

# 9144

Sample Results

|                         |                               |                               |          |                   |                            |                         |                   |                   |          |
|-------------------------|-------------------------------|-------------------------------|----------|-------------------|----------------------------|-------------------------|-------------------|-------------------|----------|
| Sample Result Name      | 9144 (1543/a-03/14)           | Type                          | Unknown  | Measure Date Time | Thursday, January 30, 2014 | Recalculation Date Time | 4:17:58 PM        | Origin            | Measured |
| Method Name             | Fe-30-MO                      | Method Version                | SARA SAE | Operator Name     | SARA SAE                   | Check Type              | None              | Check Status      | Not Used |
| Grade Verification Name | Grade Verification Similarity | Grade Verification Similarity | None     | Correction Type   | None                       | Type Corr Sample Name   | Grade Search Name | Grade Search Name | Not Used |
| Grade Search Similarity | Type                          | Status                        | Not Used | Outlier Removal   |                            |                         |                   |                   |          |
| Sample Name             | 9144 (1543/a-03/14)           | Grade                         |          |                   |                            |                         |                   |                   |          |
| C                       | Conc                          | Si                            | Conc     | Mn                | Conc                       | P                       | Conc              | S                 | Conc     |
| 1                       | 0.022                         | 0.13                          | 0.44     | 0.007             | <0.002                     | 21.10                   | 2.78              | 40.38             | 0.097    |
| Rep                     | 0.022                         | 0.13                          | 0.44     | 0.007             | <0.002                     | 21.10                   | 2.78              | 40.38             | 0.097    |
| Min Cal                 | 0.006                         | 0.005                         | 0.004    | 0.003             | 0.002                      | 0.005                   | 0.003             | 0.005             | 0.003    |
| Mean                    | 0.022                         | 0.13                          | 0.44     | 0.007             | <0.002                     | 21.10                   | 2.78              | 40.38             | 0.097    |
| Max Cal                 | 3.00                          | 5.04                          | 18.12    | 0.18              | 0.30                       | 36.00                   | 10.20             | 55.2              | 6.24     |
| Ca                      | Conc                          | B                             | Conc     | Fe                | Conc                       | Mo                      | Conc              | Ni                | Conc     |
| 1                       | 0.002                         | 0.006                         | 32.42    | 0.002             | 0.006                      | 32.42                   | 0.002             | 0.006             | 32.42    |
| Rep                     | 0.002                         | 0.006                         | 32.42    | 0.002             | 0.006                      | 32.42                   | 0.002             | 0.006             | 32.42    |
| Min Cal                 | 0.0005                        | 0.0005                        | 32.55    | 0.0005            | 0.0005                     | 32.55                   | 0.0005            | 0.0005            | 32.55    |
| Mean                    | 0.002                         | 0.006                         | 32.55    | 0.002             | 0.006                      | 32.55                   | 0.002             | 0.006             | 32.55    |
| Max Cal                 | 0.016                         | 0.025                         |          |                   |                            |                         |                   |                   |          |

OK  
TW-825  
SARA SAE

1/31/2014

Sample Results





# M.D. Steels Pvt. Ltd.

Plot No. F- 669 , Phase - II

RIICO Industrial Area , Bhiwadi, Distt.- Alwar (Rajasthan) 301019

Phone +91 1493 512079/225495 Fax +91 01493 222483

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|                                                                                                                                             |          |                     |
|---------------------------------------------------------------------------------------------------------------------------------------------|----------|---------------------|
| Customer : M/s Sara Sae Pvt. Ltd. UNIT - II<br>A-2, Sara Industrial Estate Ltd.<br>Chakrata Road, Rampur<br>Dehradun - 248197 - Uttarakhand | T.C. No. | : M- 1443           |
|                                                                                                                                             | Dated    | : 14.01.2014        |
|                                                                                                                                             | Heat No. | : 1543/A- 03 / 2014 |
|                                                                                                                                             | Date     | : 03.01.2014        |

P.O. No. :..... Dated 20.12.2013

Specification : INC 825

Foundry identification : MD

Surface : Proof Machine

Casting Processed by Induction melting

Heat Treatment : Solution Annealed at 1150 °C, 1.30 Hours Soaking and water quenched.

## CHEMICAL COMPOSITION %

| Element | C     | Si    | Mn    | Cr    | Ni     | Mo    | S     | Al    | Cu    | Ti   | P     |
|---------|-------|-------|-------|-------|--------|-------|-------|-------|-------|------|-------|
| Minimum | -     | -     | -     | 19.50 | 38.000 | 2.500 | -     | -     | 1.500 | 0.60 | -     |
| Maximum | 0.050 | 0.500 | 1.000 | 23.50 | 46.000 | 3.500 | 0.030 | 0.200 | 3.000 | 1.20 | 0.030 |
| Actual  | 0.037 | 0.480 | 0.258 | 20.10 | 39.500 | 3.100 | 0.019 | 0.053 | 1.650 | 1.16 | 0.019 |

## MECHANICAL PROPERTIES

|        | Y.S | UTS | EL%      | Reduction of Area | Charpy At ambient | Bend Test | Hardness |  |  |  |  |
|--------|-----|-----|----------|-------------------|-------------------|-----------|----------|--|--|--|--|
|        | Mpa | Mpa | GI= 50mm | Area %            | Ambient temp.     |           | HRB      |  |  |  |  |
| Min    |     |     |          |                   |                   |           |          |  |  |  |  |
| Max.   |     |     |          |                   |                   |           |          |  |  |  |  |
| Actual |     |     |          |                   |                   |           |          |  |  |  |  |

| S. No. | Description                                                                           | Item & Code   | Qty.                 |
|--------|---------------------------------------------------------------------------------------|---------------|----------------------|
| 1      | Centrifugally Casted Rings<br>Proof Machined Size<br>OD 291 mm X ID 254 mm X H- 43 mm | BNT & IX708-R | 30 Nos.<br>(31 - 60) |

Remarks : Visual Inspection Carried out and dimension checked and found Ok.

specification and was found to meet the requirements and also compliance to the purchase order.

Checked by

Approved by.



**M. D. STEELS (P) LTD.**  
F-669, Phase-II, Indl. Area  
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