



## TECHNICAL STANDARD INSTRUCTION FOR ROCKWELL C SCALE HARDNESS TESTING ON STEEL

### A Proficiency Testing Program

- A.1 Program Name: Proficiency Testing Scheme Rockwell C Scale hardness test.
- A.2 Program code No Mech.3
- A.3 Material Hardened and tempered alloy steel
- A.4 Test Method ASTM A370 or ASTM E18 or ISO6508-1 or IS 1586
- A.5 Lab Code
- A.6 Sample code
- A.7 Program starting date
- A.8 Program closing date
- A.9 Last date of result submission
- A.10 Final result reporting date

### B Sample Description

**B.1 Test Specimen:** One polished round specimen with 1um surface finish will be provided. The nominal dimension of the specimen is 40Φ mm and thickness 12 mm. Every specimen bears a unique Identification number that has to be mentioned in the test result reporting format sheet accordingly.

### C Test Requirement

- C.1 Test is to be performed by one operator and one machine only
- C.2 Test must be performed in sequence

### D Test Procedure

| Unit | Minor force   | Dwell time | Major force   | Dwell time | Distance between indentation | Temp.                   | Expected range |
|------|---------------|------------|---------------|------------|------------------------------|-------------------------|----------------|
| SI   | 10kgf(98.07N) | 3s         | 150kgf(1471N) | 8s         | 3diagonal minimum            | 20 to 35 <sup>o</sup> C | HRC 55 to 65   |

### E Competency

- E.1 Competent person should carry out the test and evaluate the result as routine test.
- E.2 The participant is required to submit the report for each sample as per result reporting Format with precision as mentioned
- E.3 All result will be analyzed based on Robust Algorithm A and Z score according to ISO13528-15.
- E.4 Final report includes all clauses of 4.8.2 of ISO17043-2010
- E.5 In case of loss or deterioration of PTP Specimen, please feel free to contact PT provider for replacement
- E.6 In case of exclusion of a PT schemes by the participant side, the participant must inform PT provider and sample must be sent back.
- E.7 Collusion and falsification of your PTP result are totally forbidden. In case of suspicion of collusion or falsification, the PT Provider reserves the right to exclude the participants.

### PT Co-Coordinator,

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# DEEP METALLURGICAL SERVICES

Approved Proficiency Testing Provider (Chemical & Mechanical) by NABL



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ISO 17043 - 10, PC - 1045

## TEST RESULT FORMAT FOR Rockwell C Scale

### F Proficiency Testing Program

|     |                                |  |                               |
|-----|--------------------------------|--|-------------------------------|
| F.1 | Program Name:                  | Proficiency Testing Schemes Rockwell C scale hardness test |                               |
| F.2 | Program code No                | Mech.3   | F.3 Lab code                  |
| F.4 | Test Method                    | ASTM A370 or ASTM E18, IS 1586 or ISO 6508-1               |                               |
| F.5 | Sample code                    |  | F.6 Program closing date      |
| F.7 | Last date of result submission |  | F.8 Date of result submission |

### G Reporting format for Rockwell C Scale (HRC)

| Parameter   | Unit  | Precision | Reporting result |
|-------------|---|-----------|------------------|
| Material    | Alloy steel, hardened and tempered          | N/A       |                  |
| Method      | ASTM A370 or ASTM E23, IS 1757 or ISO 148-1 | N/A       |                  |
| Temperature | <sup>o</sup> C                              | XX.X      |                  |
| Sample no 1 | HRC   | XX.X      |                  |
| Sample no 2 | HRC   | XX.X      |                  |
| Sample no 3 | HRC   | XX.X      |                  |
| Sample no 4 | HRC   | XX.X      |                  |
| Sample no 5 | HRC   | XX.X      |                  |
| Average     |   | XX.X      |                  |

Method

Test temperature

NABL/ISO Certificate No.:

Tested by organization

Name:

Designation

Please send the complete Test Result Form (Soft & hard copy) to PTP Coordinator, Deep Metallurgical Services, 20, New Modella Industrial Estate, Padwal Nagar, Wagle Estate, Thane, Maharashtra, India, Pin-400604, Mobile- 9892216539, Email: mech@deep-ptp.in, deep.ptp2018@gmail.com