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
Process/Type of Pipe : PSL-1 : 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 : 27280 Feet (1364 Pcs)
Material Code : .....

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	B) Special / supplementary Reqts.
Req.	Min.	%			0.290	0.100																				
	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			0.001								
1	AB723		H	0.180	1.050	0.270	0.012	0.003	0.015	0.0020	0.007	0.004	0.0030	0.0020	0.0013	0.0050	0.0063	0.0005	-	0.031		5.833	0.011		0.360	
			P1	0.180	1.050	0.260	0.012	0.002	0.016	0.0010	0.006	0.005	0.0029	0.0022	0.0014	0.0051	0.0065	0.0004	-	0.032		5.833	0.011		0.360	
			P2	0.190	1.040	0.280	0.013	0.004	0.015	0.0030	0.008	0.003	0.0031	0.0019	0.0015	0.0050	0.0065	0.0005	-	0.030		5.474	0.011		0.368	

C) MECHANICAL PROPERTIES

Sl No.	Heat No.	Test Unit	Quantity Pcs	Quantity Feet	Name of the Steel Maker and Address/Supplier Heat No.	Orientn.	YST (Mpa)	UTS (Mpa)	YST/ UTS Ratio	El (%)	Absorbed Energy (J) 1	2	3	Avg	% Shear Area 1	2	3	Avg	OD 1	2	3	4	Avg	Mid 1	2	3	4	Avg	ID 1	2	3	4	Avg
						Reference standard ASTM 370 & E-8					Reference standard ASTM E-23								Reference standard ASTM E-18														
						Tensile Testing (Loc: Pipe Body)					CVN Impact Test (Pipe Body)								Through Wall Hardness (Pipe Body)														
											Absorbed Energy (J)				% Shear Area				Hardness (HRB)														
						G.L.=50 mm Nom. Width= 12.70 mm					Size & Orientation:								Transverse Direction														
											Temperature°C :								OD					Mid					ID				
											1	2	3	Avg	1	2	3	Avg	1	2	3	4	Avg	1	2	3	4	Avg	1	2	3	4	Avg
Req.	Min.						290	415		30																						
	Max.																															
1	AB723		1364	27280	JSW Ispat, Chhattisgarh/ M007284B	L	422.72	549.32	0.77	33.74									75	76	75	75	75										
							426.68	554.62	0.77	33.40																						
							424.22	556.26	0.76	33.26																						
							419.75	547.55	0.77	33.94																						

Raw Material	Fully killed & Fine Grain Practice	Dimension	Good	NDE Method	Ultrasonic Testing - GOOD	End Area Inspection	OK
Steel Route	EAF-LRF-VD-CCM	Weight	Good	Location & Orientation	Longitudinal & Transverse Notch at OD	Hydro Test Pressure	2970 Psi
Hot Rolling Temp. °C	880-940	End Finish	SQUARE CUT	Type & Size of Ref.Indicator	10% Notch X 50mm Length X 1.0mm Width	Holding Time	5 Sec.
Heat Treatment	NA	Straightness	OK	Residual Magnetism	10 Gauss Max	End Protection	Plastic end cap
Delivery Condition	R	Visual	OK	Field Weldability	NA	External Coating	Black Varnished
Norm./Temp. Temp(°C)	NA	Bend Test	OK	Flattening Test	NA	FlaringTest	NA
HIC	NA	SSC	NA	Micro Structure/Grain Size	Reveals fine Femite and pearlite /ASTM No. 7-8	CTOD	NA
Inclusion Rating	NA	Hot Straight. Temp.°C	NA	Colour Coding	NA		

D) Marking/Stencilling : 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) Mati 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

Maharashtra Seamless Ltd. SEAL

Rev. 01 Date: 31.01.2020

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

FOR MAHARASHTRA SEAMLESS LTD
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Warning : Modification or unauthorized use of this certification is strictly prohibited. Violation calls for criminal prosecution. For authenticity verification, you can contact us at: msltc@mahaseam.com.