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***भारतीय मानक ब्यूरो***

***BUREAU OF INDIAN STANDARDS***

######  **Resolution**

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| **Name of the Committee** | **No. of Meeting** | **Date & Day** | **Time** | **Venue** |
| **Corrosion Protection and Finishes Sectional Committee, MTD 24** | **23rd**  | **28th August 2024** | **2 : 00 PM** | **Hybrid****Venue:** Veermata Jijabai Technological Institute VJTI, H R Mahajani Rd, Matunga East - 400019, Mumbai, Maharashtra, India  |
| **Chairperson:** Dr U. Kamachi Mudali | **Member Secretary:** Shri Dushyant Hawelikar |

**Resolution Details:**

In the 23rd Technical Committee meeting, decisions were taken regarding the standards by the committee as given below.

**1 Wide circulation:**

The committee has decided to send the following documents for wide circulation for 1 month.

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| **Sl No.** | **IS / ISO** | **Title** |
|  | **MTD/24/25073** (Amalgamation of IS 1340 and IS 9839) | Code of practice for chromate conversion coating on zinc and cadmium coated articles and zinc base alloys |
| Specification for chromate conversion coatings on electroplated zinc and cadmium coatings |
|  | **IS 10461(Part1) : 1994** | Resistance to Inter-Granular Corrosion of Austenitic Stainless Steels - Method for Determination - Part 1 : Corrosion Test in Nitric Acid Medium by Measurement of Loss in Mass (Huey Test) |
|  | **IS 2629**(Amalgamation of IS 2629: 1985, IS 6159: 1998 and IS 4759: 1996) | Code of Practice for Process Design Testing and Application of Hot Dip Galvanizing of Iron and Steel - Part 1 : Batch Process |
|  | **IS 13677 : 1993** | Electroless nickel - Phosphorus coatings - Specification |
|  | **ISO 17081:2014** | Method of measurement of hydrogen permeation and determination of hydrogen uptake and transport in metals by an electrochemical technique |
|  | **ISO 10587:2000** | Metallic and other inorganic coatings — Test for residual embrittlement in both metallic-coated and uncoated externally-threaded articles and rods — Inclined wedge method |
|  | **ISO 15330:1999** | Fasteners — Preloading test for the detection of hydrogen embrittlement — Parallel bearing surface method |
|  | **ISO 17081:2014** | Method of measurement of hydrogen permeation and determination of hydrogen uptake and transport in metals by an electrochemical technique |

**2 Publication:**

The committee has decided to send the following documents for publication.

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| **Sl No.** | **IS / ISO** | **Title** |
|  | **MTD/24/25740**(Revision of IS 1068/ ISO 1456)(Amalgamation of IS 1068 : 1993 and IS 12393: 1988) | Metallic and Other Inorganic Coatings Electrodeposited Coatings of Nickel, Nickel Plus Chromium Copper Plus Nickel and of Copper Plus Nickel Plus Chromium |
|  | **MTD/24/25741**(Revision of IS 11268/ISO 2143) | Anodizing of aluminium and its alloys Estimation of loss of absorptive power of anodic oxidation coatings after sealing Dye-spot test with prior acid treatment |
|  | **MTD/24/25769**(Revision of IS 8602/ISO 3613) | Metallic and Other Inorganic Coatings Chromate Conversion Coatings On Zinc Cadmium Aluminium-Zinc Alloys and Zinc-Aluminium Alloys Test Methods |
|  | **MTD/24/25739**(Revision of IS 3266/ISO 27874) | Metallic and Other Inorganic Coatings Electrodeposited Gold and Gold Alloy Coatings for Electrical Electronic and Engineering Purposes Specification and Test Methods |
|  | **MTD/24/21005**(Revision of IS 6651) | Specification for anodized aluminium for automobile use |
|  | **MTD/24/21008**(Revision of IS 1067) | Specification for electroplated coating of silver for decorative and protective purposes |

**3.** Committee has setup a dedicated working group for the formulation of standard related to Hydrogen Embrittlement. Composition of the working groupis mentioned below. The tasks pertaining to MNREshould be addressed by 20th September 2024.

