



# SPAN FORGING PVT. LTD.

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Mfrs. of : Steel Forgings, CNC Turned Components, Centrifugal Casting of alloy steel

Works : Village Tatarpur (Near Prithla) Teh. & Distt. Palwal

E-mail : spanforging@rediffmail.com

## TEST REPORT

Ref. No. ....

Date.....

Issued to: M/s SARA SAE(P)Ltd.Unit-II  
A/2Sara Ind.Estate Ltd.Chak-  
rata Road,Selaqui,Dehradun.

Report No.

1215

D..O.T.

28/2/2012

D..O.R

28/2/2012

Sample Description

INGOT 4"X5"

Sample No.

7368

Heat No.

P-05

## RESULTS

Chemical Analysis  
By Spectrometer

| Element           | %      |
|-------------------|--------|
| Carbon            | 0.0581 |
| Silicon           | 0.598  |
| Sulphur           | 0.0088 |
| Phosphorus        | 0.0237 |
| Manganese         | 1.49   |
| Nickel            | 10.23  |
| Chromium          | 16.82  |
| Molybdenum        | 2.1    |
| Vanadium          | 0.0718 |
| Copper            | 0.328  |
| Niobium/Columbium | 0.0187 |
| Cobalt            | 0.162  |
| Aluminium         | 0.0118 |
| Titanium          | 0.0068 |
| Iron              | 68.00  |

Checked By  
Arun Mishra



Authorised Signatory  
(Q.M / T.M)

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. The report can not be used as an evidence in a court of law.
4. Samples will be destroyed after 15 days.
5. Any Complaints about this report should be communicated with in 7 days of issue of this report.
6. This report shall not be reproduced except in full, without the written permission of the Laboratory.
7. \*Not Covered under NABL Scope.



# PARVATI P.LTD.

Regd Office & Works : 27, Rajasthani Udyog Nagar, G. T. Karnal Road,  
NEW DELHI - 33, Phone : 91 - 11 - 47029900 Fax : 91 - 11 - 47029922

## TEST CERTIFICATE

| Customer Name & Destination :<br>M/S. SARA SAE PVT. LTD. |                     | T.C.NO.:P-65     | Date :21.2.12 | ORDER NO : VERBAL    |                                                     |                              |
|----------------------------------------------------------|---------------------|------------------|---------------|----------------------|-----------------------------------------------------|------------------------------|
| Material Specification                                   | Manufacturing Route | Supply Condition | Size          | PCS                  | Color Code                                          | Weight (Kg)                  |
| AISI-316                                                 | INDUCTION FURNACE   | AS CAST          | 4X5X44        | 50<br>50<br>50<br>36 | BLUE+BLACK<br>BLUE+RED<br>BLUE+YELLOW<br>BLUE+GREEN | 5550<br>5555<br>5500<br>3950 |

### CHEMICAL ANALYSIS IN PERCENTAGE

| ELEMENTS      |          | C    | Mn   | Si  | S    | P    | Cr    | Ni    | Mo   | N     | COLOR           |  | Size   | Pcs. |
|---------------|----------|------|------|-----|------|------|-------|-------|------|-------|-----------------|--|--------|------|
| Specification | Min.     |      |      |     |      |      |       |       |      |       |                 |  |        |      |
|               | Max.     |      |      |     |      |      |       |       |      |       |                 |  |        |      |
| Heat No.      | Grade    |      |      |     |      |      |       |       |      |       |                 |  |        |      |
| P-2           | AISI-316 | .056 | 1.49 | .58 | .015 | .032 | 16.81 | 10.07 | 2.05 | .0615 | BLUE+BLAC<br>K  |  | 4X5X44 | 50   |
| P-3           | AISI-316 | .046 | 1.45 | .54 | .015 | .032 | 16.77 | 10.09 | 2.03 | .0594 | BLUE+RED        |  | 4X5X44 | 50   |
| P-4           | AISI-316 | .056 | 1.50 | .58 | .013 | .030 | 16.69 | 10.10 | 2.06 | .0545 | BLUE+YELLO<br>W |  | 4X5X44 | 50   |
| P-5           | AISI-316 | .059 | 1.50 | .59 | .015 | .031 | 16.75 | 10.15 | 2.06 | .0590 | BLUE+GREEN      |  | 4X5X44 | 36   |

ULTRASONIC TESTING  
ACC. STD : 6mm FBH

REMARKS : NA

### MECHANICAL PROPERTIES : TEST STD ASTM A370

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

### METALLURGICAL TEST RESULT

Grain Size  
E 112

### IMPACT TESTING :

| INCLUION RATING ASTM E - 45 |   |   |   | Grain Size<br>E 112 | 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<br>mm/Inch | J | J | J | J | J | J | Marco Test<br>(ASTM E - 381) | 1 <sup>st</sup> Step | 2 <sup>nd</sup> Step | 3 <sup>rd</sup> Step |
|-----------------|---|---|---|---|---|---|------------------------------|----------------------|----------------------|----------------------|
| ACTUAL<br>HRC   |   |   |   |   |   |   |                              |                      |                      |                      |

### 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 P. Ltd.

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

Chemist

*[Signature]*

Authorized Signatory (Q.C.)

*[Signature]*

