

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

(A Unit of BSL Castings Pvt. Ltd.)

(NABL ACCREDITED LAB)

&**TEST REPORT**CERTIFICATE NO.
T - 1452 & T - 1453**WORKS & OFFICE :**

PLOT NO. 263, SECTOR-24,

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

| | | | | | |
|-----------------------|---|------------|------|------------|------------|
| Issued to : | M/s. Sara Sae (P) Ltd. 7/1, Pritam Road, Unit - II Dehra Dun - 248001 | Report No. | 9001 | D.O.T. : | 23.08.2013 |
| Sample Description. : | Sample No. - 8613, Heat No. - D-3257, Dia - 40.0mm | | | D.O.R. : | 21.08.2013 |
| | Ref. No. | Nil | | J.O. No. : | 2411 |

RESULTS

Chemical Analysis (Fe Base - SS)
Protocol : ASTM E 1086:2008 (By O.E.S)

Sample ID; J.O.No. - 2411/1

| <u>Element</u> | <u>%</u> |
|----------------|----------|
| Carbon | 0.051 |
| Silicon | 0.512 |
| Sulphur | 0.016 |
| Phosphorus | 0.035 |
| Manganese | 1.098 |
| Nickel | 10.09 |
| Chromium | 16.84 |
| Molybdenum | 2.153 |
| Copper | 0.385 |
| Tungsten | 0.050 |
| Cobalt | 0.182 |
| # Niobium | 0.033 |
| # Titanium | 0.011 |

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.
8. # Results found outside the range of NABL accredited scope.



MATERIAL TEST CERTIFICATE

(As per Indian Boiler Regulation 169)

| | | |
|---------------------|-------------------|--|
| CERTIFICATE NO.: | KSL-4653/13-14 | CUSTOMER: M/S SARA SEA PRIVATE LIMITED |
| DATE: | 05.08.2013 | JALANDHAR (PUNJAB) |
| HEAT NO.: | D 3257 | |
| SPECIFICATION: | AISI 316 | P.O NO. & DATE: 4413 DT 03.08.13 |
| INVOICE NO. & DATE: | 188 Dt 05.08.2013 | |

| SL. NO. | ITEM DESCRIPTION | QTY. |
|---------|------------------------|------|
| 1 | Round Dia 40 MM | 100 |
| | Grade Color Code: Pink | |
| | | |

CHEMICAL COMPOSITION

| PERCENT | REQD. MIN. | REQD. MAX | ACTUAL VALUE |
|---------|---------------|--------------|--------------|
| C | | 0.08 | 0.06 |
| Mn | | 2.00 | 1.10 |
| Si | | 1.00 | 0.61 |
| P | | 0.045 | 0.040 |
| S | | 0.030 | 0.016 |
| Cr | 16.00 | 18.00 | 16.50 |
| Ni | 10.00 | 14.00 | 10.20 |
| Mo | 2.00 | 3.00 | 2.2 |
| V | | | 0.04 |
| Ti | | | 0.01 |
| Cu | | | 0.40 |
| Al | | | 0.013 |

Remarks:

- 1) Steel melting process: Electric furnace-Argon purged ladle bottom poured "under inert atmosphere"
- 2) Steel is fully killed with Al/Si alloys and is made to fine grain practice.
- 3) Surface quality of ingot is acceptable and free from harmful defect.
- 4) No mercury / Lead added during steel melting process.

We have satisfied ourselves that steel melting has been done and tested in accordance with the requirement of Indian Boiler Regulation, 1950. We further certify that the particulars entered herein are correct

Approval Certificate No-130, dt 4th June, 2012 as "Well-Known Steel Maker"

Valid up to 1st March 2017

Authorized Signatory

