



-: Original :-

M/S.- UNITED GEARS. 136,137,INDL.AREA,PHASE-1, PANCHKULA.(HYA)	T.C.NO. 9773      Date :- 29/03/2018 19:17:01 Invoice No. 22818 Truck No. PB23D-5307
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GRADE	SIZE	HEAT NO.	MANUFACTURING ROUTE	COLOUR CODE	SUPPLY COND.N.	QTY. (MT)	NO. OF PCS.
SAE 8620	65 RCS	2175	E.A.F.+L.F.+V.D.+CCM+EMS	BROWN+WHITE	AS ROLLED	15.780	92

-: 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	0.2050	0.9000	0.0240	0.0140	0.2100	0.4500	0.5800	0.2150	0.0032	0.0220	0.0450	0.0035	0.0038	0.0004	0.0003

-: 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      16
MAX											N2      84
ACTUAL	1.5	0.0	0.5	0.0	0.0	0.0	1.0	0.0	Micro- Structure	P+F+B	H2      .936

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 1st OF ASTM-E-381	100 % DONE OK	SPARK TEST 100% DONE OK
Reqd.	-	-	-	-	-	240 MAX			
Actual	-	-	-	-	-	180-192			

-: 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	-	-	-	33-37	-	-	-	-	-	-	-
Actual	-	-	-	36.5	-	-	-	-	-	-	-

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

Note :- TESTED FOR RADIOACTIVE CONTAMINATION

OK