

REPORT NO	1785	SECTION :-	8mm	HAET NO :-	55061	INVOICE NO.	SE244-18096											
DATE	21/12/25	STEEL SUPPLIER :-	SLR	REC.QTY :-	15900kg	INVOICE DATE :-	21/12/25											
GRADE	20MnCr41	STEEL TC NO :-	25031209	NO. OF BARS :-	74													
Process / Mfg Route	MBF - EBF - LRF - VD - CCM (EMS/AMIC) - RMS																	
Chemistry	%C	%Mn	%Si	%S	%P	%Cr	%Ni	%Mo	%Al	%Cu	%As	%Sb	%V	%Pb	%Ca	%Nb	%Ti	%B
Min	0.170	1.100	0.450	0.020	0.005	1.000	—	—	0.020	—	—	—	—	—	—	—	—	—
Max	0.230	1.400	0.400	0.040	0.035	1.300	—	—	0.040	—	—	—	—	—	—	—	—	—
Mill Tc Value	0.197	1.210	0.229	0.022	0.015	1.140	0.019	0.009	0.024	0.019	0.0010	0.001	0.002	0.005	0.008	0.002	0.003	0.002
Spectro Value	0.195	1.217	0.229	0.022	0.016	1.130	0.024	0.005	0.026	0.017	—	—	0.004	—	—	0.003	0.003	0.003

Bar Size (As per WI...)	Qty : 10 % Of Total Heat											
Diameter/Section Size (in mm)												
S.NO.	1	2	3	4	5	6	7	8	9	10	11	12
	80.3	80.1	80.5	80.2	80.0	80.3	80.2	80.4	80.2	80.5	80.1	80.3

Gas Content (PPM): As per Mill Tc	N2	H2	O2
Min			
Max	90	2	20
Value			
Mill Tc	71	1.13	15.6

Steel Supply Condition:	Hot Rolled
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MACRO	(i)	Internal soundness Sample : (ASTM E381 or as per customer)	S2 R 2 C2 MFA
	(ii)	Dendrite structure 01 sample :	S2 R2 C2
	(iii)	Step Down Test Sample : (IS4075 or as per customer)	OK

Micro structure As Rolled :	Micro structure : (or as per customer)
Mill Tc	100% Pearlite + Ferrite
SSB	Pearlite + Ferrite

ULTRASONIC TEST (AS PER ASTM A388) :	Mill Tc	100% Done OK
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INCLUSION RATING (IS 14163 / ASTM: E45A OR REQUIRED BY CUSTOMER)	A	B	C	D	DS
	Sulphide		Aluminate		Oxide
	TN	TK	TN	TK	
Cust Spec. If Any	2.0	2.0	2.0	2.0	2.0
Mill Tc	1	0.5	0	0	0.5
SSB	1	0.5	0	0	0.5

GRAIN SIZE :	Spec. :-	5 or finer	Mill Tc	7.5	SSB	6
(ASTME112 / IS-4748)						

JOMINY HARDENBILITY	Distance	1.5	3	5	7	9	11	13	15	20	25
IS-3848 / ASTM A255	Specified	41-46	38-45	37-43	34-41	31-38	29-36	28-34	26-33	23-31	21-29
(As per required by Customer)	Mill Tc	44.8	40.3	40.5	39.9	34	31.6	29.3	28.3	27.2	25.2
	Observed	45	44	42	40	37	33	31	30	27	25

MECHANICAL PROPERTIES : (If Required In TDC / Customer)	As per IS:1608 / ASTM A 370	As per IS: 1757					
	U.T.S	N/mm2 / MPA	Y.S	N/mm2 / MPA	%EL	IMPACT VALUE CHARRY	IMPACT VALUE IZOD
Specified	1200-1400	885 min	8 min	25.7 min			
Observed	1267	1153	15.6	32			

As Rolled Hardness (BHN (Max / Min))	1	2	3	4	5
(If Required In TDC / Customer)	171	172	174	175	176

VISUAL :	(i)	Surface Condition	100 % Bars Checked	OK
	(ii)	Heat No.	100 % Bars Checked	OK
	(iii)	Color Code.	100 % Bars Checked	OK

REDUCTION RATIO :	Specify	BLOOM SIZE -	200x200	REDUCTION RATIO :	7.56:1
(If Required In TDC / Customer)	As Per Mill TC				

DECARB LEVEL :	(AS PER IS 6396 / ASTM E1077)	Specified	1.0 of dia max
(If Required In TDC / Customer)		Observed	PD

UPSETIBILITY TEST (AS PER IS 10167) :	OK
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Test Certificate verified for Each Heat no :	Available & OK	Not Available	Not Conforming
	✓		

TDC / Customer STD	SSB/TDC/	Mill Tc No.	Mill Tc Date	Verified By :
(If Required In TDC / Customer)	41AT 5244/01	25031719	21/12/25	

MIX-UP TEST	Verified By Mobile Spectro / X-Ray Gun/Spark Test
(If Required In TDC / Customer)	Accepted

Other Remarks	
Checked By	Approved By