



RAW MATERIAL INCOMING INSPECTION REPORTS

D.C. No. : 4/99/01
Issue no. : 01, 03, 07, 2018
Rev. no. : 02, 11.05.20

Report No	217	SECTION :	8044	MAET NO :	50521	INVOICE NO :	50521-07802
DATE	26/8/2024	STEEL SUPPLIER :	SLP	REC.QTY :	77107	INVOICE DATE :	25/8/24
GRADE	20MnSi5HL	STEEL TC NO :	24090698	NO. OF BARS :			

(01) Process / Mill Route

Chemistry	%C	%Mn	%Si	%S	%P	%Cr	%Ni	%Mo	%Al	%Cu	%As	%Nb	%V	%Nb	%Ti	%B
Attn	0.17	1.1	0.15	0.02	0.03	1.0	—	—	0.02	—	—	—	—	—	—	—
Max	0.17	1.1	0.15	0.02	0.03	1.0	—	—	0.04	—	—	—	—	—	—	—
Mill Tc Value	0.186	1.03	0.28	0.013	0.013	1.15	—	—	0.024	—	—	—	—	—	—	—
Spectro Value	0.18	1.25	0.217	0.02	0.016	1.130	0.018	0.004	0.025	0.007	—	—	0.002	—	0.002	0.004

(02) Bar Size (As per WL) Qty 10 % Of Total Heat

No of Bar Checked 10

S.NO.	1	2	3	4	5	6	7	8	9	10	11	12
	80	79.5	79.8	79.7	79.6	79.5	79.4	79.3	79.2	80.1	80.2	

(03) Gas Content (PPM): As per Mill Tc

	N2	H2	O2
Min	—	—	—
Max	30	20	200
Value	24.1	1.73	14.9
Mill Tc			

(04) Steel Supply Condition: AS ROLLED

(05) MACRO (i) Internal soundness Sample (ASTM E881 or as per customer) 52 82 02
Value Obs. 252 282 202

(ii) Dendrite structure G1 sample: —

(iii) Step Down Test Sample (ISI4075 or as per customer) OK

(06) Micro structure As Rolled: Micro structure : (or as per customer)
Mill Tc uniform FC311E + Pearlite
SSB F + P

(07) ULTRASONIC TEST (AS PER ASTM A388) : Mill Tc 100% OK

(08) INCLUSION RATING (IS 14163 / ASTM E45A OR REQUIRED BY CUSTOMER)

	A		B		C		D		DS	
	Sulphide		Aluminate		Silicate		Oxide			
	TN	TK	TN	TK	TN	TK	TN	TK	TN	TK
Cust Spec. If Any	3.0	3	3.0	3.0	3.0	3.0	3.0	3.0		
Mill Tc	2	0.5	0.5	0	0	0	1.0	0		
SSB	2.0	0.5	0.5	0.0	0.0	0.0	1.0	0.0		

(09) GRAIN SIZE : Spec.: 508 Phos Mill Tc 7.5 SSB 7.0

(10) JOMINY HARDENILITY IS-3848 / ASTM A255

Distance	7.5	7.5	7.5	7.7	7.9	7.11	7.13	7.15	7.20	7.25
Specified	41-46	38-43	37-42	37-41	31-38	28-34	27-33	26-32	23-31	21-30
Mill Tc	44.1	43.4	41.5	38	35.6	32.4	31	29.3	27.4	24.3
Observed	44	43	40	38	34	31	30	28	27	23

(11) MECHANICAL PROPERTIES : (If Required in TDC / Customer)

	As per IS:1608 / ASTM A 370			As per IS: 1757	
	UTS	YS	N/mm2	%EL	IMPACT VALUE
	N/mm2 / MPa	N/mm2 / MPa			CHARTY
Specified	1200 - 1470	825		8	25
Observed	1243	1163		13.8	36.7

As Rolled Hardness (BHN (Max / Min))

1	2	3	4	5
177	179	181	183	185

(12) VISUAL :

(i) Surface Condition 100 % Bars Checked OK NO (CRACK, Rust, Gas (H/H))

(ii) Heat No. 100 % Bars Checked OK (50522)

(iii) Color Code. 100 % Bars Checked OK (GREEN + BLUE)

(13) REDUCTION RATIO : Specify BLOOM SIZE - 200x200 REDUCTION RATIO : 7.36% (If Required in TDC / Customer) As Per Mill Tc

(14) DECARB LEVEL : (AS PER IS 6395 / ASTM E1077)

Specified	0.8
Observed	PD 0.22 FD

(15) UPSETABILITY TEST (AS PER IS 10167) :

(16) Test Certificate verified for Each Heat no : Available & Ok Not Available Not Conforming

(17) TDC / Customer STD SSB/TDC Mill Tc No. Mill Tc Date Verified By :

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

Accepted [X] Rejected []

Other Remarks

Checked By

Approved By