



RAW MATERIAL INCOMING INSPECTION REPORTS

D.C. No. : 01, 01.07.2018
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Report NO.	1749	SECTION :-	70mm	HAET NO. :-	K199296	INVOICE NO. :-	9043035636
DATE :-	13/01/2025	STEEL SUPPLIER :-	Kalyani	REC.QTY :-	11350 kg	INVOICE DATE :-	
GRADE :-	20MnCr5	STEEL TC NO. :-	K199296	NO. OF BARS :-			

(01)	Process / Mfg Route																	
Chemistry	%C	%Mn	%Si	%S	%P	%Cr	%Ni	%Mo	%Al	%Cu	%As	%Sb	%V	%Pb	%Ca	%Nb	%Ti	%B
Min	0.15	1.0	0.15	0.015	-	1.0	-	-	0.02	-	-	-	-	-	-	-	-	-
Max	0.2	1.3	0.4	0.03	0.02	1.3	0.3	0.1	0.05	0.3	-	-	-	-	10	-	-	5.0
Mill Tc Value	0.195	1.22	0.271	0.018	0.016	1.28	0.026	0.005	0.03	0.014	-	-	-	-	9.0	-	-	1.0
Spectro Value	0.197	1.287	0.272	0.021	0.016	1.293	0.025	0.004	0.03	0.012	-	-	0.003	-	-	0.003	0.004	0.007

(02)	Bar Size (As per WI...)	Qty : 10 % Of Total Heat	Diameter/Section Size (in mm)													
No of Bar Checked	10		S.NO.	1	2	3	4	5	6	7	8	9	10	11	12	
			70	69.9	69.8	69.7	69.6	69.7	69.5	69.4	69.3	69.5	69.5			

(03)	Gas Content (PPM). As per Mill Tc			
	N2	H2	O2	
Min	60	-	-	
Max	120	2.5	20	
Value	92	1.57	12	
Mill Tc				

(04)	Steel Supply Condition:	AS ROLLED
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(05)	MACRO	(i)	Internal soundness Sample : (ASTM E381 or as per customer)	S3	R3	C2
		(ii)	Dendrite structure 01 sample :	LS3	LR3	LC2
		(iii)	Step Down Test Sample : (IS4075 or as per customer)	OK		

(06)	Micro structure As Rolled :	Micro structure : (or as per customer)
	Mill Tc	Banding OK
	SSB	Banding OK

(07)	ULTRASONIC TEST (AS PER ASTM A388) :	Mill Tc	100 % OK
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(08)	INCLUSION RATING (IS 14163 /ASTM: E454 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	2.0	1.5	2.0	1.0	0.5	0.5	1.0	1.0		
Mill Tc	1.5	0.5	0.5	0.0	0.0	0.0	1.0	0.5		
SSB	1.5	0.5	0.5	0.0	0.0	0.0	1.0	0.5		

(09)	GRAIN SIZE :	Spec. :-	5-8	Mill Tc	7.0	SSB	6.5
	(ASTME112 / IS-4748)						

(10)	JOMINY HARDENILITY	Distance	51.5	55	510	515	520	525	530						
IS-3848 /ASTMA255	Specified	41-46	38-44	32-38	29-35.5	27-33.5	25.5-32	24.5-31							
(As per required by Customer)	Mill Tc	46	43	37	32	30	29	28							
	Observed	44	43	38	34	31	29	28							

(11)	MECHANICAL PROPERTIES : (If Required in TDC /Customer)				As per IS:1608/ ASTM A 370				As per IS: 1757			
	U.T.S		Y.S		N/mm2		%EL		IMPACT VALUE		IMPACT VALUE	
	N/mm2 /MPA		/MPA						CHARRY		IZOD	
	Specified		1230-1570		930 MA		7.11		25			
	Observed		1280		1035		16.3		78			

As Rolled Hardness					
(BHN (Max / Min)					
(If Required in TDC /Customer)					
1	2	3	4	5	
185	187	189	191	193	

(12)	VISUAL :		
	(i)	Surface Condition	100 % Bars Checked OK No (Rust, Cracks) (K199296)
	(ii)	Heat No	100 % Bars Checked OK (K199296)
	(iii)	Color Code	100 % Bars Checked OK (Yellow + Brown)

(13)	REDUCTION RATIO :	Specify	1.7 Min	BLOOM SIZE -	200 X 200	REDUCTION RATIO :	1.10.39
	(If Required in TDC /Customer)	As Per Mill TC					

(14)	DECARB LEVEL :	(AS PER IS 6396 / ASTM E1077)	Specified	0.60 mm max
	(If Required in TDC /Customer)		Observed	PD 0.41 FD

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

(17)	TDC / Customer STD	SSB/TDC/	Mill Tc No.	Mill Tc Date	Verified By :
(If Required in TDC /Customer)	QF 1001, R003	K199296	19/1/25		

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

Accepted	✓	Rejected	
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Other Remarks

Checked By

Approved By