

TEST CERTIFICATE



RNS-SLRM

CUSTOMER NAME	PROCESS ROUTE			BLOOM SIZE (mm)	SUPPLY CONDITION		TC NO.	INVOICE NO.	DATE
M/S SSB ENGINEERS PVT.LTD	MBF-EOF-LRF-VID-COM-EMS-AMLC-RMS			200x200	As Rolled		25031231	SE24Y-17540	25-Mar-2025
CUSTOMER SPECIFICATION	HEAT NO.	GRADE	SIZE (mm)	REDUCTION RATIO	LENGTH (mm)	COLOUR CODE	QUANTITY (MT)	BUNDLE	VEHICLE NO.
Refer Remarks	54935	16MnCr5	60 DIA	14.15:1	5500 TO 6000	1/2 Pink 1/2 Green	35.060	17	JH05DU3269

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	H2 (ppm)	N2 (ppm)	O2 (ppm)		
Min	0.130	0.150	1.000	-	0.015	0.800	-	-	0.020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	60.0	-	-
Max	0.180	0.400	1.300	0.020	0.030	1.100	0.100	0.300	0.050	-	-	0.300	0.0005	-	0.0020	-	-	-	-	-	-	-	-	-	2.50	120.0	20.0	-
Actual	0.175	0.280	1.260	0.013	0.022	1.050	0.009	0.019	0.029	0.006	0.0030	0.018	0.0004	0.0008	0.0006	0.0020	0.0002	0.0012	0.0010	0.0001	0.0004	0.0049	0.001	1.30	73.5	15.3	-	-

2. PHYSICAL PROPERTIES										3. JOMINY HARDENABILITY (in HRC)																
TENSILE PROPERTIES (Quenched & Tempered) ASTM E8					IMPACT TEST (Quenched & Tempered) IS 1757		HARDNESS					JOMINY DISTANCE UNIT: mm (STANDARD: IS 3848)														
	YS N/mm ²	UTS N/mm ²	% EL		(Charpy) (RT) kgf/cm ²		As Rolled (BHN)			J1.5	J5	J10	J15	J20	J25	J30	-	-	-	-	-	-	-	-	-	-
Min	735	1030	8	-	25	Min	-	-	-	Min	39.0	34.5	29.0	25.0	22.5	21.0	20.0	-	-	-	-	-	-	-	-	
Max	-	1370	-	-	-	Max	240	-	-	Max	44.0	40.5	35.5	31.5	29.0	27.5	26.5	-	-	-	-	-	-	-	-	
Actual	942	1072	16.2	-	36.9	Actual	162-167	-	-	Actual	43.1	39.3	31.5	27.0	25.5	23.4	22.0	-	-	-	-	-	-	-	-	

4. METALLOGRAPHY													5. OTHER TESTS						
INCLUSION RATING (ASTM E45)										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	S	O	S+O	(ASTM E112)	ASTM E-1077	(ASTM E-381)	(IS 4075)	-	
Spec	2.0	1.5	2.0	1.0	0.5	0.5	1.0	1.0	-	-	-	-	-	5-8	0.6%of dia Max	Better than C2,R3,S3	-	-	Material is free from radioactive contamination
Actual	1.0	0.5	0.5	0.0	0.0	0.0	0.5	0.5	-	-	-	-	-	7	0.23	Better than C2R2S2	OK	-	
6. REMARKS																			

6. REMARKS										6. Material is conforming to the customer specification.									
1. Cust Spec Graziano Specifications QF1001, Rev No.03, Dtd: 14.06.2024										7. Inspection Certificate as per EN10204:2004, type 3.1									
2. Dimension tolerance: as per IS 3739 Grade - 1																			
3. Microstructure: Uniform Ferrite + Pearlite																			
4. Batching Ok As per U-18-8419 Grade IV																			
5. The material is comply with ROHS (Pb,Cd,Hg,Cr+6) permissible limits.																			
<p>Prepared By: Divakar H</p> <p>Reviewed & Issued By: Maresh Naik M</p> <p>Doc.No:MSR/QA/70 Rev No.01,Rev Date:21.04.2021</p>										<p>Authorised Signatory: Prakash Angadi</p>									