



# AARTI STEEL INTERNATIONAL LIMITED

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MANUFACTURER'S OF :- CARBON ALLOYS & SPECIAL STEELS

COMPANY : TEST CERTIFICATE :-

Original :-



M/S.- S.S.B. ENGINEERS PVT. LTD.  
PLOT NO.C-158A, M.I.A ALWAR  
RAJASTHAN-301030

T.C.NO. 6009 Date :- 25/03/2025 17:59:58  
Invoice No. 5897  
Truck No. PB10HL-6252

GRADE	SIZE	HEAT NO.	MANUFACTURING ROUTE	COLOUR CODE	SUPPLY COND.N.	QTY. (MT)	NO. OF PCS.
SAE8620 H	80 DIA	8419	E.A.F.+L.F.+V.D.+CCM+EMS	BLUE+WHITE	AS ROLLED	32.700	148

## --: CHEMICAL COMPOSITION IN PERCENTAGE :-

	C	Mn	S	P	Si	Ni	Cr	Mo	V	Al	Cu	Sn	Ti	B	Ca
Min	0.1800	0.7000	0.0200	--	0.1500	0.4000	0.4000	0.1500	--	0.0200	--	--	--	--	--
Max	0.2300	0.9000	0.0350	0.0350	0.3500	0.7000	0.6000	0.2500	--	0.0500	0.3000	--	--	0.0005	0.0010
Actual	0.2100	0.8400	0.0230	0.0160	0.1820	0.4460	0.5450	0.1680	0.0833	0.0240	0.1200	0.0054	0.0025	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	1.5	2.0	1.0	0.5	0.5	1.0	1.0	Decarb. (MM)	0.15	O2	13
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	.906

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 BHN / HRB	C2,R2,S2 LEVEL AS PER PLATE 1st OF ASTM-E-381	100 % DONE OK	SPARK, MOBILE SPECTRO TEST 100% DONE OK
Reqd.	1180-1570	930 MIN	7 MIN	-	27.5 JMIN	240 MAX			
Actual	1310 MPA	1094 MPA	9.0	-	45 J	174-187			

## --: 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	-	-	-	34-39	-	-	-	-	-	-	-
Actual	-	-	-	36.5	-	-	-	-	-	-	-

Remarks :- REDUCTION RATIO=8.0:1, BILLET SIZE=200X200 MM, SURFACE SATISFACTORY MPI 100% DONE FOUND OK  
INCLUSION RATING CERTIFIED AS PER WORST FIELD RATING ASTM E45 METHOD A MATERIAL CONFIRMS TO STD.NO.: FAL-MTS-02-04, REV.NO.: 06

Note :- TESTED FOR RADIOACTIVE CONTAMINATION

CERTIFIED THAT THE TEST FINDINGS ARE CORRECT & ARE BASED ON  
ACTUAL RESULTS CARRIED OUT ON SAMPLES DRAWN AS PER Q.A.P.

PREPARED BY

AUTHORISED SIGNATORY