

# TEST CERTIFICATE



RNS-STRA

CUSTOMER NAME		PROCESS ROUTE		BLOOM SIZE (mm)	SUPPLY CONDITION		TG NO.	INVOICE NO.	DATE
M/S SSB ENGINEERS PVT.LTD.		MBF-EOF-LRF-VD-CGM(EMS-AMLC)-RMS		200x200	As Rolled		250306003	SE24Y-16357	04-Mar-2025
CUSTOMER SPECIFICATION	HEAT NO.	GRADE	SIZE (mm)	REDUCTION RATIO	LENGTH (meter)	COLOUR CODE	QUANTITY (MT)	BUNDLE	VEHICLE NO.
DANA Specifications QF1001,Rev No.03,Dtd: 14.06.2024	54444	20MNCR5	80 DIA	7.96:1	5.50 - 6.00	Yellow + Brown	36.270	20	RJ19CF 5010

## 1. CHEMICAL COMPOSITION

%	C	Si	Mn	P	S	Cr	Mo	Ni	Al	-	V	Ti	Cu	B	Nb	Ca	As	Sb	Sn	Pb	W	Bi	Co	Zr	AINi2 Ratio	H2 (ppm)	N2 (ppm)	O2 (ppm)
Min	0.150	0.150	1.000	-	0.015	1.000	-	-	0.020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.100	-	60.0	-
Max	0.200	0.400	1.300	0.020	0.030	1.300	0.100	0.300	0.650	-	-	-	0.300	0.0005	-	0.0010	-	-	-	-	-	-	-	-	-	2.50	120.0	20.0
Actual	0.170	0.252	1.230	0.013	0.024	1.220	0.007	0.019	0.030	-	0.006	0.0028	0.018	0.0002	0.0005	0.0006	0.0020	0.0001	0.0013	0.0010	0.0001	0.0004	0.0056	0.001	3.500	1.11	79.3	15.6

## 2. PHYSICAL PROPERTIES

TENSILE PROPERTIES (Quenched & Tempered) ASTM A370					IMPACT TEST ASTM E23		HARDNESS		JOMINY DISTANCE UNIT: mm (STANDARD: ASTM A255)									
YS MPa	UTS Mpa	% EL	% RA	(Charpy) (V-Notch 2mm) Joules	As Rolled (BHN)		J1.5	J5	J10	J15	J20	J25	J30	-	-	-	-	-
Min	930	1230	7	-	25	Min	-	-	Min	41.0	38.0	32.0	29.0	27.0	25.5	24.5	-	-
Max	-	1570	-	-	-	Max	240	-	Max	46.0	44.0	38.5	35.5	33.5	32.0	31.0	-	-
Actual	1132	1257	17.2	44.1	49.5	Actual	162-167	-	Actual	43.0	41.1	33.2	30.5	28.1	26.2	25.1	-	-

#### 4. METALLOGRAPHY

	INCLUSION RATING (ASTM E45 Method A)								DIN RATING (As Per DIN 50602)			GRAIN SIZE	TOTAL DECARB (mm)	MACRO- STRUCTURE	STEP DOWN	UPSET		
	A		B		C		D		DS	-								
	T	H	T	H	T	H	T	H										
	T	H	T	H	T	H	H	H		S	O	S+O	(ASTM E112)	ASTM E-1077	(ASTM E-381)	(IS 4075)	-	1. 100% Bars Checked by UT - Found OK
Spec	2.0	1.5	2.0	1.0	0.5	0.5	1.0	1.0	-	-	-	-	5-8	0.60 Max	C2,R3,S3 Max	-	-	2. 100% Bars Checked by MPI - Found OK & free from surface defects
Actual	1.0	0	0.5	0	0	0	0.5	0.5	-	-	-	-	7.5	0.21	Better Than C2R2S2	OK	-	100% Bars checked for Mix-Up by P/II & Spark - Found OK
																		Material is free from radioactive contamination

## 6. REMARKS

1. Dimension tolerance: as per IS 3739 Grade - 1	6. Inspection Certificate as per EN10204:2004, type 3.1
2. Microstructure: Uniform Ferrite + Pearlite	—
3. Banding is Ok As per UNI 8449	—
4. The material is comply with ROHS (Pb, Cd, Hg, Cr+6) permissible limits.	—
5. Material is conforming to the customer specification.	—

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