MILL TEST CERTIFICATE

PANTECH STAINLESS & ALLOY INDUSTRIES SDN. BHD. (733428W)
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INSPECTION DOCUMENT: EN 10204: 2004 Type 3.1

SPAN
Suruhanjaya Perkhidmatan Air Negara
NO. SIJIL PENDAFTARAN : SPAN/KP/A/00883-2011

SIRIM
Cert. No.: PP087201

Lloyd's Register
Cert. No.: ISO9001-0047465

PED CERTIFICATE NO. :
0038/PED/MUM/1110006/1

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

Certificate No : PSA3-11664
Date : 25/11/2019

PO No.	Invoice No.	Product Specification	Dimensional & Inspection Specification	Delivery Condition
APO-1911-0064	L000009556	ASTM A312/A312M - 17 / ASME SA312/SA312M - 17	ASTM A999/A999M - 16/ ASME SA999/SA999M - 15 B 36.19M-85 & 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		Pressure / Hold	Result	
IYA081-01113	12 inch Sch 10S x 6M	TP 316/316L	2	PASSED	PASSED	PASSED	NH	-	GOOD

Specification	Chemical Composition (%)									Tensile Test *1			Hardness, HRB	Remarks
	C	Si	Mn	P	S	Cr	Ni	Mo	Pb	YS	TS	E		
Max										~~(KSI~~ / MPa)		(%)		
Min	0.035	1.00	2.00	0.045	0.030	18.00	14.00	3.00	-	-	-	-	90	
Heat No.	-	-	-	-	-	16.00	10.00	2.00	-	205	515	35	-	
IYA081-01113	0.020	0.54	1.13	0.032	0.001	16.80	10.00	2.05	< 0.10	323	582	55	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 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)$^{\varepsilon 1}$ REQUIREMENTS (REFERENCE TO ASTM A999/A999M-12 REQUIREMENTS, DISCONTINUITY ACC. TO CLAUSE 22.3.8.4. PROCEDURE ACC. TO CLAUSE 22.3.9)

PANTECH STAINLESS & ALLOY INDUSTRIES SDN. BHD. QA ENGINEER SITI KHADIJAH

Head of Quality Assurance Department