



DAEKYUNG BEND
CO.,LTD.

INSPECTION CERTIFICATE

(EN10204 3.1)

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Gyeongsangnam-Do, Korea
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Customer	Allied Stainless	Certificate. No.	JH-21-0690
P.O. No.	PO21047	Date of Issue	2021-12-03
Hull No.(Project No.)	N/A	Dimension & VI	Good
Spec. for Material	A/SA403 WP304/304L	Spec. for Dimensional	ASME B16.9(2018)

1. ITEM DESCRIPTION

LOT No	Line	Raw Heat No	Description	Q'TY(P'cs)	Starting Material	NDE(Method : Result)
ELL1400	1	SD20410	90E(L) 3" S/40S W B.W.	400	A312 WELDED PIPE	N/A
ELL1403	4	SE20124	90E(L) 10" S/10S W B.W.	40	A312 WELDED PIPE	N/A

* Heat Treatment Condition : 1040°C Solution Annealing & Water Quenching, Holding Time : 20 Min

2. CHEMICAL COMPOSITION(%)

Heat No.	Spec	C	Si	Mn	P	S	Ni	Cr							
	Max	0.03	1.0	2.00	0.045	0.030	11.0	20.0							
	Min						8.0	18.0							
SD20410	L	0.017	0.41	1.49	0.030	0.006	8.02	18.17							
SE20124	L	0.024	0.41	1.43	0.033	0.005	8.04	18.15							

* L : Ladle Analysis, P: Product Analysis

3. MECHANICAL PROPERTIES

Heat No	TENSILE TEST					HARDNESS TEST	CHARPY-V IMPACT TEST (Test Temp : -196 ℃)										
	Unit	Y.S(0.2%)	T.S	E.L	TYPE	TEST METHOD: HRB	Specimen Size	Direction Position	ABSORBED ENERGY (Unit : J)				LATERAL EXPANSION (Unit : mm)				
	MPa	MPa	%	Min: (S)					(AVR)		Min :0.38 mm						
	Max	-	-	-					1	2	3	AVR	1	2	3	AVR	
SD20410	L,B	293	652	52		74, 75											
SE20124	L,B	266	643	51		79, 81	10x2.5	L,B	59	67	61	62	0.91	1.02	0.94	0.96	
								L,W	48	51	55	51	0.86	0.83	0.89	0.86	

* L : Longitudinal, T : Transvers, B : Base Metal, W : Weld Metal, Type For Tensile(1:Full Section, 2:Reduced Section - Pipe,3:Reduced Section - Plate)

Heat No	PMI	FLATTENING	I.G.C	HYDROSTATIC TEST	FERRITE	GRAIN SIZE
SD20410	100% PMI	N/A	GOOD	N/A	N/A	N/A
SE20124	100% PMI	N/A	GOOD	N/A	N/A	N/A

REMARK	
1. Made in Korea	5. No welding Repair
2. ASTM A403M(2019), ASME SA403(2019)	6. Pickled and Passivated.
3. NACE MR0175/ISO15156(2015) // NACE MR0103/ISO17945(2015)	7. IGC : ASTM A262 E
4. Free of Mercury. Free of Radiation.	

We certify this material has been manufactured and examined in accordance with all requirements of the specification and the results of all examination are acceptable

S. J. KIM

HEAD OF QUALITY MANAGEMENT