CERTIFICATE No. 220902-03-03-R2 page: 3 of 22
CONTACT(P/O) NO. 3769/315962-00
ISSUED DATE. 2022-09-02
COMMODITY. H.F.W. STEEL PIPE
SPECIFICATION. API 5L B / X42 PSL1 (46th)
ASTM A53 B (2022) / ASME SA53 B (2021)

MILL TEST REPORT

EN10204 TYPE 3.1:2004

NEXTEEL CO.,LTD.

●MANUFACTURER : NEXTEEL CO., LTD

●LOCATION OF FACILITIES USED FOR PIPE MANUFACTURING
:195 SONGDEOK-RO 212 BEON-GIL DAESONG-MYEON, NAM-GU,POHANG-SI, GYEONGSANGBUK-DO, KOREA

●COIL ROLLING AND STEELMAKING.
:POSCO POHANG WORKS, 6262, DONGHAEAN-RO, NAM-GU, POHANG-SI,GYEONGSANGBUK-DO,37877, KOREA
:POSCO GWANGYANG WORKS, 20-26, POKPOSARANG-GIL, GWANGYANG-SI, JEOLLANAM-DO, 57807, KOREA

* THE PIPE AND COATINGS ARE FREE OF BOTH MERCURY AND LEAD * THE PIPE HAS BEEN TESTED PER RELEVANT SPECIFICATIONS * NACE MR0103 / MR0175 / ISO15156 (Chemical Comp., Heat Treatment & Hardness Only)

ITEM NO.	TYPE OF PIPE END	NOM-INAL SIZE	Dimension (O.D x W.T. x L)	QUANTITY (PCS)	TOTAL WEIGHT (KG)	HEAT NO	TENSILE TEST (Gauge Length: 2 INCH) YIELD STRENGTH (psi)	TENSILE STRENGTH (psi) B	TENSILE STRENGTH (psi) W	YIELD RATIO(%)	EL (%)	④	CHEMICAL COMPOSITION(%) C	Si	Mn	P	S	Cr	Ni	Cu	Mo	V	Sol-Al	Ti	B	Nb	Ceq. ⑥ (0.25)% ↓	HYDRO-STATIC TEST H-TIME(5)Sec T.P (PSI)	RE-SULT	IMPACT TEST ABSORBED ENERGY(J) Orientation ⑨ (T) Specimen Size ⑩ (a) (0)°C (27)J ↑ ⑪	1	2	3	AVE.	HARDNESS TEST Unit ⑫	(HRB) Spec	1	2	3	(Max.100) AVE.	Corro-sion TEST HIC	SSCC	RE MARK
	①		②					③					-4	-3	-4			-2		-3	-2		-3		-4			⑤		⑦	⑧														
5	BBE	6	6.625" x 0.432"x 42	74	40,319	SQ98005						H	1697	8	821	98	32	2	1	11				5		20		2970	G													85		
							60100	70300			36	P	1636	16	770	103	33	2	1	13	Tr	1	21	Tr	Tr	29																	
												P	1669	18	774	103	34	2	2	13	Tr	2	21	Tr	Tr	33																	
			SUB TOTAL	74	40,319																																					

HEAT TREATMENT⑭ (WELD SEAM)	VISUAL & DIMENSION	FLATTENING TEST or BEND TEST	GUIDED BEND TEST	REVERSE FLATTENING TEST	WELD DUCTILITY TEST	METALLOGRAPHIC TEST	FLARING TEST	RESIDUAL MAGNETISM TEST	CRUSH TEST	STRAIGHTNESS	NONDESTRUCTIVE TEST(NDT)⑬ PIPE BODY(U,T) SEAM	PIPE BODY(U,T) FULL BODY	PIPE END U.T	PIPE END M.T
G	G	G				G		G		G	G		G	

NOTE

①BPE: BLACK PLAIN END,
BBE: BPE BEVELLED END,
BTE: BLACK THREADED END,
BTC: BLACK THREADED & COUPLED,
GPE: GALVANIZED PLAIN END,
② O.D:OUTSIDE DIAMETER (Unit : Inch)
Thick: WALL THICKNESS(Unit : Inch)
Length: (Unit : Feet)
③ B: BASE METAL, W: WELD SEAM
④ H: HEAT(LADLE) ANALYSIS, P: PRODUCT ANALYSIS
⑤ Chemical Composition Unit:-4:×1/10000,-3:×1/1000,-2:×1/100
(The test value less than each unit is regarded as Tr)
⑥ Carbon Equivalent:
1.C≤0.12%, CE(Pcm)=C+Si/30+Mn/20+Cu/20+Ni/60+Cr/20+Mo/15+V/10+5B
2.C>0.12%,CE(IIW)= C+Mn/6+(Ni+Cu)/15+(Cr+Mo+V)/5
⑦ T.P: TEST PRESSURE ⑧ G: Good
⑨ Orientation : T = Transverse , L = Longitudinal
⑩ CVN IMPACT TEST SPECIMEN SIZE : a:FULL SIZE, b:10x7.5, c:10x6.7,d:10x5.0, e:10x3.3, f:10x2.5
⑪ B= Body, W = Weld, H = Heat Affected Zone, S.A = Shear Fracture Area of Body(%)
⑫ O: Outside of Wall, C: Center of Wall, I: Inside of Wall
⑬ U.T:ULTRASONIC TEST , E.T:EDDYCURRENT TEST, M.T:MAGNETIC PARTICLE TEST
⑭ Q: Quenched and Tempered, N & T : Noramlized and Tempered, W: Weld Seam Nomalized

* Tensile Test(Strip Type Specimen:Width)
: O.D ≤3-1/2"→19mm, 4"<O.D≤7-5/8"->25mm, 8-5/8"≤O.D→38mm
* Tensile Test(Location & orientation for Specimen)
1) O.D < 8-5/8" : L90 (Pipe Body)
2) 8-5/8" ≤ O.D : T180(Pipe Body), T (Weld Seam)
* Reference Indicator for NDE : N10 3.2mm(0.125")
* Min.temperature for Heat Treatment : 900 ℃
* This material has been fully killed and made by basic oxygen process.
* This material is fine grained steel.
* Country of Melt and Pour : Korea.

SIGNATURE

SURVEYOR TO :

WE HEREBY CERTIFY THAT THE PRODUCTS HERE IN HAVE BEEN MADE AND TESTED IN ACCORDANCE WITH ABOVE SPECIFICATION AND ALSO WITH THE REQUIREMENTS CALLED FOR THE ORDER.

SIGNATURE

C. K. An

MANAGER OF QUALITY ASSURANCE TEAM