



Since 1992

KISCO
NERVES OF STEEL

Doc.no.:F-QCD-16

Issue no.:1.0

Date: 01.08.2013

Approved By:M.R.

TEST CERTIFICATE

AS PER EN-10204-3.1

| | | | | | |
|-----------------|---|-------------------|---|------------|------------|
| CUSTOMER:- | S.S.B. ENGINEERS (P) LTD | GRADE :- | S690QL | T.C. NO.:- | RND/26 |
| | | | | DATE:- | 07.04.2025 |
| P.O. No. & Dt. | 2024-25N 81 Dt. 11.03.2025 | Inv. No. | SA254-00032 | Inv. Dt. | 10/04/2025 |
| Product | ROLLED BAR | Mfg. Route | EF + LRF + VD, Fully Killed Bottom Poured Ingot | | |
| Feasibility No. | KCIL/22-23/1005, Rev. No.3 Dt. 28.08.2023 | Supply Conditions | Rolled + Peeled | | |

ITEM DESCRIPTION

| | | | | |
|----------|------------|-------------|------------|---------|
| Heat No. | Size | No. Of Pcs. | Qty In MT. | Remarks |
| K24-2129 | 106 MM DIA | 20 | 9.385 | |

CHEMICAL ANALYSIS %

| % ELEMENT | C | Mn | Si | S | P | Cr | Mo | Ni | Nb | Ti | Cu | B | V | Zr | N |
|-----------|------|------|------|------|-------|-------|------|------|------|------|------|------|-------|------|-------|
| SPEC. | MIN. | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| | MAX | 0.20 | 1.70 | 0.80 | 0.010 | 0.025 | 1.50 | 0.70 | 2.00 | 0.06 | 0.05 | 0.50 | 0.005 | 0.12 | 0.015 |

Achieved

Chemical Composition confirming to the specification.

MECHANICAL PROPERTIES (On H&T Sample Only)

| | | | | | | | | | |
|--|------------------------|----------------------|--------------|-----|----------------|------------------------------------|-----|-----|-----------|
| Test piece location 12.5 mm from surface | Tensile Strength (Mpa) | Yield Strength (Mpa) | % Elongation | R.A | Hardness (BHN) | Impact (CVN) Longitudinal @ -40 °C | | | |
| SPEC. | MIN. | 710 | 630 | 14 | - | 30J Min. | | | |
| | MAX | 900 | - | - | - | 124 | 126 | 128 | Avg. 126J |
| Achieved | 850.3 | 752.3 | 20.6 | - | - | | | | |

Jominy Hardenability**RAW MATERIAL DETAIL**

| | | | | | | | | | | | | |
|----------------|------|---|---|---|---|---|---|---|---|---|-----------------|---|
| Distance in mm | - | - | - | - | - | - | - | - | - | - | INGOT SIZE | - |
| Spec. | Min. | - | - | - | - | - | - | - | - | - | | |
| | MAX | - | - | - | - | - | - | - | - | - | REDUCTION RATIO | - |
| Achieved | - | - | - | - | - | - | - | - | - | - | | |

NON DESTRUCTIVE TESTING

| Ultrasonic Testing | | Dye Penetrant Testing | | Magnetic Particle Inspection | | Mixup Test | |
|--------------------|-------------------------------|-----------------------|------|------------------------------|------|----------------|--------------------------------|
| Ref. Std. | ASTM A388, Probe: ø24mm, 2MHz | Ref. Std. | | Ref. Std. | | Spark test | 100% Done & found Satisfactory |
| Acceptance | 4mm FBH on DGS Scale | Acceptance | ... | Acceptance | | Mobile Spectro | |
| Result | Found Satisfactory | Result | | Result | | | |

METALLURGICAL TESTING

| INCLUSION RATING (ASTM E45) | | | | GRAIN SIZE (ASTM E112) | MICRO STRUCTURE | MACRO (ASTM E381) | STEP DOWN TEST |
|-----------------------------|--|---|---|------------------------|-----------------|----------------------|------------------------------|
| | A | B | C | D | | | |
| THIN | 0.5 | - | - | 1.0 | 6.5-7.0 | Better than C2 R2 S2 | Decarburization Depth |
| THICK | - | - | - | 1.0 | | | |
| IDENTIFICATION DETAIL | Heat No., Grade, & Size marked on bars/bundles | | | | | Colour Code | ORANGE-GREY-PINK - BLUE SPOT |

Result: The supplied material is free from internal, surface defects & radioactive contamination

We hereby certify that products has been manufactured,inspected and found acceptable as per customer requirements.

Prepared By
Reviewed By**KISCO CASTINGS (INDIA) LIMITED**

CIN - U27100PB2012PLC036043 GST-03AAECK6712E1ZZ

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