Heat: S0006239 **Order:** 2864209 10" X 0.500" SMLS A53/API5L/A106 GR B/X-42 PEB SRL
Your PO: PO 236164-1 **Line:** 2

Document Ref.Code: F02-JP-QA-20 Revision No: 4 Effective Date: 29-Apr-2018	MTC No: **JC-21-0448** MTC Date: **26-Dec-2021**	Page: **1/1**	**MILL TEST CERTIFICATE** **MTC Type: EN 10204 - 3.1**

شركة الجبيل لخدمات الطاقة (جسكو)
JUBAIL ENERGY SERVICES CO. (JESCO)
Tareeq 263, South of Tareeq 150, P.O. Box 10997
Jubail Industrial City, Eastern Province, 31961 Saudi Arabia

Customer	P.O. Number	Line Item Number	Internal Order	Technical File	Packing list
TEXAS PIPE AND SUPPLY	**288415**	**03**	**C0001221-03**	**C-1221.03_00**	**2112262210**

Product:	Grade:	End Type:	Dimensions:	Length [mm]	Quantity:	PCS	Total length [FT]	Total weight [MT]
SEAMLESS LINE PIPE	**BR/X42R/B/B/C**	**PLAIN END BEVELED**	**10" SCH60 (10.750" x 0.500" 273.0 x 12.70mm)**	Min: **11580** Max: **12800**		**115**	**4781.50**	**125.759**

Product Description: **SEAMLESS LINE PIPE, API 5L PSL2_ASTM/ASME A/SA 53_ASTM/ASME A/SA 106_NACE MR 0175/ISO 15156_NACE MR0103, GRADE BR/X42R/B/B/C, AS ROLLED, SUITABLE FOR INTERNAL AND EXTERNAL COATING, PLAIN END BEVELED, SURFACE PROTECTED WITH STANDARD MILL VARNISH, END PROTECTOR, PACKED LOOSE IN LAYERS WITH WOOD SEPARATORS**

Standard: **API 5L = Ed 46, Apr.2018; ASTM A 53 = 2020; ASTM A 106 = 2019a; ASME SA 53 / SA 106 = ASME BPVC-IIA-2019; NACE MR0175/ISO 15156 = 2015; NACE MR0103 = 2015**

STEEL IS FULLY KILLED WAS PRODUCED BY ELECTRIC ARC FURNACES TO A FINE GRAIN PRACTICE

Name and location of steelmaking facility: **JINDAL SHADEED IRON & STEEL LLC, Sultanate of Oman**

TEST: CHEMICAL COMPOSITION acc. to ASTM A751 method

Heat	Sample		Pcs.	C [%]	Si [%]	Mn* [%]	P [%]	S [%]	Cr [%]	Ni [%]	Mo [%]	Al [%]	Cu [%]	Ti [%]	Nb [%]	V [%]	B [%]	CE_{IIW} [%]	CE_{PCM} [%]	Nb+V [%]	Cu+Ni+Cr+Mo+V [%]	
				max	min-max	min-max	max	max	max	max	max		max	max	max	max	max	max	max	max	max	
				0.24	0.10-0.40	0.29-1.06	0.025	0.010	0.30	0.30	0.15		0.40	0.04	0.05	0.06	0.0010	0.43	0.25	0.06	1.00	STD
S0005842			59	0.16	0.26	1.14	0.010	0.001	0.013	0.004	0.002	0.027	0.006	0.001	0.001	0.005	0.0002	0.35		0.006	0.030	HEAT
	2000105693			0.16	0.27	1.05	0.009	0.002	0.010	0.003	0.001	0.026	0.006	0.002	0.001	0.001	0.0002	0.34		0.002	0.021	PRODUCT
	2000105694			0.16	0.27	1.05	0.011	0.002	0.009	0.003	0.001	0.027	0.006	0.002	0.001	0.001	0.0002	0.34		0.002	0.020	PRODUCT
S0006239			46	0.17	0.26	1.04	0.015	0.001	0.013	0.007	0.001	0.024	0.007	0.001	0.001	0.004	0.0002	0.35		0.005	0.032	HEAT
	2000105690			0.16	0.26	1.02	0.012	0.002	0.009	0.003	0.001	0.025	0.005	0.003	0.001	0.001	0.0002	0.33		0.002	0.019	PRODUCT
	2000105691			0.16	0.26	1.00	0.012	0.002	0.010	0.003	0.001	0.026	0.005	0.002	0.001	0.001	0.0002	0.33		0.002	0.020	PRODUCT
S0006249			10	0.17	0.24	1.03	0.014	0.001	0.012	0.007	0.001	0.026	0.007	0.001	0.001	0.004	0.0001	0.35		0.005	0.031	HEAT
	2000105696			0.17	0.26	1.03	0.015	0.002	0.008	0.003	0.001	0.025	0.005	0.003	0.001	0.001	0.0002	0.34		0.002	0.018	PRODUCT
	2000105697			0.17	0.25	1.03	0.012	0.001	0.008	0.003	0.001	0.025	0.005	0.002	0.001	0.001	0.0002	0.34		0.002	0.018	PRODUCT

