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# BUREAU OF INDIAN STANDARDS

***MINUTES***

**PAPER BASED PACKAGING MATERIALS SECTIONAL COMMITTEE, CHD 16**

**18th Meeting**

**Special Meeting for deciding Indian Delegation for ISO/TC 6 and ISO/TC 6/SC 2 meetings**

Day and Date : **Tuesday, 29th October 2024**

Time : **1100 h**

Mode of meeting : **Virtual**

Venue of meeting : **BIS, Manak Bhawan, 9 BSZ Marg, New Delhi**

**CHAIRPERSON :** Prof. (Dr.) Tanweer Alam, Additional Director & R.O., Indian Institute of Packaging, New Delhi

**MEMBER-SECRETARY:** Virendra Singh, Scientist — ‘E’, Chemical Department, BIS

**Members Present:**

|  |  |  |
| --- | --- | --- |
| **SI No.** | **Organization** | **Member Name/ represented by** |
|  | B&A Packaging India Limited, Kolkata | * Shri Tapan Kr. Chand * Shri Pankaj Kumar Mohapatra |
|  | Central Pulp and Paper Research Institute, Saharanpur | * Shri Alok Kumar Goel |
|  | Century Pulp and Paper Mills, Nainital | * Shri. Hem Chandra Joshi |
|  | Consumer Guidance Society of India, Mumbai | * Dr Sitaram Dixit |
|  | Department For Promotion of Industry and Internal Trade, New Delhi | * Shri Rajesh Rawat |
|  | Dr. Reddy's Laboratory, Hyderabad | * Shri Avinash Kumar Talwar |
|  | Federation Of Corrugated Box Manufacturers of India, Mumbai | * Shri K P Singh * Shri Alok Kumar Gupta |
|  | Federation Of Paper Converters of India, New Delhi | * Shri Mukesh Gupta |
|  | ITC Life Sciences and Technology Centre, Bengaluru | * Shri Ajith Kumar |
|  | ITC Limited, Paperboards and Specialty Papers Division, Bhadra chalam. | * Shri P.N. Sridhar * Shri Mohammed Gouse |
|  | Indian Argo and Recycled Paper Mills Association, New Delhi | * Dr. Bipin Prakash Thapliyal * Dr. Anil Naithani |
|  | Indian Institute of Packaging, New Delhi | * Shri Tushar Bandyopadhyay * Shri Subodh K Juikar * Shri Sourabh Ghosh |
|  | Indian Institute of Technology Roorkee, Roorkee | * Dr. Kirtiraj K. Gaikwad |
|  | Indian Paper Manufacturers Association, New Delhi | * Shri Rohit Pandit |
|  | J K Paper Limited, New Delhi | * Shri Umakant Patil |
|  | Nestle India Limited, Gurugram | * Shri Deepak Singh * Shri Ajay Rajvanshi |
|  | Package Design Research and Test Lab, Lucknow | * Shri L.M. Gupta |
|  | Parksons Packaging Limited, Mumbai | * Shri Srikanth Ramamurthy * Shri Ranjan Sinha |
|  | Prem Industries, New Delhi | * Shri H P Singh |
|  | Rail India Technical and Economic Service, Gurugram | * Smt Malini Saha |
|  | Tetra Pak India Private Limited, Gurugram | * Shri Bobby Johnson |
|  | Unflex Limited, Noida | * Shri Rakesh Sharma |

# WELCOME AND OPENING REMARKS

# WELCOME BY BIS

On behalf of BIS, Shri Virendra Singh extended a warm welcome to the Chairperson, Prof. (Dr.) Tanweer Alam, Additional Director & R.O., Indian Institute of Packaging, New Delhi and all members of the CHD 16 present for 18th meeting of the committee.

# OPENING REMARKS BY THE CHAIRMAN

Prof. (Dr.) Tanweer Alam, Additional Director & R.O., Indian Institute of Packaging, New Delhi extended a warm welcome to the members in the meeting. He mentioned that though it was on a very short notice, the meeting is convened to discuss a very important subject i.e. participation in ISO meetings as of late India has been actively contributing at the international level. He requested members to feel free to share their comments and inputs during the discussion.

1. **Meetings of ISO/TC 6 and ISO/TC 6/SC 2**

During the 18th meeting, the committee noted that in the recent meetings of CHD 15 and CHD 16, participation in the upcoming meetings of ISO/TC 6, along with its subcommittee and working groups, have been discussed. ISO TC 6, Subcommittee 2 and its Working Group meetings are scheduled to take place during 26 to 29 November 2024 in Beijing, China in Hybrid mode.

