

RAW MATERIAL INCOMING INSPECTION REPORTS															D.C. No. :- F/05/01 Issue no. :- 01, 01.07.2018 Rev. no. :- 02, 11.05.23																																																																																									
1283		SECTION :-		70mm		HAET NO. :-		K202254		INVOICE NO. :-		9043036945																																																																																												
514185		STEEL SUPPLIER :-		Kalyani Steel		REC.QTY :-		19970kg		INVOICE DATE :-		24/12																																																																																												
406 May		STEEL TC NO. :-		K202254		NO. OF BARS :-		70																																																																																																
Process / Mfg Route : EBF - RF - VD - CCM CEMS + AMLS - RMZLL																																																																																																								
<table border="1"> <thead> <tr> <th>%C</th> <th>%Mn</th> <th>%Si</th> <th>%S</th> <th>%P</th> <th>%Cr</th> <th>%Ni</th> <th>%Mo</th> <th>%Al</th> <th>%Cu</th> <th>%As</th> <th>%Sb</th> <th>%V</th> <th>%Pb</th> <th>%Ca</th> <th>%Nb</th> <th>%Ti</th> <th>%B</th> </tr> </thead> <tbody> <tr> <td>0.250</td> <td>0.400</td> <td>0.150</td> <td>0.002</td> <td>0.000</td> <td>0.000</td> <td>0.000</td> <td>0.000</td> <td>0.000</td> <td>0.000</td> <td>0.000</td> <td>0.000</td> <td>0.000</td> <td>0.000</td> <td>0.000</td> <td>0.000</td> <td>0.000</td> <td>0.000</td> </tr> <tr> <td>0.450</td> <td>0.400</td> <td>0.400</td> <td>0.040</td> <td>0.035</td> <td>1.200</td> <td>0.300</td> <td>0.250</td> <td>0.050</td> <td>0.300</td> <td>0.000</td> <td>0.000</td> <td>0.000</td> <td>0.000</td> <td>0.000</td> <td>0.000</td> <td>0.000</td> <td>0.000</td> </tr> <tr> <td>0.420</td> <td>0.845</td> <td>0.184</td> <td>0.020</td> <td>0.017</td> <td>1.149</td> <td>0.021</td> <td>0.161</td> <td>0.001</td> <td>0.013</td> <td>0.000</td> <td>0.000</td> <td>0.000</td> <td>0.000</td> <td>0.000</td> <td>0.000</td> <td>0.000</td> <td>0.000</td> </tr> <tr> <td>0.440</td> <td>0.850</td> <td>0.188</td> <td>0.008</td> <td>0.015</td> <td>1.200</td> <td>0.003</td> <td>0.170</td> <td>0.024</td> <td>0.010</td> <td>0.000</td> <td>0.000</td> <td>0.000</td> <td>0.000</td> <td>0.000</td> <td>0.000</td> <td>0.000</td> <td>0.000</td> </tr> </tbody> </table>															%C	%Mn	%Si	%S	%P	%Cr	%Ni	%Mo	%Al	%Cu	%As	%Sb	%V	%Pb	%Ca	%Nb	%Ti	%B	0.250	0.400	0.150	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.450	0.400	0.400	0.040	0.035	1.200	0.300	0.250	0.050	0.300	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.420	0.845	0.184	0.020	0.017	1.149	0.021	0.161	0.001	0.013	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.440	0.850	0.188	0.008	0.015	1.200	0.003	0.170	0.024	0.010	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
%C	%Mn	%Si	%S	%P	%Cr	%Ni	%Mo	%Al	%Cu	%As	%Sb	%V	%Pb	%Ca	%Nb	%Ti	%B																																																																																							
0.250	0.400	0.150	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000																																																																																							
0.450	0.400	0.400	0.040	0.035	1.200	0.300	0.250	0.050	0.300	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000																																																																																							
0.420	0.845	0.184	0.020	0.017	1.149	0.021	0.161	0.001	0.013	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000																																																																																							
0.440	0.850	0.188	0.008	0.015	1.200	0.003	0.170	0.024	0.010	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000																																																																																							
Bar Size (As per WI...) Qty: 10 % Of Total Heat																																																																																																								
<table border="1"> <thead> <tr> <th>S.NO.</th> <th>1</th> <th>2</th> <th>3</th> <th>4</th> <th>5</th> <th>6</th> <th>7</th> <th>8</th> <th>9</th> <th>10</th> <th>11</th> <th>12</th> </tr> </thead> <tbody> <tr> <td></td> <td>70.3</td> <td>70.5</td> <td>70.1</td> <td>70.4</td> <td>70.5</td> <td>70.3</td> <td>70.5</td> <td>70.3</td> <td>70.1</td> <td>70.4</td> <td>70.2</td> <td>70.5</td> </tr> </tbody> </table>															S.NO.	1	2	3	4	5	6	7	8	9	10	11	12		70.3	70.5	70.1	70.4	70.5	70.3	70.5	70.3	70.1	70.4	70.2	70.5																																																																
S.NO.	1	2	3	4	5	6	7	8	9	10	11	12																																																																																												
	70.3	70.5	70.1	70.4	70.5	70.3	70.5	70.3	70.1	70.4	70.2	70.5																																																																																												
