
JG196-10	8 inch Sch 10S x 6M	TP 304/304L	5	PASSED	PASSED	PASSED	1100 PSI, 5s	PASSED		GOOD																																																																																																												
JG216-10	8 inch Sch 10S x 6M	TP 304/304L	5	PASSED	PASSED	PASSED	1100 PSI, 5s	PASSED		GOOD																																																																																																												
JG220-10	8 inch Sch 10S x 6M	TP 304/304L	5	PASSED	PASSED	PASSED	1100 PSI, 5s	PASSED		GOOD																																																																																																												
<table border="1"> <thead> <tr> <th rowspan="2">Specification</th> <th colspan="8">Chemical Composition (%)</th> <th colspan="2">Tensile Test^{*1}</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>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> </tr> <tr> <td>Heat No.</td> <td>0.018</td> <td>0.47</td> <td>1.13</td> <td>0.027</td> <td>0.002</td> <td>18.18</td> <td>8.01</td> <td>< 0.01</td> <td>205</td> <td>515</td> <td>35</td> <td>81</td> <td></td> </tr> <tr> <td>JG196-10</td> <td>0.021</td> <td>0.41</td> <td>1.19</td> <td>0.031</td> <td>0.002</td> <td>18.16</td> <td>8.04</td> <td>< 0.01</td> <td>337</td> <td>642</td> <td>57</td> <td>80</td> <td></td> </tr> <tr> <td>JG216-10</td> <td>0.020</td> <td>0.37</td> <td>1.12</td> <td>0.028</td> <td>0.002</td> <td>18.18</td> <td>8.03</td> <td>< 0.01</td> <td>339</td> <td>645</td> <td>54</td> <td>77</td> <td></td> </tr> <tr> <td>JG220-10</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>346</td> <td>655</td> <td>55</td> <td></td> <td></td> </tr> </tbody> </table>											Specification	Chemical Composition (%)								Tensile Test ^{*1}		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.	0.018	0.47	1.13	0.027	0.002	18.18	8.01	< 0.01	205	515	35	81		JG196-10	0.021	0.41	1.19	0.031	0.002	18.16	8.04	< 0.01	337	642	57	80		JG216-10	0.020	0.37	1.12	0.028	0.002	18.18	8.03	< 0.01	339	645	54	77		JG220-10									346	655	55		
Specification	Chemical Composition (%)								Tensile Test ^{*1}			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.	0.018	0.47	1.13	0.027	0.002	18.18	8.01	< 0.01	205	515	35	81																																																																																																										
JG196-10	0.021	0.41	1.19	0.031	0.002	18.16	8.04	< 0.01	337	642	57	80																																																																																																										
JG216-10	0.020	0.37	1.12	0.028	0.002	18.18	8.03	< 0.01	339	645	54	77																																																																																																										
JG220-10									346	655	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 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-MR0105-2015

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

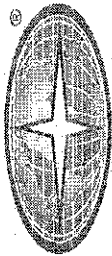
CHEMICAL COMPOSITION CAPTURED FROM RAW MATERIALS HEAT ANALYSIS

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

*2: NH: Not Hydrostatically Tested

EDDY CURRENT ACCORDING TO ASTM E426-98 (Reapproved 2005)^{#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)
 OACC MANAGER HASSANUDDIN
 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 204534, JALAN PLATINUM UTAMA,
 JOHORE DARUL TAKZIM, MALAYSIA
 Tel: +607-2518888 Fax: +607-2519999 E-mail: info@pantechalloy.com
 http://www.pantech-group.com



MS SIRM
 Cert. No.: PC004871



Certified to
 NSF/ANSI 61



Cert. No.: ISO9001-0047465



Suruhanjaya Pendaftaran & Ais Hebat
 NO. SIJIL PENDAFTARAN: SPAN/BPI/500-10/553/A/W-1

MATERIAL MANUFACTURER APPROVAL ACCORDING TO
 PED 2014/68/EU, ANNEX 1, PARA 4.3.
 PED CERTIFICATE NO.:
 0038/PED/MUM/111006/1

