



Since 1992

**KISCO**  
NERVES OF STEELDoc.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/1121
P.O. No. & Dt.	2024-25N 55 Dt. 15.11.2024	Inv. No.	SA244-01222	DATE:-	12.12.2024
Product	ROLLED BAR	Mfg. Route	EP + LRF + VD, Fully Killed Bottom Poured Ingot	Inv. Dt.	21/12/2024
Feasibility No.	KCIL/22-23/1005, Rev.No.3 Dt. 28.08.2023	Supply Conditions	As Rolled		

**ITEM DESCRIPTION**

Heat No.	Size As per (IS: 3739 Gr-2)	No. Of Pcs.	Qty In MT.	Remarks
K24-1445	130 MM DIA	20	10.740	

**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	0.15	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	-	-	-	-	-
Achieved	838.56	758.42	21.3	-	-	132 134 136 Avg. 134J

**Jominy Hardenability**

Distance in mm	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Spec. MIN.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MAX	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Achieved	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

**RAW MATERIAL DETAIL**

INGOT SIZE

REDUCTION RATIO

**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
Acceptance 4mm FBH on DGS Scale	Acceptance ...	Acceptance ....	Mobile Spectro
Result Found Satisfactory	Result ....	Result ....	100% Done & found Satisfactory

**METALLURGICAL TESTING**

INCLUSION RATING (ASTM E45)	GRAIN SIZE (ASTM E112)	MICRO STRUCTURE	MACRO (ASTM E381)	STEP DOWN TEST
A B C D	6.5-7.0		Better than C2 R2 S2	Decarburization Depth
THIN	-	-	-	-
THICK	-	-	-	-

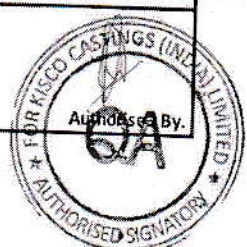
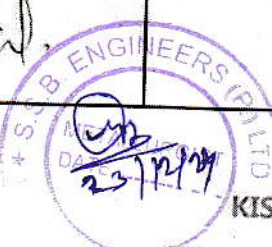
IDENTIFICATION DETAIL	Heat No., Grade, & Size marked on bars/bundles	Colour Code	ORANGE-GREY-PINK
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Result: The supplied material is free from internal, surface defects &amp; radioactive contamination

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

Prepared By

Reviewed By

**KISCO CASTINGS (INDIA) LIMITED**

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