Gas Content (PPM): As per Mill Tc																																																																																																								
<table border="1"> <thead> <tr> <th></th> <th>N2</th> <th>H2</th> <th>O2</th> </tr> </thead> <tbody> <tr> <td>Min</td> <td>60</td> <td></td> <td></td> </tr> <tr> <td>Max</td> <td>180</td> <td>2.00</td> <td>15</td> </tr> <tr> <td>Value</td> <td></td> <td></td> <td></td> </tr> <tr> <td>Mill Tc</td> <td>90</td> <td>1.490</td> <td>11</td> </tr> </tbody> </table>																N2	H2	O2	Min	60			Max	180	2.00	15	Value				Mill Tc	90	1.490	11																																																																						
	N2	H2	O2																																																																																																					
Min	60																																																																																																							
Max	180	2.00	15																																																																																																					
Value																																																																																																								
Mill Tc	90	1.490	11																																																																																																					
Steel Supply Condition: Hot Rolled																																																																																																								
MACRO (i) Internal soundness Sample : (ASTM E381 or as per customer) Value Obs. S3 R3 C2 MAX																																																																																																								
(ii) Dendrite structure 01 sample : S3 R3 C2																																																																																																								
(iii) Step Down Test Sample : (IS4075 or as per customer) OK																																																																																																								
Micro structure As Rolled : Micro structure : ( or as per customer )																																																																																																								
Mill Tc																																																																																																								
SSB																																																																																																								
ULTRASONIC TEST (AS PER ASTM A388) : Mill Tc 100% UT OK																																																																																																								
INCLUSION RATING ( IS 14163 / ASTM: E45A OR REQUIRED BY CUSTOMER )																																																																																																								
<table border="1"> <thead> <tr> <th rowspan="2"></th> <th colspan="2">A Sulphide</th> <th colspan="2">B Aluminate</th> <th colspan="2">C Silicate</th> <th colspan="2">D Oxide</th> <th colspan="2">DS</th> </tr> <tr> <th>TN</th> <th>TK</th> <th>TN</th> <th>TK</th> <th>TN</th> <th>TK</th> <th>TN</th> <th>TK</th> <th>TN</th> <th>TK</th> </tr> </thead> <tbody> <tr> <td>Cust Spec. If Any</td> <td>2.0</td> <td>1.5</td> <td>2.0</td> <td>1.0</td> <td>0.5</td> <td>0.5</td> <td>1.0</td> <td>1.0</td> <td></td> <td></td> </tr> <tr> <td>Mill Tc</td> <td>1.5</td> <td>0.5</td> <td>0.5</td> <td>0.0</td> <td>0.0</td> <td>0.0</td> <td>1.0</td> <td>0.5</td> <td></td> <td></td> </tr> <tr> <td>SSB</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table>																A Sulphide		B Aluminate		C Silicate		D Oxide		DS		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																																														
	A Sulphide		B Aluminate		C Silicate		D Oxide		DS																																																																																															
	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																																																																																																								
GRAIN SIZE : Spec:- 5-8 Mill Tc 7.0 SSB 7																																																																																																								
(ASTME112 / IS-4748)																																																																																																								
JOMINY HARDENBILITY IS-3848 /ASTMA255 (As per required by Customer)																																																																																																								
<table border="1"> <thead> <tr> <th>Distance</th> <th>1.5</th> <th>3</th> <th>5</th> <th>7</th> <th>9</th> <th>11</th> <th>13</th> <th>15</th> <th>20</th> <th>25</th> <th>30</th> </tr> </thead> <tbody> <tr> <td>Specified</td> <td>55-61</td> <td>55-61</td> <td>55-61</td> <td>54-60</td> <td>53-60</td> <td>51-59</td> <td>49-58</td> <td>48-58</td> <td>44-56</td> <td>41-53</td> <td>38-51</td> </tr> <tr> <td>Mill Tc</td> <td>59</td> <td>58</td> <td>57</td> <td>56</td> <td>55</td> <td>54</td> <td>53</td> <td>51</td> <td>47</td> <td>43</td> <td>42</td> </tr> <tr> <td>Observed</td> <td>59</td> <td>58</td> <td>57</td> <td>56</td> <td>55</td> <td>54</td> <td>53</td> <td>51</td> <td>47</td> <td>43</td> <td>42</td> </tr> </tbody> </table>															Distance	1.5	3	5	7	9	11	13	15	20	25	30	Specified	55-61	55-61	55-61	54-60	53-60	51-59	49-58	48-58	44-56	41-53	38-51	Mill Tc	59	58	57	56	55	54	53	51	47	43	42	Observed	59	58	57	56	55	54	53	51	47	43	42																																										
