



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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INSPECTION DOCUMENT: EN 10204: 2004 Type 3.1



Suruhanjaya Pendaftaran & Pengawasan
NO. SIJIL PENDAFTARAN: SPAN/KP/A/00889-2011



SIRIM
Cert. No.: P9087201



Cert. No.: KLR 6022814

PERD CERTIFICATE NO.:
0038/PERD/MUM/1110006/L

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

Certificate No: PSA3-11487
Date : 07/12/2018

PO No.	Invoice No.	Product Specification	Dimensional & Inspection Specification		Delivery Condition										
			ASTM A312/A312M - 16a / ASME SA312/SA312M - 15	ASTM A999/A999M - 16/ ASME SA999/SA999M - 15 B 36.19M-85 & B36.10M-04	Solution Treated, Pickled-Passivated, Plain Ends Square Cut	Pressure / Hold	Result	Dimensional / PMI/ Visual Inspection							
Heat No.	Size	Grade	Quantity (Length)	Eddy Current	Non Destructive Test	Flattening	Inter-Granular Corrosion Test	Hydrostatic Test	Remarks						
HSA236-01113	1 1/2 inch Sch 10S x 6M	TP 316/316L	5	PASSED	PASSED	PASSED	PASSED	2500 PSI, 5s	GOOD						
HSA267-01113	1 1/2 inch Sch 10S x 6M	TP 316/316L	13	PASSED	PASSED	PASSED	PASSED	2500 PSI, 5s	GOOD						
HSA313-01113	1 1/2 inch Sch 10S x 6M	TP 316/316L	74	PASSED	PASSED	PASSED	PASSED	2500 PSI, 5s	GOOD						
HYA013-01113	1 1/2 inch Sch 10S x 6M	TP 316/316L	8	PASSED	PASSED	PASSED	PASSED	2500 PSI, 5s	GOOD						
Chemical Composition (%)															
Specification	C	Si	Mn	P	S	Cr	Ni	Mo	Pb	Tensile Test ¹		E	Hardness, HRB	Remarks	
										YS (ksi / MPa)	TS				(%)
Max	0.035	1.00	2.00	0.045	0.030	18.00	14.00	3.00	-	205	515	35	-	90	
Min	-	-	-	-	-	16.00	10.00	2.00	-	405	676	53	-	83	
Heat No.	HSA236-01113	0.019	0.52	0.031	0.005	16.73	10.08	2.06	< 0.10	405	648	52	-	87	
	HSA267-01113	0.018	0.56	0.032	0.003	16.75	10.15	2.06	< 0.10	256	580	55	-	79	
	HSA313-01113	0.018	0.41	0.033	0.002	16.62	10.11	2.09	< 0.10	395	600	52	-	81	
	HYA013-01113	0.018	0.51	0.030	0.001	16.60	10.20	2.10	< 0.10						

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

INTERGRANULAR CORROSION TEST ACCORDING TO ASTM A262-10 PRACTICE E

HARDNESS ACCORDING TO NACE-MR0175-2013 / ISO 15156-2015 & NACE-MR0106-2015

HEAT TREATMENT: SOLUTION TREATED AT MINIMUM 1089°C, RAPIDLY COOLED WITH WATER

CHEMICAL COMPOSITION CAPTURED FROM RAW MATERIALS HEAT ANALYSIS

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

EDDY CURRENT ACCORDING TO ASTM E466-98 (Reapproved 2009) REQUIREMENTS REFERENCE TO ASTM A999/A999M-12 REQUIREMENTS. DISCONTINUITY ACC. TO CLAUSE 22.3.8.4, PROCEDURE ACC. TO CLAUSE 22.3.9

*2: NH₄ Not Hydrostatically Tested

Head of Quality Assurance Department

ASST. QMGR
MANAGER
KOMATHI
SON BHD