

TEST CERTIFICATE

Certificate No. : 104277

Date : 26.10.2024

Po Number:OP 46/OA NO 1034

SO No : 402428665/10

Po date :16.08.2024

SO Date : 19.08.2024

Packing Slip No :716996556

Truck No.: WB31A6743

Invoice No :0093238968

Heat No	Grade	Size (mm)	Length (mm)	ML (mm)	No. of Bundles	No. of PCS	Weight	Billet Size
E243528	SAE52100	7.00 mm DIA			5		11.005 MT	180 X 180 mm

TDC NO : MFR_1391

Process Route : BF-EAF-LRF-VD-CCM-RM

Reduction Ratio : 841.79 : 1

CHEMICAL ANALYSIS

Prod STD No : SAE52100

Element	C%	Si%	Mn%	P%	S%	Cr%	Mo%	Ni%	B %	V%	Cu%	Pb%	Sn%	Ti%	Nb%	Zr%	As%	Sb%	Al%	Ca %	CE%
MIN	0.9800	0.150	0.250			1.400													0.0170		
MAX	1.1000	0.350	0.450	0.025	0.0150	1.600	0.100	0.250			0.300			0.0030					0.0600	0.0010	
Actual	1.020	0.230	0.320	0.011	0.004	1.430	0.001	0.014	0.0001	0.002	0.005	0.001	0.001	0.0022	0.001	0.000	0.001	0.000	0.024	0.0006	1.361

Gas Levels : N ppm : [/ 80] -64

O ppm : [/ 12] -9.0

H ppm : [/ 2.00] -1.70

MECHANICAL PROPERTIES :

Tensile Test ()					Hardness Test			Impact Test ()			
Cond.	YS	UTS	Elong.	RA	As Supply	As Quenched	As Q&T	Test Temp	Imp. Value (min)	Avg.	
			%	%	BHN			°C	J	°C	J
Min											
Max											
Actual					345						

Upset Type :

Upset Result :

JOMINY HARDENABILITY ()

Ideal Diameter (DI) : [/] -

Distance																					
MIN (HRC)																					
MAX (HRC)																					
Actual(HRC)																					

METALLURGICAL PROPERTIES & PHYSICAL INSPECTION

%C.SEG		Step Down Test	Non-metallic Inclusion K3	MPI Test	Pearlite Amount	Spark Test	Non-metallic Inclusion K4	Anti Mixup Check(100%)			
Actual						100% OK					
	Macro Etch Test	Micro Structure	CN	CZ Looser	CZ Closer	GBC Level	DEG. SPH	MFLT/ECT			
			/	/	/	NOT APPLICABLE					
		Pearlite & Cementite	5.10	7.20	6.10						
	Grain Size	Decarb (mm)	Banding (µm)	A		B		C	D	DOS µm	Ultrasonic Test
				Thin	Thick	Thin	Thick	Thin	Thick		
Spec	5.0 /	/	/	1.0	1.0	0.5			1.0	0.5	
Actual	8.00	0.030 mm		0.50		0.50			1.00		

Inclusion Rating Test Standard: ASTM_E45_A

Grain Size Standard: ASTM_E112

Decarb Standard: SAE_J419

Macro Etch Test Standard:

Banding Test Standard:

UT Standard:

JSW COLOR CODE :

CUSTOMER COLOR CODE :

INSPECTION CERTIFICATE 3.1 ACCORDING TO EN 10204 : 2004

Supply Condition : AS ROLLED

Remarks :

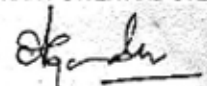
Reference : WE HEREBY CERTIFY THAT THE MATERIAL SHIPPED UNDER THIS TEST CERTIFICATE DID NOT COME IN DIRECT CONTACT WITH ANY MERCURY, CADMIUM HEXAVALENT CHROMIUM CONTAINING DEVICES, FREE FROM RADIOACTIVE CONTAMINATION EMPLOYING A SINGLE BOUNDARY OF CONTAINMENT DURING THE MANUFACTURING PROCESS,TESTS, INSPECTION AND STORAGE.

WE CERTIFY THAT CONTENTS OF THIS REPORT ARE CORRECT AND ACCURATE AND MEET THE REQUIREMENTS OF THE PURCHASE ORDER,TECHNICAL DELIVERY CONDITION, GENERAL STEEL REQUIREMENTS ANDTHE MATERIAL CERTIFICATION REQUIREMENTS.

NOTE:

1. THE RESULTS RELATES ONLY TO THE ITEM TESTED.
2. CERTIFICATE SHALL NOT BE REPRODUCED EXCEPT IN FULL WITHOUT THE WRITTEN APPROVAL OF ISSUING AUTHORITY.

For BHUSHAN POWER AND STEEL LIMITED



ANIL KUMAR GOUDA