Recognizing that India’s participation in these meetings would provide an excellent opportunity to represent Indian perspectives on key issues, the committee decided that an Indian delegation should attend the meetings in virtual mode. It was further decided that the Indian delegation will be finalized nearer to the meeting.

During the 34th meeting of CHD 15 held on 23rd Oct 2024, the committee reviewed the detailed agenda and working documents received for the ISO/TC 6 meeting, as provided below:

  

And, the agenda received for the ISO TC 6/ SC 2 meeting, given below:



Additionally, the committee noted that the following WGs have also planned meetings in near future or along with ISO TC 6 plenary meetings:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Sl. No.** | **Reference** | **Title** | **Type** | **Meetings dates** |
|  | ISO/TC 6/CAG | Chair’s Advisory Group | WG | **25th Nov – 29th Nov 2024** |
|  | ISO/TC 6/TG 2 | Identification of Organizations - Environmental issues | WG |
|  | ISO/TC 6/WG 3 | Optical properties | WG |
|  | ISO/TC 6/WG 14 | Recycling | WG |
|  | ISO/TC 6/SC 2/WG 25 | Surface roughness | WG |
|  | ISO/TC 6/SC 2/WG 27 | Tissue test methods | WG |
|  | ISO/TC 6/SC 2/WG 30 | Tensile properties | WG |
|  | ISO/TC 6/SC 2/WG 39 | Joint ISOTC 6/SC 2 - ISO/TC 130 WG: Printability testing | WG |
|  | ISO/TC 6/SC 2/WG 45 | Corrugated fibreboard test methods | WG |
|  | ISO/TC 6/SC 2/WG 49 | Barrier properties | WG |
|  | ISO/TC 6/SC 2/WG 50 | Sampling | WG |

The committee also noted that the following members are registered on the above-mentioned groups of ISO TC 6:

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Sl. No.** | **Reference** | **Title** | **Type** | **Nominated experts** | **Email address** |
|  | ISO/TC 6 | Paper, board and pulps | TC | Shri B. Dass, IPMA | [biswaranjan.dash@jkmail.com](mailto:biswaranjan.dash@jkmail.com) |
|  | ISO/TC 6/CAG | Chair’s Advisory Group | WG | Dr Mahendra Patel, In Personal Capacity | [industrypaper@yahoo.co.uk](mailto:industrypaper@yahoo.co.uk) |
|  | ISO/TC 6/TG 2 | Identification of Organizations - Environmental issues | WG | Shri B P Thapliyal, IARPMA | [sg@iarpma.org](mailto:sg@iarpma.org) |
| Shri Vijay Kumar, INMA | [sg@inma.org.in](mailto:sg@inma.org.in) |
| Mr Mohammed Gouse, ITC |  |
|  | ISO/TC 6/WG 3 | Optical properties | WG | Shri B P Thapliyal, IARPMA | [sg@iarpma.org](mailto:sg@iarpma.org) |
| Dr. Sanjay Tyagi, CPPRI | [styagi.cppri@gmail.com](mailto:styagi.cppri@gmail.com) |
| *Mr. Sanjay Kumar Yadav* | [*sanjay.ky@adityabirla.com*](mailto:sanjay.ky@adityabirla.com) |
|  | ISO/TC 6/WG 14 | Recycling | WG | Shri Vijay Kumar | [sg@inma.org.in](mailto:sg@inma.org.in) |
| Dr R C Rastogi | [rcr0309@gmail.com](mailto:rcr0309@gmail.com) |
| Mr Mohammed Gouse, ITC |  |
| Mr Avinash Talwar, Dr. Reddy’s Lab |  |
| Mr K. P. Singh, FCBM |  |
|  | ISO/TC 6/SC 2 | Test methods and quality specifications for paper and board | Sub committee | Shri B. Dass, IPMA | [biswaranjan.dash@jkmail.com](mailto:biswaranjan.dash@jkmail.com) |
|  | ISO/TC 6/SC 2/WG 25 | Surface roughness | Working group | Dr. Sanjay Tyagi, CPPRI | [styagi.cppri@gmail.com](mailto:styagi.cppri@gmail.com) |
| Dr Alok K Goel, CPPRI | [akgoel\_cppri@rediffmail.com](mailto:akgoel_cppri@rediffmail.com) |
|  | ISO/TC 6/SC 2/WG 27 | Tissue test methods | WG | *Mr. Sanjay Kumar Yadav* | [*sanjay.ky@adityabirla.com*](mailto:sanjay.ky@adityabirla.com) |
|  | ISO/TC 6/SC 2/WG 30 | Tensile properties | WG | -------- | -------- |
|  | ISO/TC 6/SC 2/WG 39 | Joint ISOTC 6/SC 2 - ISO/TC 130 WG: Printability testing | WG | Dr. Sanjay Tyagi, CPPRI | [styagi.cppri@gmail.com](mailto:styagi.cppri@gmail.com) |
|  | ISO/TC 6/SC 2/WG 45 | Corrugated fibreboard test methods | WG | Dr. Sanjay Tyagi, CPPRI | [styagi.cppri@gmail.com](mailto:styagi.cppri@gmail.com) |
| Dr R C Rastogi | [rcr0309@gmail.com](mailto:rcr0309@gmail.com) |
|  | ISO/TC 6/SC 2/WG 49 | Barrier properties | WG | *Mr. Sanjay Kumar Yadav* | [*sanjay.ky@adityabirla.com*](mailto:sanjay.ky@adityabirla.com) |
|  | ISO/TC 6/SC 2/WG 50 | Sampling | WG | -------- | -------- |

