

BSL



BHUPENDRA STEELS (P) LIMITED SPECTRO LAB & METALLURGICAL TESTING CENTRE

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TEST REPORT

BSL/SPECTRO/5.10F-01/01/00

Description	M/s. Nov Sara India (P) Ltd.	Report No.	91102	D.O.T. :	10.01.2008
	7/1, Pritam Road, Unit - II,	Ref. No.	Nil	D.O.R. :	09.01.2008
	Dehra Dun - 248001			J.O. No. :	28223
	S. No - 416A,	H-471			

RESULTS

Chemical Analysis

Sample ID; J.O.No. - 28223/1

By Spectrometer (ASTM E1507;1998)

<u>Element</u>	<u>%</u>
Carbon	0.067
Silicon	0.590
Sulphur	0.014
Phosphorus	0.033
Manganese	1.543
Nickel	8.061
Chromium	18.17
Molybdenum	0.240
Vanadium	0.145
Copper	0.386
Tungsten	0.023
Cobalt	0.088
Aluminium	0.013
Titanium	0.011
Iron	70.62

Checked By

Authorised Signatory

The result listed refer only to the tested samples and applicable parameters, Endorsement of product is neither inferred nor implied.

Total Liability of our Laboratory is limited to the invoiced amount. No liability will be accepted after the sample is taken back.

This report can not be used as an evidence in a court of law.

Samples will be destroyed after 15 days.

Any Complaints about this report should be communicated with in 7 days of issue of this report.

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MILL TEST CERTIFICATE

(En 10204 - 3.1)

AD 2000 - MERKBLATT WO REGN.NO. 07202 W 14090600005 : PED QMS 97/23/EC CRT NO. 07 202 2 14090600007

Customer Name & Destination : M/s. Nov Sara India Pvt. Ltd.		T.C.NO.:L - 12036	Date :18/12/2009	ORDER NO : B/PAR 0220 Dated : 091C - FRO 19		
Material Specification	Manufacturing Route	Supply Condition	Size	Stamp of the Testing Engineer	Colour Code	Weight (Mt)
AISI - 304L Billets.	Electric Induction Furnace with AOD Route, Ladle Refined Fully Killed Quality Steel.	As Cast.	120X120X5700 mm		Pink & White.	10095

CHEMICAL ANALYSIS IN PERCENTAGE

ELEMENTS	C	Mn	Si	S	P	Cr	Ni	N	Size	Pcs.
Specification	Min.	-	-	-	-	18.00	8.00	-	-	-
	Max.	0.030	2.00	1.00	0.030	0.045	20.00	11.00	0.1000	-
Heat No.	Grade									
H-471	AISI - 304L	0.026	1.54	0.39	0.028	0.044	18.05	8.04	0.0838	120X120X5700 mm 16

ULTRASONIC TESTING
ACC. STD : 6mm FBH

REMARKS : NA

Radiation Level : 0.08 to 0.15 uSv/hr

MECHANICAL PROPERTIES : TEST STD ASTM A370

	Test Condition	UTS (N/MM ²)	YS (N/MM ²)	% EL	% RA	Hardness (BHN)	
						Min.	Max.
SPEC	-	-	-	-	-	-	-
RESULT	-	-	-	-	-	-	-

METALLURGICAL TEST RESULT

Grain Size
E 112

IMPACT TESTING : ASTM E - 23

INCLUSION RATING ASTM E - 45				Test Temp :	Test Std :	Average
A	B	C	D	Sr. No	Impact Energy (J)	
Thin	-	-	-	1	-	-
Thick	-	-	-	2	-	-
	-	-	-	3	-	-

JOMINY HARDENABILITY : ASTM - 3848

MACROSTREAK FLAW TEST (IS - 4075)

DIST mm/Inch	J	J	J	J	J	J	Marco Test (ASTM E - 381)	1 st Step	2 nd Step	3 rd Step
ACTUAL HRC										

Visual Inspection :

Remarks

- 1 Ultrasonic testing as per ASTM E-114/EN 583-1
- 2 Microstructure (Grain Size) as per ASTM E - 112
- 3 Inclusion Rating as per ASTM E - 45/DIN 50602
- 4 Radioactive contaminations are well within the specification.
- 5 Lead has not added during manufacturing.
- 6 Steel is fully killed by Aluminium for fine grain structure.

WE CONFIRM THAT THE TEST
CERTIFICATE FINDINGS ARE
CORRECT & RESULTS ARE
AS PER STANDARD /
CUSTOMER'S REQUIREMENTS

For Laxcon Steels Ltd.

For Laxcon Steels Ltd.

Chemist

Authorized Signatory (Q.C.)

22 DEC 2009