INSPECTION DOCUMENT: EN 10204: 2004 Type 3.1

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

Certificate No : PSA2-26077
 Date : 18/02/2021

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	ASTM A999/A999M - 18 / ASME SA999/SA999M - 19		ASTM A999/A999M - 18 / ASME SA999/SA999M - 19		ASTM A999/A999M - 18 / ASME SA999/SA999M - 19		ASTM A999/A999M - 18 / ASME SA999/SA999M - 19		ASTM A999/A999M - 18 / ASME SA999/SA999M - 19		ASTM A999/A999M - 18 / ASME SA999/SA999M - 19		ASTM A999/A999M - 18 / ASME SA999/SA999M - 19
Heat No.	Size	Grade	Quantity (Length)	Non Destructive Test		Inter-Granular Corrosion Test		Hydrostatic Test		Dimensional / PMI/ Visual Inspection		Tensile Test ^{*1}		Hardness, HRB	Remarks	
				Eddy Current	Flattening	Y	TS	Pressure / Hold	Result	YS	E					
JS172-10	2 1/2 inch Sch 10S x 6M	TP 304/304L	19	PASSED	PASSED	PASSED	PASSED	2500 PSI, 5s	PASSED	GOOD	205	35	90			
KG012-10	2 1/2 inch Sch 10S x 6M	TP 304/304L	11	PASSED	PASSED	PASSED	PASSED	2500 PSI, 5s	PASSED	GOOD	372	53	86			
JG148-10	4 inch Sch 10S x 6M	TP 304/304L	9	PASSED	PASSED	PASSED	PASSED	1600 PSI, 5s	PASSED	GOOD	368	48	83			
JG151-10	4 inch Sch 10S x 6M	TP 304/304L	31	PASSED	PASSED	PASSED	PASSED	1600 PSI, 5s	PASSED	GOOD	345	54	81			
JG103-10	6 inch Sch 10S x 6M	TP 304/304L	1	PASSED	PASSED	PASSED	PASSED	1300 PSI, 5s	PASSED	GOOD	363	47	82			
Specification		Chemical Composition (%)														
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	-								
JS172-10	0.022	0.47	1.09	0.028	0.001	18.02	8.03	< 0.01								
KG012-10	0.022	0.41	1.14	0.032	0.001	18.18	8.04	< 0.01								
JG148-10	0.024	0.39	1.14	0.026	0.001	18.23	8.04	< 0.01								
JG151-10	0.022	0.41	1.13	0.028	0.002	18.18	8.01	< 0.01								
JG103-10	0.023	0.48	1.17	0.028	0.002	18.09	8.02	< 0.01								

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" (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 B

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

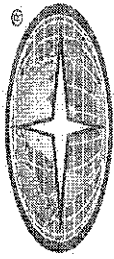
HEAT TREATMENT: SOLUTION TREATED AT MINIMUM 1050°C, RAPIDLY COOLED WITH WATER

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)^{*2} REQUIREMENTS (REFERENCE TO ASTM A999/A999M-12 REQUIREMENTS, DISCONTINUITY ACC. TO CLAUSE 22.3, 8.4. PROCEDURE ACC. TO CLAUSE 22.1.9)

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)

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



Cert. No.: ISO9001-0047465

MATERIAL MANUFACTURER APPROVAL ACCORDING TO PED 2014/68/EU, ANNEX 1, PARA 4.3.
 PED CERTIFICATE NO.: 0038/PED/MUM/111006/1



INSPECTION DOCUMENT: EN 10204: 2004 Type 3.1

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

Certificate No : PSAZ-26078
 Date : 18/02/2021

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	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	Quantity (Length)	Eddy Current		Flattening		PASSES	PASSES	PASSES	PASSES	1300 PSI, 5s	1300 PSI, 5s	1300 PSI, 5s	1300 PSI, 5s	GOOD	GOOD	GOOD	GOOD	
				PASSES	PASSES	PASSES	PASSES													Result
JG159-10	6 inch Sch 10S x 6M	TP 304/304L	5																	
JGA094-01112	6 inch Sch 10S x 6M	TP 304/304L	1																	
JS130-10	6 inch Sch 10S x 6M	TP 304/304L	8																	
JS135-10	6 inch Sch 10S x 6M	TP 304/304L	10																	
Chemical Composition (%)																				
Specification	C	Si	Mn	P	S	Cr	Ni	Pb	YS (ksi) / MPa	TS (ksi) / MPa	E (%)	Hardness, HRB	Remarks	Tensile Test ^{*1}						
														20.00	11.00	-	205	515	35	343
JG159-10	0.021	0.41	1.13	0.029	0.002	18.23	8.03	< 0.01	348	666	53	80								
JGA094-01112	0.019	0.39	1.17	0.027	0.002	18.15	8.02	< 0.01	346	665	50	78								
JS130-10	0.018	0.45	1.04	0.030	0.001	18.11	8.01	< 0.01	344	659	53	81								
JS135-10	0.015	0.44	1.19	0.032	0.001	18.02	8.04	< 0.01												

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: L (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 1035°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) *2: NH: Not Hydrogenically Tested
 REQUIREMENTS (REFERENCE TO ASTM A999/A999M-12 REQUIREMENTS, DISCONTINUITY ACC. TO CLAUSE 22.3.8.4. PROCEDURE ACC. TO CLAUSE 22.3.9)

Signature of GAGC Manager Hassanuddin
 Head of Quality Assurance Department