Current status of various ISO standards that are either in development or would require revision, is given below:



Considering the above, during 34th meeting of CHD 15, the committee *finalized the following Indian delegation for participation in the ISO TC 6 and SC 2 meeting, scheduled to be held from 26th to 29th November 2024 in Beijing, China through virtual mode:*

1. *Dr Ashish Kumar, Director, CPPRI & Chairperson CHD 15 (HoD)*
2. *Dr. Bipin Prakash Thapliyal, Indian Agro and Recycled Paper Mills Association, New Delhi*
3. *Mr. Sanjay Kumar Yadav, Century Pulp and Paper Mills, Nainital*
4. *Dr. F. Amjath Khan, Tamil Nadu Newsprint and Papers Limited, Chennai*
5. *Dr. Rajiv Jha, Consumer Voice, New Delhi*
6. *Mr. Virendra Singh, Member Secretary CHD 16*

As CHD 16 is also liaising with ISO TC 6 and ISO TC 6/SC, the committee considered the agenda, Indian delegation nominated by CHD 15 and finalized the following additional Indian delegation for participation in the ISO TC 6 and ISO TC 6/SC plenary meeting:

1. *Prof (Dr.) Tanweer Alam,* ***Chairperson CHD 16***
2. *Mr. Mukesh Gupta, Federation of Paper Converters of India, New Delhi*
3. *Shri L.M. Gupta, Package Design Research and Test Lab, Lucknow*
4. *Dr. Anil Naithani, Indian Agro and Recycled Paper Mills Association, New Delhi*
5. *Mr. K P Singh, Federation of Corrugated Box Manufacturers of India, Mumbai*
6. *Shri P.N. Sridharr, ITC Limited, Paperboards and Specialty Papers Division, Bhadrachalam*
7. *Shri Mohammed Gouse, ITC Limited, Paperboards and Specialty Papers Division, Bhadrachalam*

It was further decided that a briefing meeting will be held on 20 November in the afternoon to discuss the main key points regarding the upcoming ISO/TC 6 and ISO/TC 6/SC meetings.

The committee also requested members to indicate their areas of interest for participations in the working groups meeting along with the project details latest by 05th November, 2024.

1. **REVISION OF IS 4006 (PART 1, 2 and 3) – reg**

During the 18th meeting, the committee noted that during 12th meeting held on 9th December 2022, the committee had finalized these documents for publication. During the proof stage, BIS Secretariat had certain observations regarding some of test methods already covered in other Indian Standards which would lead to confusion among the users as which method has to be referred to.

BIS Secretariat identified some of the standards (national or international) that may be conflicting with the provisions given in these documents. Hence, a Panel was created to review these documents so as to ensure that relevant method of tests have been indicated in the standards.

During the discussions, the panel members commented that IS 4006 series is widely used by the industry and testing laboratories and therefore these standards should be retained as it. It was clarified that the objective is to remove the conflicting test methods for which dedicated standards have been formulated and not to discard the series/ standards.

