



CERTIFICATE NO.  
T - 1452 & T - 1453

## METALLURGICAL TESTING CENTRE

(A Unit of BSL Castings Pvt. Ltd.)

( NABL ACCREDITED LAB )

### TEST REPORT

**WORKS & OFFICE :**  
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BSL/SPECTRO/5.10F-01/01/00

Issued to :	M/s. Nov Sara India (P) Ltd. 7/1, Pritam Road, Unit - II, Dehra Dun - 248001	Report No.	163250	D.O.T. :	21.02.2011
		Ref. No.	Nil	D.O.R. :	19.02.2011
Sample Description	Sample No. - 5686, Heat No. - D-0792			J.O. No. :	49464

### RESULTS

Sample I.D :	J.O.NO.5686	Chemical Analysis (Iron Base)
		Protocol : ASTM E 1507 (By O.E.S)
	Elements	%
	Carbon	0.069
	Silicon	0.540
	Sulphur	0.017
	Phosphorus	0.035
	Manganese	0.860
	Chromium	16.12
	Nickel	10.250
	Molybdenum	2.080
	Titanium	0.000
	Tungston	0.021
	Vanadium	0.012
	Copper	0.384
	Aluminium	0.000
	Niobium	0.068
	Cobalt	0.010
	Iron	69.51

Checked By

  
 263,  
SECTOR-24,  
FARIDABAD  
 Authorised Signatory  
( Q.M. / T.M. )

- Note :
1. The result listed refer only to the tested samples and applicable parameters, Endorsement of product is neither inferred nor implied.
  2. Total Liability of our Laboratory is limited to the invoiced amount. No liability will be accepted after the sample is taken back.
  3. \*Not Covered under NABL Scope.
  4. This report can not be used as an evidence in a court of law.
  5. Samples will be destroyed after 15 days.
  6. Any Complaints about this report should be communicated within 7 days of issue of this report.
  7. This report shall not be reproduced except in full, without the written permission of the Laboratory.



## MATERIAL TEST CERTIFICATE

TC NO-KSL-1821/10-11	Date : 17.01.2011	Customer : M/S NOV SARA INDIA (P) LTD
Heat No. D -0792		DEHRADUN
Specification:- AISI 316	P.O. No.: B/KESC009/10 Dated 27.12.2010	Invoice No: 570 Dt.17.01.2011

SL. NO	ITEM DESCRIPTION & DRAWING NO.	QUANTITY NOS
1	Round Dia 40 MM	150
	Heat Colour Code: Black	

### CHEMICAL COMPOSITION

PERCENT	C	Mn	Si	P	S	Cr	Ni	Mo	Cu	Ti	Al	V
AS PER SPEC.	Min. (%)					16.00	10.00	2.00				
	Max. (%)	0.080	2.00	1.00	0.045	0.030	18.00	14.00	3.00			
Actual Value	0.067	1.27	0.53	0.036	0.021	16.27	10.21	2.19				

### HEAT TREATMENT

Condition	Temp. C	Soaking Time Hrs.	Cooling Medium

### PHYSICAL PROPERTIES

MECHANICAL PROPERTIES	Y.S. N/mm2	U.T.S. N/mm2	ELONG % GL mm	REDN IN AREA %	BEND	HARDNESS BHN	IMPACT (Joules)
AS PER SPEC.	Min.						
	Max.						
Actual Value							

We hereby certify that the items mentioned above have been tested and inspected in our presence and are found to be in accordance with the drawing, specifications, and purchase order.

### REMARK

The Steel has been made by Electric Furnace which is fully killed by Al & Si. It has fine grain structure.

Sign of the Inspecting Officer

Sign of the Chief of Quality Control

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