



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.: PC004871



Certified to NSF/ANSI 61



Approval No.: ISO9001-0047465



Suruhanjaya Perkhidmatan Air, Regenero
NO. SUJIL PENDAFTARAN : SPAN/8P/300/10/553/A/W-1

MATERIAL MANUFACTURER APPROVAL ACCORDING TO PED 2014/58/EU, ANNEX 1, PARA 4.3.
PED CERTIFICATE NO.: 0243/PED/MUM/1110006/1

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

Certificate No : PSA3-12195
Date : 15/03/2022

INSPECTION DOCUMENT: EN 10204: 2004 Type 3.1

PO No.	Invoice No.	Product Specification	Dimensional & Inspection Specification	Delivery Condition										
APO-2201-0146	L000012710	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										
Heat No.	Size	Grade	Quantity (Length)	Non Destructive Test	Inter-Granular Corrosion Test	Hydrostatic Test	Dimensional / PMI/ Visual Inspection							
LE043-10	1/2 inch Sch 40S x 6M	TP 316/316L	150	Eddy Current PASSED	Flattening PASSED	Pressure / Hold 2500 PSI, 5s	Result PASSED							
Chemical Composition (%)					Tensile Test ^{*1}									
C	Si	Mn	P	S	Cr	Ni	Mo	Pb	YS (ksi / MPa)	TS	E (%)	Hardness, HRB	Remarks	
Max 0.035	1.00	2.00	0.045	0.030	18.00	14.00	3.00	-	-	-	-			90
Mfn -	-	-	-	-	16.00	10.00	2.00	-	205	515	35			-
Heat No. LE043-10	0.63	1.04	0.029	0.001	16.80	10.07	2.07	< 0.01	324	565	50			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 PROCESS WITH NO FILLER METAL.

INTERGRANULAR CORROSION TEST ACCORDING TO ASTM A262-10 PRACTICE E

HARDNESS ACCORDING TO NACE-MR0175-2015 / ISO 15136-3:2013 & NACE-MR0103-2015

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 E646-98 (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)

Handwritten signature and circular stamp of the Quality Assurance Department.

Head of Quality Assurance Department