Distance	1.5	3	5	7	9	11	13	15	20	25	30																																																																																													
Specified	55-61	55-61	55-61	54-60	53-60	51-59	49-58	48-58	44-56	41-53	38-51																																																																																													
Mill Tc	59	58	57	56	55	54	53	51	47	43	42																																																																																													
Observed	59	58	57	56	55	54	53	51	47	43	42																																																																																													
MECHANICAL PROPERTIES : (If Required in TDC /Customer )																																																																																																								
<table border="1"> <thead> <tr> <th rowspan="2"></th> <th colspan="3">As per IS:1608/ ASTM A 370</th> <th colspan="2">As per IS: 1757</th> </tr> <tr> <th>U.T.S N/mm2 /MPA</th> <th>Y.S N/mm2 /MPA</th> <th>%EL</th> <th>IMPACT VALUE CHARRY</th> <th>IMPACT VALUE IZOD</th> </tr> </thead> <tbody> <tr> <td>Specified</td> <td>1030-1330</td> <td>835 Min</td> <td>10 Min</td> <td>25 J Min</td> <td></td> </tr> <tr> <td>Observed</td> <td>1067.104</td> <td>878.00</td> <td>28.20%</td> <td>34 J</td> <td></td> </tr> </tbody> </table>																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	1030-1330	835 Min	10 Min	25 J Min		Observed	1067.104	878.00	28.20%	34 J																																																																				
	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	1030-1330	835 Min	10 Min	25 J Min																																																																																																				
Observed	1067.104	878.00	28.20%	34 J																																																																																																				
As Rolled Hardness (BHN (Max / Min) (If Required in TDC /Customer )																																																																																																								
<table border="1"> <thead> <tr> <th></th> <th>1</th> <th>2</th> <th>3</th> <th>4</th> <th>5</th> </tr> </thead> <tbody> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table>																1	2	3	4	5																																																																																				
	1	2	3	4	5																																																																																																			
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 7:1 Min BLOOM SIZE - 200x200 REDUCTION RATIO : 1:10.39																																																																																																								
(If Required in TDC /Customer ) As Per Mill TC																																																																																																								
DECARB LEVEL : (AS PER IS 6396 / ASTM E1077) Specified 0.60 mm Max																																																																																																								
(If Required in TDC /Customer ) Observed PD 0.22 FD																																																																																																								
UPSETABILITY TEST ( AS PER IS 10167 ) : OK																																																																																																								
Test Certificate verified for Each Heat no : Available & Ok Not Available Not Conforming																																																																																																								
TDC / Customer STD SSB/TDC/ Mill Tc No. K202254 Mill Tc Date 1.04.25 Verified By: [Signature]																																																																																																								
(If Required in TDC /Customer ) 8F1001 R3																																																																																																								
MIX-UP TEST Verified By Mobile Spectro /X-Ray Gun/Spark Test																																																																																																								
(If Required in TDC /Customer ) Accepted [X] Rejected [ ]																																																																																																								
Other Remarks																																																																																																								
Checked By [Signature] Approved By [Signature]																																																																																																								