Heat: D13521 **Order:** 2848023 2" X 0.218" SMLS A53/API5L/A106 GR B/X-42 PEB SRL
Your PO: P0235829-01 **Line:** 2

CERTIFICATE NO.	:	IJQ20220423608	
DATE OF ISSUE	:	23.APR.2022	
CUSTOMER	:	Texas Pipe & Supply Co.	
CONTRACT(P/O) NO.	:	306507	
COMMODITY	:	SEAMLESS CARBON STEEL HOT FINISHED PIPE	
STANDARD	:	ASTM A53/A106 2018 Edition // ASME SA53/SA106 2019 Edition // API 5L FORTY-SIXTH EDITION, 2018	

INSPECTION CERTIFICATE

EN10204-3.1 ■ / EN10204-3.2 □

ILJIN Steel Corporation
Imsil Plant Address
1746 Hoguk-ro, Imsil-eup, Imsil-gun, Jeollabuk-do, Korea 55927
TEL : 82-63-730-4574 / FAX : 82-63-730-4798

SUPPLIER: ILJIN STEEL Corporation

NO.	W/O (HEAT NO.)	ORDER SIZE ID	OD	WT	LENGTH	QUANTITY PCS	MASS kg / pcs	MASS TOTAL(M/T)	TOTAL LENGTH	Manufacturing Process *1	Pipe End (Type) *2	HEAT TREATMENT *3	Grade
1	ST22030203 (D13521)	1.939 inch	2.375 inch	0.218 inch	38 ft	82	7	7.116	3116 ft	HF	BEP	N/A	ASTM A53B ASTM A106B ASME SA53B ASME SA106B API 5L B (PSL1) API 5L X42 (PSL1)
		TOTAL				82	7	7.116	3,116				

REMARK
1. THE HARDNESS DESCRIBED HEREIN COMPLIANCE WITH NACE MR-0175/MR-0103(MAX.22HRC), 2015 EDITION.
2. *R - CHEMICAL COMPOSITION REQUIREMENT FOLLOWS NEXT
   - ASTM A53B : TABLE 1. (REMARK C)
   - ASTM A106B&C : TABLE 1 (REMARK B)
   - API 5L : TABLE 4 (REMARK b)
3. NO WELD REPAIR WAS PERFORMED
4. NO MERCURY, MERCURY COMPOUNDS OR MERCURY BEARING INSTRUMENTS AND/OR EQUIPMENT HAVE BEEN USED IN ANY MANNER WHICH MIGHT CAUSE CONTAMINATION IN MANUFACTURE, ASSEMBLY, OR TEST OF MATERIAL.
5. STEEL MELTED AND MANUFACTURED IN KOREA

NO.	W/O (HEAT NO.)	STATUS	CHEMICAL COMPOSITION(%) C	Si	Mn	P	S	Cr	Ni	Mo	Cu	Al	Ti	V	Nb	B	U4	VN	V1	V2	CEQ	NDT (1) Notch Type: N10		HYDRO -STATIC TEST	TENSILE TEST (GAGE LENGTH : 2.0±0.005inch)				IMPACT TEST (ASTM E23)		HARDNESS (ASTM E18)	BENDING TEST	FLATT -ENING TEST	FLARING TEST	DWT	HYDRO -BURST	VISUAL	DIMENSION	DRIFT TEST	STRAIGHTNESS
																								Sec.	PRE-SSURE	Width *L	Y.S 0.5% EUL	T.S	E.L	Energy (1)Temp °F (2)Unit ft-lb *T	Energy *L	■ HRB □ HRC □ HB □ HV		H=(1+e)t/(e+t/O.D.)		5kg X 2m Temp : °F	psi Temp : °F				
		*4	X100		*R	X1000		X100				X1000					*5	*6	*7	*8	*9	*10			psi	*P	psi	psi	%	*T	*L										
Spec.		MAX	25		135	35	35	40	40	15	40			80			1.0		0.15		0.43	EC	UT	5	2970	0.75						180°								
		MIN		10	29																											90°	1.44							
1	ST22030203 (D13521)	LA	18	22	113	9	5	7	4	1	6	32	1	28	1	0.3	0.2		0.03		0.40																				
		BA	17	23	115	9	4	7	4	1	7	34	2	26	2	0.2	0.2		0.03		0.39																				
		PA	17	22	113	9	4	7	5	1	7	33	2	25	2	0.2	0.2		0.03		0.39		*G	*G			72110	85352	30.6			89.3	*G	*G				*G	*G		*G
			17	22	115	9	4	7	5	1	7	34	2	26	3	0.2	0.2		0.03		0.39						68774	87281	31.3			88.7								
																																88.5								

NOTE
*1 - NF : Normalizing Forming / HF : Hot Finished / CF : Cold Finished
*2 - BEP : Bevelled End / PEP : Plain End
*3 - A : As Rolled / SRA : Stress Relieved Annealing Q+T : Quenched & Tempered / N+T : Normalized & Tempered N : Normalized / Iso : Isothermal Annealing
*4 - LA : Ladle Analysis / BA : Billet Analysis / PA : Product Analysis
*5 - Cu+Ni+Cr+Mo+V
*6 - Nb+V
*7 - Nb+V+Ti
*8 - Cr+Ni
*9 - C+Mn/6+(Cr+Mo+V)/5+(Cu+Ni)/15
*10 - UT : Ultrasonic Test / EC : Eddy Current Test / MT : Magnetic Particle Test/ EM : Electro Magnetic Inspection
*P - Tubular or Plate Type of ASTM E8 Fig.12
*F - Full Section Type of ASTM E8 Fig.11
*G - Good / *L - Longitudinal / *T - Transverse

Third party Section

- WE HEREBY CERTIFY THAT THE MATERIAL HEREIN HAS BEEN MADE AND TESTED IN ACCORDANCE WITH ABOVE SPECIFICATION AND THE RESULTS OF ALL TEST ARE ACCEPTABLE
- THE QUALITY SYSTEM OF OUR WORKS HAS BEEN ASSESSED AND REGISTERED AS MEETING THE REQUIREMENTS OF ISO 9001, ANY WELDING HAS NOT BEEN PERFORMED ON THE MATERIAL
- THIS CERTIFICATION IS INTENDED ONLY FOR PRODUCTS LISTED. MODIFICATION TO OR UNAUTHORIZED USE OF THIS CERTIFICATION IS STRICTLY PROHIBITED. OFFENSES MAY BE REGARDED AS FORGERY OF DOCUMENTS AND BE SUBJECT TO CRIMINAL PROSECUTION.

KYOUNG CHEOL YUN
Manager of Q.M Dept.: