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**RESOLUTION OF MEETING**

**(Bureau of Indian Standard)**

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| **BUREAU OF INDIAN STANDARDS**  **(METALLURGICAL ENGINEERING DEPARTMENT)**  **ALLOY STEELS & FORGINGS SECTIONAL COMMITTEE, MTD 16** | |
| Meeting Date & Time: | 21st Oct 2024 |
| No. of Meeting: | 29th Meeting |
| Venue : | BIS Head Quaters, New Delhi  ( Hybrid Meeting ) |

**Chairman:** Shri T. Muthukumar **Member Secretary:** Shri G. Ram Sai Kumar

# Item 0. ATTANDENCE OF COMMITTEE

PHYSICAL

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| Sl No. | Organization | Committee members |
|  | HMTD, BIS | Mr. Sanjiv Maini |
|  | Mishra Dhatu Nigam Limited, Hyderabad | Mr. T. Muthukumar |
|  | Indian Stainless Steel Development Association, Gurugram | Mr. Rohit Kumar   Mr. A K Sharma |
|  | Jindal Stainless Limited, New Delhi | Mr. V. Narasimha Rao  Ms. Nisha Goel  Mr. Sanjiv Dala |
|  | L&T Special Steels Heavy Forgings Pvt LTD | Ms. Kavita Bhatia |
|  | Schaeffler India Limited, Vadodara | Mr. Anshuman Ganeriwala  Mr. Biswanath Nandi |
|  | Steel Authority Of India Limited (SAIL), Research & Development Centre for Iron & Steel, Ranchi | Mr. P. Kumar |

Virtual

| Sl. No. | Name of the Organization | Representative By  Principal/Alternate | Attendance |
| --- | --- | --- | --- |
|  | All India Stainless Industries Association, Mumbai | Sh Hitendra Bhalaria  Sh Jay Kumar Bansal (Alt) | Absent |
|  | Atomic Energy Regulatory Board, Mumbai | Sh Jagannath Mishra | Present |
|  | Atomic Mineral Division, Nagpur/New Delhi | Dr. Sameer Durani  Sh Alok Pandey (Alt) | Present |
|  | BEML Ltd. | Sh B.H. Madhusudhan | Present |
|  | Bharat Forge Ltd, Pune | Sh Sagar Bapat | Present |
|  | Bharat Heavy Electricals Ltd, HPEP Trichy | Sh Manu Shankar Harish  Sh Venkateswarlu Ala(Alt) | Absent |
|  | CSIR-National Metallurgical Laboratory | Dr. S. Ghosh Chowdhury  Dr. B. Ravi Kumar (Alt) | Present |
|  | Defence Met. Research Laboratory DMRL, Hyderabad | Sh B Veerababu  Sh B Mishra (Alt) | Present |
|  | Directorate General of Quality Assurance, Ministry of Defence (DGQA), West Bengal | Shri L.P Varte  K Yadav  Shri M. K Srivastav (Alt) | Present |
|  | Indian Stainless Steel Development Association | Sh Rohit Kumar  Sh A K Sharma (Alt) | Present |
|  | IGCAR, Kalpakkam | Dr Utpal Borah  Dr. Diptimayee | Present |
|  | Mahindra Sanyo Special Steel Private Limited, Khopoli | Sh Sachin Bhambure | Present |
|  | Ministry of steel | Sh Parmjeet Singh  Sh B Pradhan (Alt) | Absent |
|  | Mishra Dhatu Nigam Ltd , Hyderabad | Sh A Pani Kishore  Sh Saurabh Dixit (Alt) | Present |
|  | Mukand Ltd | Sh M M Rao  Sh Dominic Savio (Alt) | Present |
|  | Nuclear Fuel Complex , Hyderabad | Sh Y. Balaji Rao | Absent |
|  | RITES Limited, Gurugram | Sh Sandeep Gupta  Sh V K Dwivedi(Alt) | Present |
|  | Society of Indian Automobile Manufacturers (SIAM), Delhi | Ms Kanishka Chana | Present |
|  | Star wire (India) Ltd, (Ballabgarh) | Dr. Neeraj Panday  Dr. Ashok Narula (Alt) | Present |
|  | SAIL-Visvesvaraya Iron and Steel Plant, Bhadravati | Sh Ravi kiran  Sh Kumar M.S (Alt) | Present |
|  | SAIL- IISCO Steel Plant, Barddhama | Sh Saikat De  Sh Rajib Khanda  Ms Preeti Dewangan (YP) | Present |
|  | SAIL-Salem Steel Plant , Salem | Sh P.Govindrajan  Dr P Sarvanan (Alt) | Present |
|  | Sundram Fasteners Limited, Chennai | Sh Atul Kumar Agarwal  Dr. P. Shanmugam (Alt) | Present |
|  | Sunflag Iron & Steel Company Limited, New Delhi | Shri sanmugan | Absent |
|  | Tata Motors, Pune | Sh Hemant More  Sh Anoop Tobby | Present |
|  | Tata Steel Ltd (Jamshedpur) | Dr T. Bhaskar | Present |
|  | Viraj Profiles | Sh R K Murthy | Present |
|  | NIT Tirchy | Raman Sankaranarayanan | Present |

