



JINDAL SAW LTD.

WORK / MILL TEST CERTIFICATE

D / QLY / 24 R 00

T.C.NO: JSL / Q / 4111000773 / D
 P.O.NO: P12799
 S.O.NO: 4111000773
 INV.NO: 9111009429

DATE: 05.10.2013
 DATE: 22.07.2013
 DATE: 30.07.2013
 DATE: 05.10.2013

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	
						NOS.	FEET
5.563" OD	0.258" WT	40 - 42	Bevelled Ends	Satisfactory	2302307	37	1508.169
TOTAL						37	1508.169

CHEMICAL COMPOSITION :

Heat No.	Analysis	% C	% Mn*	% Si	% S	% P	% Cr	% Ni	% Cu	% Mo	% V	% Nb	% Ti	% CE
	Reqd.	0.23 Max.	0.29 - 1.06	0.10 Min.	0.010 Max.	0.020 Max.	0.30 Max.	0.20 Max.	0.30 Max.	0.15 Max.	0.06 Max.	0.04 Max.	0.04 Max.	0.43 Max.
2302307	Heat	0.20	1.11	0.31	0.004	0.012	0.006	0.007	0.004	0.003	0.0020	0.0060	0.005	0.385
	Product	0.18	1.11	0.29	0.004	0.011	0.006	0.007	0.004	0.003	0.0019	0.0059	0.004	0.365
	Product	0.19	1.10	0.30	0.005	0.010	0.005	0.006	0.005	0.004	0.0018	0.0058	0.005	0.373

* 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	FLATTENING TEST	HYDROSTATIC TEST (100%)	Impact Test	
	Reqd.	42100 PSI Min.	70000 PSI Min.	30.00% Min.	200 BHN Max.	As Per Spec.	3000 PSI for 5 Seconds Minimum	L - 5 - 9 J at (-51°C)
2302307	Obtained	52038.21	78410.47	35.62	153 - 156	Satisfactory	Satisfactory	40, 42, 42 ~ Avg. 41.33 J

Remarks :

1. Steel Making Process : EAF-LRF-VD-CCM, Fully Killed.
2. Visual Inspection : Satisfactory
3. Heat Treatment : Normalized at 880°C.
4. Product is free from Mercury.
5. No Repairs Made By Welding.
6. 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