

SLR Metaliks Limited

TEST CERTIFICATE

Sy.No.632, Narayanadevarakere, H.B.Halli, Tq. Bellary District, 583 222



CUSTOMER NAME M/S SSB ENGINEERS PVT		PROCESS ROUTE MBF-EOF-LRF-VD-CCM-EWS-AMIC-RMS		BLOOM SIZE (mm) 200x200		SUPPLY CONDITION As Rolled		TC NO. 25011623		DATE 30.01.2025	
CUSTOMER SPECIFICATION		HEAT NO. 53400		GRADE 16MNCRS		SIZE (mm) 60 DIA		REDUCTION RATIO 14.15:1		LENGTH (mm) 5500 TO 6000	
As per mail dt 18.03.2021 From Mr. Panchanan Mishra, QF 1001, Rev3, Dtd 14.06.2024										COLOUR CODE PIGK + GREEN	
										INVOICE NO. SE24V-14483	
										QTY 22.63	
										BUNDLE 12	
										VEHICLE NO. JH050D0699	

I. CHEMICAL COMPOSITION																													
%	C	Si	Mn	P	S	Cr	Mo	Ni	Al	Alsol	V	Ti	Cu	B	Nb	Ca	As	Sb	Sn	Pb	W	Bi	Co	Zr	AlN2R atio	H2 (ppm)	N2 (ppm)	O2 (ppm)	
Min	0.130	0.150	1.000	-	0.015	0.800	-	-	0.020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.1	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	-	0.0010	-	-	-	-	-	-	-	-	-	2.50	120.0	20.0	-
Actual	0.162	0.195	1.230	0.012	0.025	1.040	0.005	0.015	0.026	0.021	0.007	0.0021	0.020	0.0004	0.0011	0.0005	0.0010	0.0002	0.0012	0.0030	0.0001	0.0003	0.0061	0.001	3.9	1.64	66.2	14.9	-

II. PHYSICAL PROPERTIES															
TENSILE PROPERTIES															
(Quenched & Tempered) (ASTM A370)															
YS	UTS	% EL		% RA		IMPACT TEST									
(MPa)		(MPa)		(MPa)		(Charpy) (ASTM E23)									
						(RT V-Notch (Jmm))									
Min	735	1030		8		25									
Max	-	1370		-		-									
Actual	1052	1142		14.1		61.2									
HARDNESS															
HRC															
Actual															
162-169															

III. JOMINY HARDENABILITY (In HRC)															
(Distance Unit: mm) (Standard: IS 3948)															
J1.5	J5	J10	J15	J20	J25	J30	J35	J40	J45	J50	J55	J60	J65	J70	J75
39.0	35.0	29.0	25.0	22.5	21.0	20.0	-	-	-	-	-	-	-	-	-
44.0	39.0	35.5	31.5	29.0	27.5	26.5	-	-	-	-	-	-	-	-	-
42.0	37.4	29.7	26.2	23.5	22.1	20.5	-	-	-	-	-	-	-	-	-

IV. METALLOGRAPHY															
INCLUSION RATING (ASTM E45)															
INCLUSION RATING (As per DIN 50602)															
GRAIN SIZE															
TOTAL DECARB (%)															
MACROSTRUCTURE															
STEP DOWN															
UPSET															
100% Bars Checked by Manual UT - Found OK															
100% Bars Checked by MPI - Found OK & Material is free from surface defects															
100% Bars checked for Milk-Up by PMI & Spark - Found OK															
Material is free from Radioactive contamination															

V. OTHER TESTS															
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VI. REMARKS:															
1. Dimension tolerance: as per IS 3739 Grade - I															
2. Microstructure: Uniform Ferrite + Pearlite															
3. Banding is OK As per UNI 8449:1983 Grade IV.															
4. 100% MPI done as per ASTM E1444-12 & found OK.															
5. 100% UT done as per ASTM A388 & found OK.															
6. The material is comply with ROHS (Pb,Cd,Hg,Cr+6) permissible limits.															
7. Material is conforming to the customer specification.															
8. Inspection Certificate as per EN10204:2004, Type 3.1															

 Ashad Khan Prepared By				 NARENM Reviewed & Issued By				 Ranjan Das Authorized Signatory			
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