

TEST CERTIFICATE

CUSTOMER NAME		PROCESS ROUTE		BLOOM SIZE (mm)		SUPPLY CONDITION		TC NO.		DATE	
M/S SSB ENGINEERING PVT		MBF-EDF-LRF-VD-COM-ENG-AMLC-RMS		200x200		As Rolled		24120955		25.10.2024	
CUSTOMER SPECIFICATION		HEAT NO.		GRADE		SIZE (mm)		REDUCTION RATIO		LENGTH (mm)	
		50508		35CRMAN5		70 DIA		10.39:1		5910-40MM	
TDS No. 01, Rev 01, Rev date 07.03.2021 (Ref Sid: DANA CF 1001, Rev 03, Date 14.06.2024)										COLOUR CODE	
										ORANGE	
										INVOICE NO.	
										5247-05317	
										QTY (MT)	
										25.470	
										BUNDLE	
										12	
										VEHICLE NO.	
										R214GL2106	

I. CHEMICAL COMPOSITION															
%	C	Si	Mn	P	S	Cr	Mo	Ni	Al	Cu	Ca(%)	N ₂ (ppm)	H ₂ (ppm)	O ₂ (ppm)	AIN ₂ R auto
Min	0.330	0.250	0.800	-	0.015	1.000	-	-	0.020	-	-	60.0	-	-	2.1
Max	0.400	0.400	1.100	0.020	0.030	1.300	0.100	0.300	0.050	0.300	0.0010	120.0	2.50	20.0	0.0005
Actual	0.378	0.257	1.080	0.013	0.027	1.247	0.010	0.016	0.032	0.019	0.0005	81.0	1.42	14.2	0.0004

II. PHYSICAL PROPERTIES															
Tensile Properties (Quenched & Tempered) (ASTM E8)															
	YS (MPa)	UTS (MPa)	%EL	%RA or %Z	Impact Test (Charpy)										
Min	685	880	12	-	Joules										
Max	-	1080	-	-	25										
Actual	972	1045	19.2	-	83.4										

III. JOMINY HARDENABILITY (in HRC)															
(Distance Unit: mm)															
	J1.5	J2.5	J3	J4	J5	J6	J7	J8	J9	J10	J11	J12	J13	J14	J15
Min	52.5	52.0	51.0	50.0	47.5	45.5	44.0	42.5	39.5	37.5	36.0	-	-	-	-
Max	58.0	58.0	57.0	56.0	55.0	54.0	53.0	50.0	48.0	46.0	-	-	-	-	-
Actual	57.1	56.2	55.2	53.5	52.6	51.6	50.2	48.4	45.2	43.0	39.2	-	-	-	-

IV. METALLOGRAPHY														
Inclusion Rating (ASTM E4-13)														
Inclusion Rating (ASTM E560)														
Grain Size														
Total Decarb (%)														
Macrostructure														
Step Down														
Upset														
100% Bars Checked by NPH - Found OK & Material is free from surface defects														
100% Bars checked for Mis-Up by PM & Spark - Found OK														
Material is free from Radioactive contamination														

V. OTHER TESTS														
Macrostructure														
(ASTM E-381)														
(IS 4075)														
C2.52.R2 Max														
Better Than C2R252														
OK														

VI. REMARKS:														
1. Dimension tolerance: as per IS 3739 Grade - 1														
2. Microstructure: Uniform Ferrite + Pearlite														
3. The material is comply with RCHS (Pb, Cd, Hg, Cr+6) permissible limits.														
4. Material is conforming to the customer specification.														
5. Inspection Certificate as per EN10304:2004 type 3.1														

Reviewed & Issued By		MALLESH		Authorised Signatory	
[Signature]		[Signature]		[Signature]	