# Item 2. ACTION TAKEN REPORT

**2.1** The summary of action taken on the decisions of the previous meeting of MTD-16 is reported in **Annexure I**.

**3.3 Annual Calendar of Technical Committee meetings.**

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| **Sl Meetings planned Date & Time Venue**  **No. for FY 2024-25** | | | |
| **1.** | First Meeting | 14 May 2024 | Virtual (New Delhi, BIS Head Quarter) |
| **2.** | Second Meeting | 21 October 2024 | New Delhi ( BIS Head Quarter ) |
| **3.** | Third Meeting | 29 Jan 2025 | Mumbai (Physical) |
| **4.** | Fourth Meeting (if any) | - | To be decided |
| **NOTE – One of the above committee meetings to be organized in an academic Institution and one Seminar has to be organized by the committee during the current financial year.** | | | |

**4.6** New Nomination received from the following organisation for co-option:

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| **Sl No.** | Name of the organization | Experts | Decision of the committee |
| **1.** | Proterial India Private Limited | Shri Thukaram K  Shri Puneet Gupta | Committee decided to co-opt into the Committee of MTD 16 |
| **2.** | Rajasthan stainless steel re rollers association  (to panels of IS 5522, IS 15997 & IS 18755) | Shri Devendra Daga  Shri V. K. Mittal | Committee decided to co-opt into the working group MTD 16 : WG1 |
| **3.** | Bharat Heavy Electricals Ltd, HPEP Trichy | Shri Antony Harison MC  Shri Venkateshwarlu Ala | Committee decided to co-opt into the Committee of MTD 16 |
| **4.** | Steel Authority of India Limited (SAIL), (RDCIS), Ranchi  (Revised nominations received) | Shri A. Paul  Shri P. Kumar | Committee decided to co-opt into the Committee of MTD 16 |

**4.7** The Committee, in its previous meeting, recommended for Co-option of the following organizations in to the Committee:

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| **Sl No.** | | Name of the organization | **Decision of the committee** |
| **1.** | M/s RDSO Lucknow | | Committee requested to Rohit of M/s ISSDA to take the nomination from the Organization |
| **2.** | M/s BARC | | Seek their interest in the MTD 16 |

