



AARTI STEEL INTERNATIONAL LIMITED
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Phone no. :- +91-161-5244200 Fax :- +91-161-5244250
MANUFACTURER'S OF :- CARBON ALLOYS & SPECIAL STEELS

ACADEMIC PIPE 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. 3795

Date :- 08/11/2024 17:44:24

Invoice No. 3823

Truck No. PB10HP-6257

GRADE	SIZE	HEAT NO.	MANUFACTURING ROUTE	COLOUR CODE	SUPPLY CONDN.	QTY. (MT)	NO. OF PCS.
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SAB 1053H	120 DIA	7469	E.A.P.V.P.V.D. 4CM+MS	YELLOW+GREEN DOT	AS ROLLED	32.630	64
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:- CHEMICAL COMPOSITION IN PERCENTAGE :-

	C	Mn	S	P	Si	Ni	Cr	Mo	V	Al	Cu	Sn	Ti	B	Ca
Min	0.4800	0.6000	0.0150	--	0.1500	--	--	--	--	0.0200	--	--	--	--	--
Max	0.5500	0.9000	0.0350	0.0350	0.4000	0.2500	0.2500	0.0600	--	0.0500	0.2500	--	--	0.0005	0.0010
Actual	0.5000	0.8000	0.0220	0.0200	0.1900	0.0920	0.1900	0.0230	0.0025	0.0250	0.1650	0.0100	0.0100	0.0005	0.0007

:- METALLURGICAL RESULTS :-

INCLUSION RATING IS : 4163/JK CHART/ASTM E-45A												Aust. Grain Size ASTM No. (E-112)		Gas Content (ppm)			
A				B		C				D		7	0.22	O2	13		
T		H		T		H		T		H							
2.0		1.5		2.0		1.0		0.5		1.0						1.0	
STD MAX																	
ACTUAL		1.5		0.5		0.0		0.0		1.0		0.0		P+F	H2	.860	

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

	U.T.S.	Y.S.	EL%	RA%	Impact Value	Hardness BHN / HRB	C2, E2, S2 LEVEL AS PER PLATE 1st OF ASTM E-381		100% DONE OK	SPARK, MOBILE SPECTRO TEST 100% DONE OK
Reqd.	930-1130	706 MIN	8 MIN	-	30 J MIN	240 MAX				
Actual	980 MPA	783 MPA	9.0	-	45 J	197-210				

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

Distance	1.5MM	3 MM	5 MM	7 MM	9 MM	11 MM	13 MM	15 MM	20 MM	25 MM	30 MM
Required	59-63	50-61	45-58	32-50	28-42	26-36	25-33	24-31	22-30	20 MIN	20 MIN
Actual	60	59	55	40	32	31.5	31	30.5	29	27	25

Remarks :- REDUCTION RATIO=5.1:1. BILLET SIZE=240X240 MM, SURFACE SATISFACTORY. NPI 100% DONE FOUND OK, AL/AN=0.125 (2.1 MIN)
INCLUSION RATING CERTIFIED AS PER WORST FIELD RATING ASTM E45 METHOD A BANDING OF AS PER UNI 8449 (A MAX OF GR-4 ACCEPTABLE).
ULTRA SONICALLY TESTING OK WITH: 1/16 PLATE BOTTOM HOLE
MATERIAL CONFORMS TO DANA SPEC. QF 1001.REV.LEVEL-3

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

