



## RAW MATERIAL INCOMING INSPECTION REPORTS

D.C. No. : P/05/01  
Issue no. : 01.01.07.2018  
Rev. no. : 02.11.05.23

Report NO.	1710	SECTION :-	70mm	HAET NO. :-	50090	INVOICE NO.	PE/2024-25/1036											
DATE :-	16/9/2024	STEEL SUPPLIER :-	Parth-Boss	REC.QTY :-	66801kg	INVOICE DATE :-	15/9/2024											
GRADE :-	20MnCr4	STEEL TC NO :-	24090223	NO. OF BARS :-														
(01)	Process / Mill Route																	
Chemistry	%C	%Mn	%Si	%S	%P	%Cr	%Ni	%Mo	%Al	%Cu	%As	%Sb	%V	%Pb	%Ca	%Nb	%Ti	%B
Min	0.18	0.60	0.15	0.02	-	0.4	-	0.4	0.02	-								
Max	0.22	0.95	0.4	0.035	0.035	0.55	0.25	0.5	0.05	0.25								
Mill Tc Value	0.32	0.232	0.025	0.013	0.52	0.016	0.44	0.029	0.018									
Spectro Value	0.156	0.335	0.222	0.024	0.015	0.53	0.01	0.488	0.033	0.012			0.002	-	-	0.002	0.003	0.004

(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	70.1	70.2	70.3	70.4	70.1	70.2	70.2	70.1	70.2	69.8	69.9					

(03)	Gas Content (PPM): As per Mill Tc	N2	H2	O2														
	Min	30																
	Max	170																
	Value	109.2																
	Mill Tc																	

(04)	Steel Supply Condition:	AS Rolled
------	-------------------------	-----------

(05)	MACRO	(i)	Internal soundness Sample : (ASTM E381 or as per customer)	S2	R2	C2
		(ii)	Dendrite structure O1 sample :	> S2	> R2	> C2
		(iii)	Step Down Test Sample : (IS4075 or as per customer)	OK		

(06)	Micro structure As Rolled :	Micro structure : (or as per customer)	
		Mill Tc	uniform Ferrite + pearlite
		SSB	Ferrite + pearlite

(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	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	0.0		
	SSB	1.5	0.5	0.5	0.0	0.0	0.0	1.0	0.0		

(09)	GRAIN SIZE :	Spec :-	5-8	Mill Tc	7.5	SSB	7.0
	(ASTME112 / IS-4748)						

(10)	JOMINY HARDENBILITY	Distance	51.5	53	55	57	511	513	515	520								
	IS-3848 /ASTMA255	Specified	43-49	40-48	36-44	31-41	26-34	24-31	23-30	20-27								
	(As per required by Customer)	Mill Tc	45.3	44.1	41.2	33.2	30.4	28.1	26.1	24.2								
		Observed	45	44	42	32	30	29	27	25								

(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		960-1200		630 Mm.		9			
		Observed		988.2		904.5		18.9			
	As Rolled Hardness										
	(BHN (Max / Min)	1	2	3	4	5					
	(If Required in TDC /Customer)	203	209	211	215	217					

(12)	VISUAL :										
	(i)	Surface Condition	100 % Bars Checked	OK No Gas (4H2, no rust, (274K)							
	(ii)	Heat No.	100 % Bars Checked	OK C 50090							
	(iii)	Color Code.	100 % Bars Checked	OK (white base one green one yellow strip)							

(13)	REDUCTION RATIO :	Specify	BLOOM SIZE -	200x200	REDUCTION RATIO :	10.33 : 1
	(If Required in TDC /Customer)	As Per Mill TC				

(14)	DECARB LEVEL :	(AS PER IS 6396 / ASTM E1077)	Specified	0.7				
	(If Required in TDC /Customer)		Observed	PD	0.2	FD		

(15)	UPSETIBILITY TEST (AS PER IS 10167) :										
------	---------------------------------------	--	--	--	--	--	--	--	--	--	--

(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)						

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

Other Remarks

Checked By

