

**JINDAL SAW LTD.****WORK / MILL TEST CERTIFICATE**

D / QLY / 24 R 00

T.C.NO: JSL / Q / 4111000919 / X
 P.O.NO: P13008
 S.O.NO: 4111000919
 INV.NO: 9111005775

DATE: 14.05.2014
 DATE: 10.12.2013
 DATE: 16.12.2013
 DATE: 14.05.2014

CUSTOMER : AMERICAN PIPING PRODUCTS, INC. PAGE 1 OF 1
PRODUCT : HOT FINISHED & NORMALIZED CARBON STEEL SEAMLESS PIPES
PIPE SPECIFICATION : ASTM A 333 GR. 6 EDN. 2013 / ASME SA 333 GR. 6 EDN. 2013 SEC II / ASTM A 53 GR. B / ASME SA 53 GR. B / ASTM A 106 GR. B / C EDN. 2013 / ASME SA 106 GR. B / C EDN. 2013 SEC II / API 5L GR. B, X42 PSL 1 45TH EDN. 2012 / NACE MR 0175 / NACE MR 0103 / ISO 15156

PIPE DIMENSIONS		LENGTH (FEET)	END CONDITIONS	STRAIGHTNESS	HEAT NO.	QUANTITY	
OD	WT					NOS.	FEET
2.375"	0.218"	21.00	Bevelled Ends	Satisfactory	3305532	13	273.009
2.0	SCH 80				2306107	44	924.030
					TOTAL	57	1197.039

CHEMICAL COMPOSITION :

Heat No.	Analysis	% C	% Mn*	% Si	% S	% P	% Cr	% Ni	% Cu	% Mo	% V	% Nb	% Ti	% CE
	Reqd.	Max.	0.29 - 1.06	Min.	Max.	Max.	Max.	Max.	Max.	Max.	Max.	Max.	Max.	Max.
3305532	Heat	0.20	1.10	0.27	0.004	0.013	0.008	0.007	0.006	0.002	0.0010	0.0060	0.005	0.383
	Product	0.19	1.11	0.26	0.005	0.011	0.006	0.005	0.004	0.003	0.0008	0.0058	0.004	0.375
	Product	0.18	1.10	0.25	0.004	0.012	0.007	0.006	0.005	0.002	0.0009	0.0059	0.005	0.363
2306107	Heat	0.20	1.10	0.30	0.005	0.013	0.007	0.009	0.006	0.003	0.0020	0.0010	0.005	0.383
	Product	0.19	1.11	0.28	0.004	0.011	0.005	0.007	0.004	0.003	0.0019	0.0008	0.004	0.375
	Product	0.18	1.10	0.29	0.005	0.012	0.006	0.008	0.005	0.004	0.0018	0.0009	0.005	0.363

* Mn. is acceptable upto 1.65 % as per Clause specified in ASTM / ASME / API 5L Specification.

MECHANICAL TESTS :

Heat No.		TENSILE TEST			OTHER TESTS				
		Y.S.	U.T.S.	% E G.L. - 50.80 mm	HARDNESS TEST	BEND TEST	HYDROSTATIC TEST (100%)	Impact Test	FLATTENING TEST
	Reqd.	42100 PSI Min.	70000 PSI Min.	21.50% Min.	200 BHN Max.	As Per Spec.	3000 PSI for 5 Seconds Minimum	L - 3.33 - 7 J at (-53°C)	As Per Spec.
3305532	Obtained	49571.25	72631.02	30.67	141 - 143	Satisfactory	Satisfactory	36, 30, 34 - Avg. 33.33 J	Satisfactory
2306107		55487.03	79042.80	34.05	152 - 154			30, 40, 32 - Avg. 34.00 J	

Remarks :

- Steel Making Process : EAF-LRF-VD-CCM, Fully Killed.
- Visual Inspection : Satisfactory
- Heat Treatment : Normalized at 880°C.
- Product is free from Mercury.
- No Repairs Made By Welding.
- NDT Test : Satisfactory.

T.C. AS PER EN10204 - 3.1

We hereby certify that the material herein described has been manufactured, sampled, tested & inspected in accordance with above standard and specification & satisfy the requirements.

Authorized Signatory

Check For Original Water Mark

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