

**BSL****SPECTRO LAB****&****METALLURGICAL TESTING CENTRE**

(A Unit of BSL Castings Pvt. Ltd.)

(NABL ACCREDITED LAB)

TEST REPORT**WORKS & OFFICE :**

PLOT NO. 263, SECTOR-24

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CERTIFICATE NO.
T - 1452 & T- 1453

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

Issued to :	M/s. Nov Sara India (P) Ltd.	Report No.	167076	D.O.T. :	20.04.2011
	7/1, Pritam Road, Unit - II,	Ref. No.	Nil	D.O.R. :	18.04.2011
	Dehra Dun - 248001			J.O. No. :	50477
Sample Description	Sample No. - 5955, Heat No. - R-576				

RESULTS**Chemical Analysis** (Fe Base - LAS)
Protocol : ASTM E 1507 (By O.E.S)

Sample ID; J.O.No. - 50477/2

<u>Element</u>	<u>%</u>
Carbon	0.058
Silicon	0.652
Sulphur	0.012
Phosphorus	0.019
Manganese	1.583
Nickel	10.28
Chromium	16.38
Molybdenum	2.054
Vanadium	<0.04
Copper	0.335
Tungsten	0.066
Cobalt	0.184
Aluminium	0.017
Magnesium	<0.01
Titanium	<0.02
Iron	68.33

Checked By
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.



PARVATI LTD.

Regd Office & Works : 27, Rajasthani Udyog Nagar, G. T. Karnal Road,
NEW DELHI - 33, Phone : 91 - 11 - 27691481, 1282, 1283 Fax : 91 - 11 - 27691909

TEST CERTIFICATE

Customer Name & Destination : M/S. NOV SARA INDIA P.LTD.		T.C.NO.:P-855	Date :15.3.11	ORDER NO : VERBAL		
Material Specification	Manufacturing Route	Supply Condition	Size	PCS	Colour Code	Weight (Mt)
AISI-316	INDUCTION FURNACE	AS ROLLED	56 MM	120	BLUE	

CHEMICAL ANALYSIS IN PERCENTAGE

ELEMENTS	C	Mn	Si	S	P	Cr	Ni	Mo	N	NB	Size	Pcs.
Specification	Min.											
	Max.											
Heat No.	Grade											
R-576	AISI-316	.071	1.51	.51	.016	.033	16.71	10.09	2.05	.0700	56 MM	50 → 5102
R-577	AISI-316	.068	1.54	.46	.012	.030	16.64	10.04	2.02	.0622	56 MM	50 → 5102
R-578	AISI-316	.072	1.44	.48	.013	.032	16.57	10.11	2.04	.0670	56 MM	20 → 20442

ULTRASONIC TESTING
ACC. STD : 6mm FBH

REMARKS : NA

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

INCLUSION RATING ASTM E - 45

	A	B	C	D
Thin	-	-	-	-
Thick	-	-	-	-

Grain Size
E 112

IMPACT TESTING :

Test Temp :		Test Std :	
Sr. No	Impact Energy (J)	Average	
1	-		
2	-		
3	-		

JOMINY HARDENABILITY : ASTM - 3848

DIST mm/Inch	J	J	J	J	J	J
ACTUAL HRC						

Marco Test
(ASTM E - 381)

MACROSTREAK FLAW TEST (IS - 4075)

1st Step 2nd Step 3rd Step

Visual Inspection :

Remarks

- Impact Testing as per DINEN 10015 - 1
- Ultrasonic testing as per ASTM A 388
- Material is free from residual radioactive elements.
- Lead not added during manufacturing.

For Parvati Ltd.

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

Chemist

[Signature]



Authorized Signatory (Q.C.)