



SLR METALIKS LIMITED

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

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-EOFLTR-VD-CGNL- (EMS/AMLC)-HMS | | 200x200 | | As Rolled | | 25601726 | SE24V-15613 | 21-Feb-2025 |
| CUSTOMER SPECIFICATION | | HEAT NO. | GRADE | SIZE (mm) | REDUCTION RATIO | LENGTH (mm) | COLOUR CODE | QUANTITY (MT) | BUNDLE | VEHICLE NO |
| Flat Auto 52414/01, Dated 11.02.2002 | | 53798 | 20MNCR5HL | 80 DIA | 7.96:1 | 5500 TO 6000 | Yellow + Blue | 7.090 | 05 | JH05DK0559 |

| 1. CHEMICAL COMPOSITION | | | | | | | | | | | | | | | | |
|-------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|--------|-------|--------|--------|--------|
| % | C | Si | Mn | P | S | Cr | Mo | Ni | Al | Alsol | V | Ti | Cu | B | Nb | Ca |
| Min | 0.170 | 0.150 | 1.100 | - | 0.020 | 1.000 | - | - | 0.020 | - | - | - | - | - | - | - |
| Max | 0.220 | 0.400 | 1.400 | 0.035 | 0.040 | 1.300 | - | - | 0.040 | - | - | - | - | - | - | - |
| Actual | 0.186 | 0.242 | 1.240 | 0.018 | 0.023 | 1.155 | 0.010 | 0.016 | 0.031 | 0.028 | 0.006 | 0.0030 | 0.019 | 0.0002 | 0.0007 | 0.0010 |

| 2. PHYSICAL PROPERTIES | | | | | | | | | | | | | | | | |
|---|------------|------|------|---|--|--|--|--------------------|--|--|--|--|--|--|--|--|
| TENSILE PROPERTIES (Quenched & Tempered) ASTM A370 | | | | IMPACT TEST (Quenched & Tempered) - (Charpy) (V-Notch 2mm) (RT) Joules | | | | HARDNESS | | | | | | | | |
| YS MPa | UTS Mpa | % EL | - | 25 | | | | As Rolled (BHN) | | | | | | | | |
| Min | 885 | 1200 | 8 | Min | | | | Min | | | | | | | | |
| Max | - | 1420 | - | Max | | | | Max | | | | | | | | |
| Actual | 1162 | 1247 | 16.2 | Actual | | | | Actual | | | | | | | | |

| 3. JOMINY HARDENABILITY (in HRC) | | | | | | | | | | | | | | | | |
|---------------------------------------|------|------|------|------|------|------|------|------|------|------|---|---|---|---|---|---|
| JOMINY DISTANCE UNIT: mm (STANDARD -) | | | | | | | | | | | | | | | | |
| | J1.5 | J3 | J5 | J7 | J9 | J11 | J13 | J15 | J20 | J25 | - | - | - | - | - | - |
| Min | 41.0 | 39.0 | 37.0 | 34.0 | 31.0 | 29.0 | 27.0 | 26.0 | 23.0 | 21.0 | - | - | - | - | - | - |
| Max | 46.0 | 45.0 | 43.0 | 41.0 | 38.0 | 36.0 | 34.0 | 33.0 | 31.0 | 30.0 | - | - | - | - | - | - |
| Actual | 45.5 | 43.8 | 41.8 | 36.9 | 34.6 | 32.1 | 30.8 | 29.4 | 25.2 | 23.4 | - | - | - | - | - | - |

| 4. METALLOGRAPHY | | | | 5. OTHER TESTS | | | |
|----------------------------------|--|--|--|-----------------|--|--|--|
| INCLUSION RATING (ASTM E45) | | | | MACRO-STRUCTURE | | | |
| DIN RATING (As Per DIN 50602) | | | | STEP DOWN | | | |
| GRAIN SIZE | | | | UPSET | | | |
| TOTAL DECARB (%) | | | | - | | | |
| ASTM E-1077 | | | | - | | | |
| ASTM E-381 | | | | - | | | |
| 1% of dia | | | | - | | | |
| Max | | | | - | | | |
| C2, R2, S2 Max | | | | - | | | |
| Better Than | | | | - | | | |
| C2R2S2 | | | | - | | | |

| 6. REMARKS | | | | 100% Bars Checked by Manual UT - Found OK | | | |
|--|--|--|--|---|--|--|--|
| 1. Dimension tolerance: as per IS 3739 Grade - 1 | | | | 100% Bars Checked by MPI - Found OK & Material is free from surface defects | | | |
| 2. Microstructure: Uniform Ferrite + Pearlite | | | | 100% Bars checked for Mix-Up by PAH & Spark - Found OK | | | |
| 3. The material is comply with ROHS (Pb, Cd, Hg, Cr+6) permissible limits. | | | | Material is free from radioactive contamination | | | |
| 4. Material is conforming to the customer specification. | | | | | | | |
| 5. Inspection Certificate as per EN10204:2004, type 3.1 | | | | | | | |
| 90% Pass | | | | | | | |
| Dhwanii H Prepared By | | | | Mullesh Naik M Reviewed & Issued By | | | |
| | | | | Authorized Signatory | | | |