**4.8** The following panels have to be converted into working groups:

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| Sl. No. Current Panel | | Proposed to Working Group/Panel | **Decision of the committee** |
| **i** | MTD 16 : P1 Revision to merge IS 15997 and IS 5522 into IS 5522 | MTD 16 : WG1 Revision to merge IS 15997 and IS 5522 into IS 5522 | Committee accept the proposal |
| **ii** | MTD 16 : P2 New Standard on tri-ply and 5ply clad material | May be disbanded as the standard was published. No specific comments were recieved. |
| **iii** | MTD 16 : P3 Revision of IS 4368 | MTD 16 : WG2 Revision of IS 4368 |
| **v** | MTD 16 : P5 Revision of IS 11169 (Part 1) | MTD 16 : WG3 Revision of IS 11169 (Part 1) |
| **vi** | MTD 16 : P7 Revision of IS 5517 | MTD 16 : WG4 Revision of IS 5517 |
| **vii** | MTD 16 : P10 Adding grade 410DB to IS 6911 | MTD 16 : WG5 Adding grade 410DB to IS 6911 |
| **viii** | MTD 16 : P11 IS 963:1958 Specification for chrome molybdenum steel bars and rods for aircraft purposes | MTD 16 : WG6 IS 963:1958 Specification for chrome molybdenum steel bars and rods for aircraft purposes |
| **ix** | MTD 16 : P12 Induction tempered wire for spring Steels | MTD 16 : WG7 Induction tempered wire for spring Steels |
| **x** | MTD 16 : P13 Armor Steel | May be disbanded as panel decided to drop the documents |
| **xi** | MTD 16 : P14 Panel for revision of IS 12045 | MTD 16 : WG8 Panel for revision of IS 12045 |
| **xii** | MTD 16 : P15 stainless steel for razor blades | MTD 16 : WG9 stainless steel for razor blades |
| **xiii** | MTD 16 : P16 Formulation of standard on stainless steel for structural applications | MTD 16 : WG10 Formulation of standard on  stainless steel for structural applications |
| **xiv** | MTD 16 : P17 Alloy steel for defense sector | MTD 16 : WG11 Alloy steel for defense sector |

## 10.1.3 Documents under development received from ISO

**1) ISO/TC 17/SC 4** : Heat treatable and alloy steel Documents under development:

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| **Sl. No.** | **Document number** | **Background** | **Action taken** | **Decision of the committee** |
| 1. | ISO 683-3:2022/AWI Amd 1 — Heat-treatable steels, alloy steels and free-cutting steels — Part 3: Casehardening steels —  Amendment 1 | ISO 683-3 case hardening steels is being taken up for revision.  The Committee nominated the following as experts for revision of ISO 683-3:   1. Dr Dipti (IGCAR) 2. Shri Anshuman   (Schaeffler)   1. Shri Shashi Bhushan   Prasad (Tata Steel) | An email is sent on 10 Oct 2024 to the panel to give their views/ recommendations. Panel informed that, they will be providing information. Recommendations are still awaited. | Committee requested nominated expert to review the standard and give your inputs at the end of Oct 2024. |

**10.4 ISO Ballots during 2024 to 2025:**

Following ballots received from the committee:

1. **ISO/TC 17 /SC 4**  : Heat treatable and alloy steel (**‘P’ – Member )**

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| Sl. No. | Type | Reference | Voting | | Decision of the committee |
| Start Date | End Date |
| 1 | SR | **ISO 15510:2014** Stainless steels — Chemical composition | 15-07-2024 | 02-12-2024 | Nominating expert from JSL, Hisar & SAIL, Salem |
| 2. | SR | **ISO 16143-1:2014** Stainless steels for general purposes — Part 1: Corrosion-resistant flat product | 15-07-2024 | 02-12-2024 | Nominating expert from JSL, Hisar & SAIL, Salem |
| 3. | SR | **ISO 16143-2:2014** Stainless steels for general purposes — Part 2: Corrosion-resistant semi-  finished products, bars, rods and sections. | 15-07-2024 | 02-12-2024 | Nominating expert from Viraj, MIDHANI & Mukund. |
| 4. | SR | **ISO 16143-3:2014** Stainless steels for general purposes — Part 3: Wire | 15-07-2024 | 02-12-2024 | Nominating expert from Viraj, MIDHANI & Mukund. |

