TUB-N10C-100

JESCO	JUBAIL ENERGY SERVICES CO. (JESCO) Tareeq 251, 31961, Jubail Industrial City P.O. Box 10997 - Kingdom of Saudi Arabia	**MILL TEST CERTIFICATE** EN 10204 - 3.1	No: JC-12-1054 Date: 06.11.2012 Page: 1/1	Doc. Ref. JP-QC-08 Revision 0 Ver. Date 20.04.2010 Effective Date 24.04.2010

Customer	P.O. Number	Internal Order	Technical File	Packing list
	1103181004	C0000351-08	C-351.08_00	12110636190

Product Description: SEAMLESS LINE PIPE, API 5L PSL2/ASTM/ASME A/SA 53/ASTM/ASME A/SA 106, GRADE B/X42R/NACE MR 0175/NACE MR0103, PLAIN END BEVELED, SURFACE PROTECTED WITH STANDARD MILL VARNISH, END PROTECTOR, PACKED LOOSE IN LAYER, WITH WOOD SEPARATORS

Standard: API 5L 44TH EDITION-2007; ASTM A106-2011; ASME SA106-2011; ASTM A53-2012/ASME SA53-2012; NACE MR 0175-2009/ISO 15156; NACE MR 0103-2012

Dimensions: 10" SCH100 [10.750" x 0.719" 273.0 x 18.26mm] — Length [FT] Min: 38 Max: 42 — Quantity: PCS 45 — Total length [FT] 1753.146 — Total weight [MT] 62.163

CHEMICAL COMPOSITION

Heat	Test	Steel Grade	Pos.	C [%] max	Si [%] max	Mn* [%] max	P [%] max	S [%] max	Cr [%] max	Ni [%] max	Mo [%] max	Al [%] min	Cu [%] max	Ti [%] max	Nb [%] max	V [%] max	B [%] max	CE [%] max	V+Nb [%] min	Cr+Cu +Mo+Ni +V [%] max		C	Si	Mn	P	S	Cr	Ni	Mo	Al	Cu	Ti	Nb	V	B	CE	V+Nb	Cr+Cu +Mo+Ni +V
R0002037		Gr. B/X42R		0.24	0.10-0.40	0.28-1.20	0.025	0.010	0.30	0.30	0.15		0.40	0.040	0.05	0.08		0.43	0.06	1.00	STD																
	2000012835		40	0.17	0.34	1.10	0.014	0.001	0.040	0.070	0.010	0.034	0.160	0.001	0.001	0.003	0.0003	0.38			HEAT																
	2000012836			0.18	0.32	1.10	0.015	0.004	0.038	0.064	0.008	0.028	0.172	0.006	0.001	0.001	0.0002	0.40	0.002	0.342	PRODUCT																
W0000015			1	0.18	0.31	1.05	0.012	0.003	0.065	0.097	0.008	0.028	0.167	0.004	0.001	0.001	0.0002	0.39	0.002	0.338	PRODUCT																
	2000010712			0.14	0.27	1.03	0.011	0.002	0.130	0.100	0.080	0.024	0.160	0.001	0.003	0.004	0.0003	0.37			HEAT																
	2000010713			0.16	0.28	1.03	0.014	0.003	0.090	0.096	0.048	0.029	0.152	0.001	0.001	0.001	0.0005	0.38	0.002	0.390	PRODUCT	68	L	Rec	25.40	18.03	483.36	48 677	71 587	49.55
W0000017			3	0.15	0.26	1.04	0.011	0.002	0.120	0.110	0.100	0.032	0.190	0.002	0.003	0.002	0.0004	0.39	0.002	0.398	PRODUCT	68	L	Rec	25.80	18.95	485.48	47 763	72 139	48.57
	2000010714			0.13	0.27	1.05	0.014	0.009	0.121	0.114	0.081	0.027	0.177	0.002	0.001	0.001	0.0005	0.37	0.002	0.504	PRODUCT	68	L	Rec	24.60	19.31	482.75	48 019	71 601	50.44
W0000019			1	0.15	0.24	1.04	0.013	0.002	0.110	0.150	0.100	0.033	0.200	0.001	0.003	0.003	0.0004	0.39			HEAT																
	2000010710			0.16	0.25	1.03	0.014	0.003	0.143	0.113	0.093	0.030	0.135	0.001	0.001	0.001	0.0005	0.40	0.002	0.551	PRODUCT	68	L	Rec	25.10	17.67	481.06	50 272	75 397	46.12
	2000010711			0.18	0.26	1.03	0.014	0.003	0.145	0.127	0.108	0.031	0.192	0.001	0.001	0.001	0.0005	0.40	0.002	0.585	PRODUCT	68	L	Rec	24.70	18.41	484.73	50 112	76 082	46.28

