MAHARASHTRA SEAMLESS LIMITED

WORKS (MILL) TEST CERTIFICATE

EN 10204 : 3.1B

QCF 20A

Customer :
P.O.No : 42456 Dtd. 04-03-2022
OC/Loading slip no. : 66210080 (Item No. 02)
Specification : ASTM A106 GR.B / API 5L GR.B / X42 PSL-1
Process/Type of Pipe : Hot Finished seamless carbon steel pipes

OD X WT : 33.40 mm X 4.55 mm (1.315" X 0.179")
Length Range : 20 - 20 Feet
Total Length : 26080 Feet (1304 Pcs)
Material Code : [illegible]

Test Certificate No. : MSL-6/QC/0001N/2022
Date : 14 July 2022

A) CHEMICAL COMPOSITION (%) - Reference standard ASTM A-751 & ASTM E-415

Sl No	Heat No	Test Unit	Analysis	C	Mn	Si	P	S	Cr	Mo	Ni	Cu	V	Nb	Ti	Nb+V	Nb+V+Ti	B	Ca	Al	N	Mn/C	Cu+Ni	CE Pcm	CE IIW
Req.	Min.	%			0.290	0.100												0.001							
	Max.	%		0.260	1.060	0.500	0.030	0.010	0.400	0.150	0.400	0.400	0.080	0.110	0.110										
1	AB721		H	0.175	1.030	0.250	0.017	0.006	0.014	0.0010	0.006	0.006	0.0040	0.0020	0.0010	0.0060	0.0070	0.0003		0.031		5.886	0.012		0.351
			P1	0.175	1.030	0.240	0.017	0.005	0.015	0.0000	0.005	0.007	0.0039	0.0023	0.0011	0.0062	0.0073	0.0002		0.032		5.886	0.012		0.351
			P2	0.185	1.020	0.260	0.018	0.007	0.014	0.0020	0.007	0.005	0.0041	0.0021	0.0012	0.0062	0.0074	0.0003		0.030		5.514	0.012		0.360

B) Special / supplementary Reqts.

C) MECHANICAL PROPERTIES

Sl No.	Heat No.	Test Unit	Quantity Pcs	Quantity Feet	Name of the Steel Maker and Address/Supplier Heat No.	Tensile Testing (Loc: Pipe Body) Orientn.	YST (Mpa)	UTS (Mpa)	YST/UTS Ratio	El (%)
						Reference standard ASTM 370 & E-8				
						G.L.=50 mm Nom. Width= 12.70 mm				
Req.	Min.						290	415		30
	Max.									
1	AB721		1304	26080	JSW Ispat, Chhattisgarh/ M007278B	L	418.61	546.47	0.77	34.42
							422.32	551.22	0.77	34.20
							420.17	547.62	0.77	34.28
							414.25	542.25	0.76	34.62

Reference standard ASTM E-23 — CVN Impact Test (Pipe Body)

Heat No	Absorbed Energy (J) Temperature°C : 1	2	3	Avg	% Shear Area 1	2	3	Avg
Size & Orientation:								
1								
1								
1								
1								

Reference standard ASTM E-18 — Through Wall Hardness (Pipe Body) — Hardness (HRB) — Transverse Direction

Heat No	OD 1	2	3	4	Avg.	Mid 1	2	3	4	Avg.	ID 1	2	3	4	Avg.
1	77	78	77	77	77										

Raw Material	Fully killed & Fine Grain Practice	Dimension	Good	NDE Method	Ultrasonic Testing - GOOD
Steel Route	EAF-LRF-VD-CCM	Weight	Good	Location & Orientation	Longitudinal & Transverse Notch at OD
Hot Rolling Temp. °C	880-940	End Finish	SQUARE CUT	Type & Size of Refindicator	10% Notch X 50mm Length X 1.0mm Width
Heat Treatment	NA	Straightness	OK	Residual Magnetism	10 Gauss Max
Delivery Condition	R	Visual	OK	Field Weldability	NA
Norm./Temp. Temp(°C)	NA	Bend Test	OK	Flattening Test	NA
HIC	NA	SSC	NA	Micro Structure/Grain Size	Reveals fine Femite and pearlite /ASTM No. 7-8
Inclusion Rating	NA	Hot Straight. Temp.°C	NA	Colour Coding	NA

End Area Inspection	OK
Hydro Test Pressure	2970 Psi
Holding Time	5 Sec.
End Protection	Plastic end cap
External Coating	Black Varnished
Flaring Test	NA
CTOD	NA

D) Marking/Stenciling : MAHA ((M) MSL API 5L X-42 PSL-1 / ASTM A106 GR.B / NACE MR0175/ MR0103(% S HARDNESS CONTROLLED) BE SMLS SRL OD 1.315 INCH X WT 0.179 INCH HFS HEATNO.... + 2970 PSI + LENGTH...IN FEET + MADE IN INDIA + WEIGHT - 2.17 LB/FT + PO/SHIPPING MARK : "PO # 25.436" + B.NO....

E) Remarks : 1) Matl Confirms to API 5L GR.B PSL-1 / X42 (EDN. 2018)/ ASTM/ASME A106 B (EDN. 2019a)/ SA106 B (EDN. 2021). 2) "Country of melt and pour : INDIA".

Legends : T-Transverse, L-Longitudinal, YST-Yield Strength, UTS-Ultimate Tensile Strength, EL-Elongation, GL-Gauge Length, H-Heat , P1-Product 1, P2-Product 2, R-As Rolled, Q-Quenched & Tempered, N-Normalised, N&T-Normalised & Tempered, PE-Plain-end, BC-Buttress Thread Casing, LC-Long Round Thread Casing, SC-Short Round Thread Casing, NU-Non-upset tubing, EU-External Upset tubing, NA- Not Applicable

The material has been manufatured, sampled,tested and inspected and has been found conforming to the specification and PO

Maharashtra Seamless Ltd. SEAL

FOR MAHARASHTRA SEAMLESS LTD
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