1. **Dr S. Ningshen –** IGCAR, Kalpakkam (**Convenor**)
2. **Dr Supratik Roychowdhary** – BARC, Mumbai
3. **Dr Raghuvir Singh –** CSIR-NML, Jamshedpur
4. **Dr Tapan Kumar Rout –** TATA Steel, Kolkata
5. **Dr J K Saha –** S J Engineers & Consultants

The tasks assigned to the working group is as follows:

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| **Sl no.** | **Topic** | **Proposer** | **Remarks** |
|  | **ISO 2626:1973** Copper — Hydrogen embrittlement test | MNRE | Review IS 6243 : 1985 “Method of hydrogen embrittlement test for copper” vis a vis ISO 2626 and recommend a revised draft.  |
| 1. 8
 | Standard Practice for Evaluation of Hydrogen Uptake, Permeation, and Transport in Metals by an Electrochemical Technique (ASTM G 148)  | MNRE | MTD was requested to examine if Any Indian Standard exists on the similar Subject of Evaluation of Hydrogen Uptake, Permeation and Transport in Metals. If No Indian Standard is available, MTD was requested to review the adoption / Formulation of similar standard as that of ASTM G148 (2018).There is no Indian Standard under MTD which addresses this subject. **Advise of MTD 24 may be taken in this regard.**  |
| 1. 9
 | Test Methods For Evaluating Material Compatibility In Compressed Hydrogen Applications – Metals (ANSI/CSA CHMC-1: 2014) | MNRE | MTD was requested to carry out a Comparative analysis of this standard with IS/ISO 11114-4 and come up with recommendation on whether a new standard based on ANSI Document is required or IS/ISO 11114-4 is sufficient.**Advise of MTD 24 may be taken in this regard.** |
| 1. 10
 | Embrittlement Testing for Hydrogen Piping and Storage Bullets | MNRE | MTD was requested to examine whether already existing standards cover the subject of “Embrittlement Testing for Hydrogen Piping and Storage Bullets”.**Advise of MTD 24 may be taken in this regard.** |
|  | **ISO 16573-1:2020** Steel — Measurement method for the evaluation of hydrogen embrittlement resistance of high strength steels *Part 1: Constant load test* | MNRE | **IS 17175 : 2020/ISO16573 : 2015** is due for review this year. The revised ISO 16573 is divided into two parts, as follows:**ISO 16573-1 : 2020** Steel — Measurement method for the evaluation of hydrogen embrittlement resistance of high strength steels Part 1: Constant load test; and **ISO** **16573-2 : 2022** Steel — Measurement method for the evaluation of hydrogen embrittlement resistance of high-strength steels Part 2: Slow strain rate test.Comments from Dr A. Ravi Shankar – IGCAR, received via email dated 12/08/2024. The comments on ISO 16573-2:2022are given below: 1. Water quality (DM water) and chemicals of analytical reagent grade should be specified for preparing solutions.
2. In table 2, the time for dry process is 2 h, whereas in part-1 of this standard it is mentioned as 4 h. The reason for deviation or editorial correction need to be incorporated.
3. In section 6.2.2, Please elaborate or provide more details on “homogenization treatment at room temperature exposure”.
4. In section 8.2, point c, the sentence may be corrected as “For full characterization of the hydrogen embrittlement behaviour of the material, ………..”.
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|  | **ISO 16573-2:2022** Steel — Measurement method for the evaluation of hydrogen embrittlement resistance of high-strength steels *Part 2: Slow strain rate test* | MNRE |

**4.** Committee has setup a dedicated working group for the formulation of standard on Bitumen Tapes. Composition of the working group is mentioned below. The committee advised Dr Duari and Smt. Maushumi to provide relevant test report, technical paper or report for the root penetration and microbial attack on bitumen tapes by 20th September 2024.

1. **Dr G Gunasekaran –** NMRL (**Convenor**)
2. **Smt. Maushumi –** ONGC
3. **Shri Shilpam Vaid** **–** Spanish Waterproofing (I) Pvt Ltd
4. **Shri Rishabh Jaini** – MK Petro Products India Pvt. Ltd.
5. **Shri Padma Kumar** – Shivam Tar Products,
6. **Shri Kishor Herwadkar** – SMC Infrastructure.
7. **Piyush Kumar Bhimani** – Tiki Tar Danosa India Pvt. Ltd.
8. **Shri Arham Rehman** – IWL India pvt ltd.