TENSILE TEST acc. to ASTM A 370 method

Heat	Sample	Temp.	T/L	Type	Specimen Dim. [mm] Width	Specimen Dim. [mm] Thick	Sec.[mm²]	Rt0.5 [PSI]	Rm [PSI]	Elongation [%] (Cal: 50.8 mm)
								min: 42 100 max: 71 800	min: 70 000 max: 95 000	min: 30
S0005842										
	2000105693	RT	L	Rec	37.70	13.62	513.47	48 682	71 447	46.76
	2000105694	RT	L	Rec	37.80	13.27	501.61	50 569	71 234	46.90
S0006239										
	2000105690	RT	L	Rec	37.60	13.07	491.43	48 646	70 995	49.73
	2000105691	RT	L	Rec	37.50	12.31	461.63	48 021	70 967	47.65
S0006249										
	2000105696	RT	L	Rec	37.50	13.42	503.25	48 889	70 832	44.83
	2000105697	RT	L	Rec	37.50	12.91	484.13	47 804	70 420	47.80

RT= Room Temperature; L= Longitudinal ; T= Transverse ; Rt=Yield Strength ; Rm=Tensile Strength ; Rec=Rectangular

TEST: IMPACT TEST acc. to ASTM A 370 method

Heat	Sample	T/L	Size [mm]	Temp. °F	IMPACT TEST [ft-lb] Single Min. 15.0 — 1	2	3	Avg. Min. 20.0 — Avg.
S0005842	2000105693	T	10 x 10	32	165.2	172.0	174.1	170.5
	2000105693-S							
	2000105694-S							
S0006239	2000105690	T	10 x 10	32	142.6	149.4	132.4	141.4
	2000105690-S							
	2000105691-S							
S0006249	2000105696	T	10 x 10	32	163.8	164.5	158.8	162.4
	2000105696-S							
	2000105697-S							

HARDNESS TEST acc. to ASTM E92 method

Type	Location	1	2	3	4	Average (Max 248)	REMARKS
HV10							
HV10	Surface	136	142	139	140	139	
HV10	Surface	134	135	137	137	136	
HV10							
HV10	Surface	135	134	138	140	137	
HV10	Surface	135	133	135	137	135	
HV10							
HV10	Surface	135	132	135	135	134	
HV10	Surface	133	132	147	135	137	

FOLLOWING CONTROLS/TESTS HAVE BEEN SATISFACTORILY PERFORMED:
- **Hot Rolled seamless line pipes -As Rolled**
- **Hydrostatic Test at pressure 205 Bar (2970 PSI) for minimmum 5 sec;**
- **Visual Inspection and Dimensional Control;**
- **Flux Leakage Examination acc. to ASTM E570 for detection of External Longitudinal/Transversal imperfections with rectangular notch of 5% WT, 50 mm L , 1 mm W**
- **Ultrasonic Examination acc. to ASTM E213 for detection of External Longitudinal/Transversal imperfections with rectangular notch of 5% WT, 50 mm L , 1 mm W**
- **Ultrasonic Examination acc. to ASTM E213 for detection of Internal Longitudinal/Transversal imperfections with rectangular notch of 10% WT, 50 mm L , 1 mm W**
- **Flattening test - acc. to ASTM A530 - PASSED**
- **Wet Fluorescent Magnetical Particle Inspection on both End Area, acc. to ASTM E709**

REMARKS
- **The material was not subjected to any weld repair.**
- **The material is free of mercury contamination and/or addition.**
- **The material is free of radioactive contamination (<100 becquerels/gram).**

***For each reduction of 0.01% below the specified maximum for carbon, an increase of 0.05% above the specified maximum for manganese is permissible, up to a maximum of 1.65%**

PRODUCT MARKING:
By stencil: JESCO_API Spec 5L-0724_ API MONOGRAM_MO-YR_ASTM/ASME A/SA 53_ASTM/ASME A/SA 106_NACE MR 0175_ISO 15156_NACE MR0103_10.750" 0.500" BR/X42R/B/B/C PSL2 SMLS TEST PRESSURE:2970 PSI/NDE PIPE NO########## LENGTH ##.## (ft) WEIGHT ####.# (lb) HEAT NO ######## PO: 288415 TF C-1221.03 MADE IN SAUDI ARABIA

CONFIRMATION **-We hereby certify that the product been described has been manufactured and tested in accordance with above standards and specifications and satisfies the requirements.**

QUALITY ANALYSIS & CERTIFICATION

Prepared by: ..... Marin Talpos .....

Signature: .....

APPROVAL STAMP:

Approved — JESCO — Quality Assurance (QA) — Jubail Energy Services Co.

QUALITY ASSURANCE MANAGER

Approved by: ..... Gamal Mohammed Elkholy .....

Signature: .....