



-: Original :-

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

T.C.NO. 9474 Date -: 17/03/2018 19:31:10
Invoice No. 22443
Truck No. HR38K-9921

GRADE	SIZE	HEAT NO.	MANUFACTURING ROUTE	COLOUR CODE	SUPPLY COND.N.	QTY. (MT)	NO. OF PCS.
SAE 8620	56 DIA	1945	E.A.F.+L.F.+V.D.+CCM+EMS	BROWN+WHITE	AS ROLLED	10.570	101

-: CHEMICAL COMPOSITION IN PERCENTAGE :-

	C	Mn	S	P	Si	Ni	Cr	Mo	V	Al	Cu	Sn	Ti	B	Ca
Min	0.1800	0.7000	--	--	0.1500	0.4000	0.4000	0.1500	--	--	--	--	--	--	--
Max	0.2300	0.9000	0.0400	0.0350	0.3000	0.7000	0.6000	0.2500	--	--	--	--	--	--	--
Actual	0.2280	0.8500	0.0270	0.0190	0.1930	0.4470	0.5600	0.1760	0.0042	0.0230	0.0170	0.0048	0.0035	0.0004	0.0004

-: 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	14
MAX											N2	78
ACTUAL	1.5	0.5	0.5	0.0	0.0	0.0	1.0	0.0	Micro- Structure	P+F+B	H2	.925

MECHANICAL PROPERTIES (ASTM A-370/IS-1608) AS ROLLED MACRO ULTRASONIC MIX UP TEST
TEST CONDITION (N / H & T) TEST

	U.T.S.	Y.S.	EL%	RA%	Impact Value	Hardness B.H.N./Rb	BETTER THAN C2,R2,S2 MAX LEVEL AS PER PLATE Ist OF ASTM-E-381	100 % DONE OK	SPARK TEST 100% DONE OK
Reqd.	-	-	-	-	-	240 MAX			
Actual	-	-	-	-	-	182-188			

-: 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	-	-	-	34-38	-	-	-	-	-	-	-
Actual	-	-	-	35.5	-	-	-	-	-	-	-

Remarks :- REDUCTION RATIO=16.2,100% MOBILE SPECTRO DONE OK (X-RAYS) SURFACE SATISFACTORY

Note :- TESTED FOR RADIOACTIVE CONTAMINATION OK