

M/S.- FORGE INDIA (PVT.) LIMITED.
PLOT.NO.60, SEC-5,
PARWANOO. (H.P)

T.C.NO. 7338 Date :- 02/01/2018 19:41:06
Invoice No. 9800
Truck No. HR58A-7565

GRADE	SIZE	HEAT NO.	MANUFACTURING ROUTE	COLOUR CODE	SUPPLY COND.N.	QTY. (MT)	NO. OF PCS.
20 MNCR5	65 RCS	1153	E.A.F.+L.F.+V.D.+CCM+EMS	YELLOW+BROWN	AS ROLLED	9.640	56

-: CHEMICAL COMPOSITION IN PERCENTAGE :-

	C	Mn	S	P	Si	Ni	Cr	Mo	V	Al	Cu	Sn	Ti	B	Ca
Min	0.1700	1.1000	--	--	0.1500	--	1.0000	--	--	--	--	--	--	--	--
Max	0.2200	1.4000	0.0350	0.0350	0.4000	--	1.3000	--	--	--	--	--	--	--	--
Actual	0.1720	1.1300	0.0240	0.0160	0.2250	0.0250	1.0600	0.0011	0.0032	0.0240	0.0090	0.0025	0.0032	0.0004	0.0006

-: METALLURGICAL RESULTS :-

INCLUSION RATING IS : 4163/JK CHART/ASTM E-45A									Aust.Grain Size ASTM No. (E-112)	7	Gas Content (ppm)	
A		B		C		D						
T	H	T	H	T	H	T	H					
STD	2.0	1.0	2.0	1.0	2.0	1.0	2.0	1.0	Decarb. (MM)	0.11	O2	18
MAX											N2	84
ACTUAL	1.5	0.5	0.5	0.0	0.0	0.0	1.0	0.0	Micro- Structure	P+F	H2	.922

MECHANICAL PROPERTIES (ASTM A-370/IS-1608) TEST CONDITION (N / H & T)							MACRO	ULTRASONIC TEST	MIX UP TEST
	U.T.S.	Y.S.	EL%	RA%	Impact Value	Hardness B.H.N./Rb			
Reqd.	-	-	-	-	-	240 MAX	BETTER THAN C2,R2,S2 MAX LEVEL AS PER PLATE 1st OF ASTM-E-381	100 % DONE OK	SPARK TEST 100% DONE OK
Actual	-	-	-	-	-	171-175			

-: HARDENABILITY (HRC) AS PER IS : 3848 :-

Distance	J1/16	J2/16	J3/16	J4/16	J5/16	J6/16	J7/16	J8/16	J9/16	J10/16	J12/16
Required	-	-	-	33 MIN	-	-	-	-	-	-	-
Actual	-	-	-	34	-	-	-	-	-	-	-

Remarks :- REDUCTION RATIO=9.5, 100% MOBILE SPECTRO DONE OK(X-RAYS)

SURFACE SATISFACTORY

Note :- TESTED FOR RADIOACTIVE CONTAMINATION *OK*

Signature