1. **ISO/TC 17 /SC 4**  : Heat treatable and alloy steel (**‘P’ – Member )**

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| Sl. No. | Type | Reference | Voting | | Decision of the committee |
| Start Date | End Date |
| 1 | SR | **ISO 10679:2019** Steels — Cast tool steels | 15-07-2024 | 02-12-2024 | Nominating expert from MIDHANI & L&T. |

**13.2.1** R&D projects approved by Internal screening committee of BIS and their progress:

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| **Sl. No** | **Project** | **Current status** | **Decision of the committee** |
| 1. | Study of quality requirements of grades of Hot-rolled and cold-rolled Stainless  Steels used for structural purposes | 9 Proposals received and Screening committee had shortlisted Dr. Jay Praksh murugesh of IIT Indoor. Total Project cost is **Rs. 8.52 lacks**.  Further, An amount of Rs. 230040 is released as 1st instalment. | Working Group of IS 5522 & IS 15997 will look after the progress of report. |
| 2. | IS 3261:1980 - Study of quality requirements of carbon steel forgings for shipbuilding industry. | 3 Proposals received and Screening committee Screening committee had shortlisted Dr Kuntal Maji, NIT Jamshedpur. Total Project cost of Rs. 9 lacks.  However, funding is not released. | Formulated the working group which look after the progress of report.   1. Bharath Forge 2. L&T Specialty 3. MIDHANI |