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

TENSILE TEST

Heat	Test	°F	T/L	Type	Specimen Dim. [mm] Width	Thick	Sec. [mm²]	R0.5 [PSI]	Rm [PSI]	Elongation [%] (Calc 50.8 mm)
								min: 42 100 max: 65 300	min: 66 200 max: 110 200	min: 28
R0002037	2000012835	68	L	Rec	25.50	17.99	458.75	49 315	71 456	51.27
	2000012836	68	L	Rec	25.50	19.27	491.39	49 851	73 589	51.43
W0000015										
	2000010712									
	2000010713	68	L	Rec	25.40	18.03	483.36	48 677	71 587	49.55
W0000017		68	L	Rec	25.80	18.95	485.48	47 763	72 139	48.57
	2000010714									
	2000010715	68	L	Rec	24.60	19.31	482.75	48 019	71 601	50.44
W0000019		68	L	Rec	25.00	18.19	458.94	47 662	71 662	48.48
	2000010710									
	2000010711	68	L	Rec	25.10	17.67	451.06	50 272	75 397	46.12

IMPACT TEST

Heat	Test	T/L	Size [mm]	°F	IMPACT TEST [J-lb] 1"	2"	3"	Single Min.	15.0	Avg. Min.	20.0
R0002037	2000012835	T	10 x 10	32	166.3	173.3	179.6			173.1	
	2000012836										
W0000015	2000010712	T	10 x 10	32	166.2	183.9	190.4			186.9	
	2000010713										
W0000017	2000010714	T	10 x 10	32	192.7	186.6	191.2			189.1	
	2000010716										
W0000019	2000010710	T	10 x 10	32	183.8	178.3	187.5			183.2	
	2000010711										

HARDNESS TEST

Type	Max. 250	REMARKS
	Value	
HV10	158	
HV10	158	
HV10	169	
HV10	167	
HV10	169	
HV10	166	
HV10	166	
HV10	166	

FOLLOWING CONTROLS/TESTS HAVE BEEN SATISFACTORILY PERFORMED:
- Hot Rolled seamless line pipe
- Hydrostatic Test at pressure 20.5 Mpa (2970 psi) for 5 sec;
- Visual Inspection and Dimensional Control;
- Flux Leakage Examination acc. to ASTM E570 for detection of External & Longitudinal/Transversal imperfections with 5 %
- Ultrasonic Examination acc. to ASTM E213 for detection of External Longitudinal/Transversal imperfections with 5 %
- Ultrasonic Examination acc. to ASTM E213 for detection of Internal Longitudinal/Transversal imperfections with 10 %
- Flattening test - acc. to ASTM A530 - PASSED
- Wet Magnetical Particle Inspection on Special End Area, acc. to ASTM E709

REMARKS
- The material herein described has been manufactured, sampled, tested and inspected in accordance with above standard and specification and it satisfies the requirements.
- The material has not be subject to any weld repair.
- The material is free from mercury contamination and/or addition.
- The material is free from radioactive contamination (<100 becquerels/gram).
- Dimensions for outside diameter and wall thickness of pipe is acc. to ASME B36.10M-2004
- * 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%

MARKING
JESCO_Spec 5L-0724_ API MONOGRAM_MO-YR_ASTM/ASME A/SA 53_ASTM/ASME A/SA 106_NACE MR 0175_NACE MR0103_10.750" 0.719" B/X42R PSL2 SMLS TEST PRESSURE:2970 POUNDS LENGTH ##.# (ft) WEIGHT##.## (lb) 77.16 LB/FT HEAT NO ######## AMERICAN PIPING PRODUCTS P11927 PIPE NO#### TF C-351.08 MADE IN SAUDI ARABIA

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

QUALITY MANAGEMENT SYSTEM
acc. to ISO 9001
API Q1
ISO TS 29001

QI-0709
SCI-1979
5L-0724

QUALITY CERTIFICATION DEPARTMENT
Vasilescu Florin
Signature:

QUALITY MANAGER
Alan West
Signature and stamp:

JESCO Quality Control JUBAIL ENERGY SERVICES CO.

From: American Piping
PO#: 86
Part: 10750718
Date: 4/9/2013
To: PLESA STEEL C/O
Qty: 1163
Heat#: R0002037
SO#: S241330C
Lin#: 1