**ANNEXURE-I**

**(Item 2.1)**

**ACTION TAKEN REPORT**

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| **Sl No** | **Subject** | **Decision of the committee** | | |
| **(1)** | **(2)** |  | | |
| 1 | Amendment No.2 to IS 15997:2012 *Low Nickel Austenitic Stainless Steel Sheet and Strip for Utensils and Kitchen Appliances— Specification*  **MTD 16 24625** | Committee noted the information | | |
| 2 | Revision of IS 6528:1995 *Stainless Steel Wire* | Committee noted the information | | |
| 3 | 1. Inclusion of grades J-1 and J-3 in IS 6911:2017   Stainless steel plate, sheet and strip  **MTD 16 (24809)** | Committee noted the information | | |
| 4 | ii) Amendment for adding grade 410 DB and 420S4 to IS 6911:2017 *Stainless steel plate, sheet and strip* | Email to TED/MED for the mechanical testing of the grades recently added.  Make single grade for 420S1 - 420S4 and 410 DB may included after consulting Disk brake manufacturers. | | |
| 6 | Revision of IS 5517:1993 *Steel for hardening and tempering* | Formulated the working group of following members:  Phani Kishore of M/s MIDHANI  M/s Sunflag  M/s Scffler | | |
| 8 | Revision of IS 12045:1987 *Specification for alloys used in electrical resistance metallic heating elements* | Raman Sankaranarayanan has been included in the working group.  Before 2 month the working group will review the standard and give their inputs. | | |
| 9 | Changes to IS 4398:1994 *Carbon - Chromium steel for the manufacture of balls, rollers and bearing races – Specification*  IS 17111/ISO 683-17 : 2023 – *‘Heat-Treatable Steels, Alloy Steels and Free-Cutting Steels — Part 17: Ball and Roller Bearing Steels’* | Send for printing | | |
| 10 | Amendments to 09 IS to update cross reference standards:  IS 2004:1991  IS 9683:1980  IS 4367:1991  IS 12390:1988  IS 12391:1988  IS 12549: 1988  IS 12881:1990  IS 12882:1990  IS 12836:1989 | Committee noted the information. | | |
|  | IS 5522 : 2014 Stainless steel sheets and strips for utensils - Specification (Third Revision) | IS 5522 & IS 15997 will be merged into IS 15997  Committee decided to send Amendment no.3 for WC for 1 month. | | |
| 11 | Formulation of new standard for the product Induction Tempered Spring Steel Wire. | ToR will be prepared by member secretary and float through the portal. | | |
| 12 | Formulation of New Standard on Armour Steel. | Drop from the formulation of the new standards. | | |
| 13 | Review of Pre-2000 Standards  (ARP received)  i) IS 12146 : 1987 Specification for carbon manganese steel forgings for pressure vessels  BIS officer Vipul Bohara was reviewed the standard as ARP and submitted on 15 Aug 2021.  Accordingly draft document was prepared by Arun Pucchakayala.  Typed document was prepared by member secretary and placed below:    Awaited for the recommendation/suggestion/proposal for the change   1. IS 2611: 1964 & IS 9683 to be merged into IS 2611 : 1964 in line with BS EN 10222-2.   BIS officer Challakonda Vidisha was reviewed the standard as ARP and submitted on 15 Aug 2021.  Yet to be prepared the Draft document.   1. IS 12145 : 1987 Specification for carbon manganese steel forgings for pressure vessel   BIS officer Pyla Deshick was reviewed the standard as ARP and submitted on 02 March 2023.  Amendment of IS 12145 has been published on 02-07-2024.  Yet to be prepared the Draft document.   1. IS 4431 : 1978 Specification for carbon and carbon manganese free cutting steels (First Revision)   BIS officer V Ramesh was reviewed the standard as ARP and submitted on 16 Sept 2021.  Typed document was prepared by member secretary but the recommendation from the sunflag and Mukand still awaited.  IS 9516 : 1980 Specification for heat resisting steels  BIS officer Beauty Kumari Jha was reviewed the standard as ARP and submitted on 15 Sept 2021.  Draft document/recommendation was pending from JSL & Star wire.   1. IS 11946 : 1987 Specification for soft magnetic iron strips   BIS officer Ramakanth Sagar Muthlaya was reviewed the standard as ARP and submitted on 04 March 2022.  Draft document yet to be prepared.   1. IS 11947 : 1987 Specification for soft magnetic iron rods, bars, flats and sections.   BIS officer Saurabh Verma was reviewed the standard as ARP and submitted on 23 Jan 2022.  Draft document yet to be prepared.   1. IS 11952 : 1986 Specification for steels for piston pins   BIS officer Harsh Sonkar was reviewed the standard as ARP and submitted on 26 Nov 2023.  Draft document yet to be prepared. | Sl. No. | Title | Nominated experts |
|  | IS 12146 : 1987 | Sager  Anmol Dange of M/s L&T |
|  | IS 2611 & IS 9683 |  |
|  | IS 12145 | Sager  Anmol Dange of M/s L&T |
|  | IS 4431 | M/s Sunflag  M/s Mukund |
|  | IS 9516 | JSL, Hisar |
|  | IS 11946, IS 11947 & IS 11952 |  |
| 14 | Proposal to develop an Indian Standard *on Higher-Strength Stainless Steel Plate, Sheet and Strip for Bridge and Other Structural Applications- Specification.* | Formulate the working group of following member list.   1. ISSDA (Convenor) 2. RDSO -Lucknow (need nomination) 3. SAIL-SSP 4. Jindal stainless 5. Viraj Profile | | |
| 15 | IS 14698:1999  Carbon and low alloy steel billets, blooms, slabs and bars for manufacture of shell bodies and proof shots used in defence services – Specification | Formulate the working group. List the working group are as follows:   1. MIDHANI 2. Star wire 3. TATA Steel long product (Convenor) | | |
| 16. | IS 11169 (Part 1) : 2022  Specification for steels for cold heading or cold extrusion applications: Part 1 wrought carbon and low alloy steels | Formulate the working group. List the working group are as follows:   1. MIDHANI(Convenor) 2. Sundaram fasteners 3. Other relevant companies to be collected from ISSDA 4. TATA Steel long product | | |
| 17. | IS 3748 : 2022  Tool Steels - Specification | Formulate the working group. List the working group are as follows:   1. MIDHANI(Convenor) 2. Bharath Forge 3. Sun flag 4. L&T. | | |