The observations of BIS Secretariat are given below:

|  |  |  |  |
| --- | --- | --- | --- |
| Sl. No. | Reference | Requirement | Observations |
|  | IS 4006 (Part 1)  Methods of Test for Paper and Pulp Based Packaging Materials  Part 1 Flexural Resistance and Deflection, Waterproofness, Water Penetration, Grease Resistance, Abrasion Loss, Blocking Resistance, Compression Resistance, Rigidity, Stiffness and Softness; and Air Permeance | Flexural resistance and deflection | 1. ISO 2493-1:2010 Paper and Board – determination of bending resistance – Part 1 Constate rate of deflection exists 2. ISO 2493-2:2020 Paper and Board – Determination of resistance to bending – Part 2 Taber type tester has been identically adopted under dual numbering as IS 1060 Part 5/ Sec 8 |
| Water penetration | 1. ISO 5633:1983Paper and board — Determination of resistance to water penetration exists |
| Grease resistance | The current standard covers Turpentine method. ISO has formulated three standards for determination of grease resistance   1. ISO 16532-1:2008 Paper and board — Determination of grease resistance — Part 1: Permeability test 2. ISO 16532-2:2007 Paper and board — Determination of grease resistance — Part 2: Surface repellency test 3. ISO 16532-3:2010 Paper and board — Determination of grease resistance — Part 3: Turpentine test for voids in glassine and greaseproof papers |
| Compression resistance | The compression resistance test covers ring crush method.   1. ISO 12192:2011 Paper and board — Determination of compressive strength — Ring crush method |
| Rigidity, stiffness and softness | For these requirements, methods are given to cover the following:   * Method A Paper & light weight paper board * Method B paper board   ISO has formulated the following standards for these requirements:   1. ISO 5628:2019 Paper and board — Determination of bending stiffness — General principles for two-point, three-point and four-point methods 2. ISO 5629:2017 Paper and board — Determination of bending stiffness — Resonance method |
| Air permeance | The current document considers only one method for testing air permeance. However, BIS has the following 3 Indian Standards for air permeance that are identical adoption of relevant ISO dual numbering:   1. IS 1060 (Part 5/Sec 11) : 2021/ ISO 5636-3:2013 Method of Sampling and Test for Paper and Allied Products Part 5 Method of Test for Paper and Board Section 11 Determination of air permeance Medium Range-Bendtsen method 2. IS 1060 (Part 5/Sec 13) : 2021/ ISO 5636-4:2013 Paper And Board -- Determination Of Air Permeance And Air Resistance Medium Range --Part 5 Method Of Test For Paper And Board Section 13 Sheffield Method 3. IS 1060 (Part 5/Sec 14) : 2014/ ISO 5636-5 : 2013 Methods of sampling and test for paper and allied products: Part 5 methods of test for paper and board: Sec 14 determination of air permeance and air resistance (Medium Range) - Gurley method   Further, ISO has one more standard ISO 5636-6:2015 Paper and board — Determination of air permeance (medium range) — Part 6: Oken method for air permeance.  Additionally, IS 9894:1981 ‘Method of test for smoothness/ roughness of paper’ do exist. |
|  | IS 4006 (Part 2)  Methods of Test for Paper and Pulp Based Packaging Materials  Part 2 Odour, Ply separation, Puncture, and Reducible Sulphur | Puncture | The test for puncture is done using pendulum device.   1. ISO 3036:1975 Board — Determination of puncture resistance exists which is being revised and the revised document in under DIS stage. Title of the standard will be **Board — Determination of puncture resistance using a pendulum device** |
|  | IS 4006 (Part 3)  Methods of Test for Paper and Pulp Based Packaging Materials  Part 3  Arsenic, Total Copper, Total Iron, Water Soluble Copper and Water-Soluble Iron | Total Copper, Total Iron, Water Soluble Copper and Water-Soluble Iron | ISO 12830:2019 ‘Paper, board, pulps and cellulose nanomaterials — Determination of acid-soluble magnesium, calcium, manganese, iron, copper, sodium and potassium’ has been adopted identically as IS 1060 Part 4/Sec 11 |

During the discussion, the Working Group noted that in certain case, separate Indian Standards or relevant ISO standards exist for some of the methods given in these standards. The Working Group deliberated as to whether these ISO standards should be adopted as Indian Standards and decided to take a call after assessing their suitability for Indian conditions. As, the adoption of ISO standards is expected to take time, we may process the above-mentioned documents as such.

Further, to avoid confusion and redundancy, where an existing Indian Standard provides the same test method, it should be removed from the above-mentioned documents. Retaining duplicate methods can lead to ambiguity among users and unnecessary duplication of efforts.

The Working Group also invited Mr. Ajith Kumar from ITC R&D Centre to share his views.

**Specific issues discussed:**

1. **Flexural Resistance and Deflection Testing**

* BIS has published IS 1060 (Part 5/ Sec 8) for determining resistance to bending using a Taber Type Tester.
* IS 4006 (Part 1) also provides methods for testing flexural resistance and deflection.

**Recommendation:** Since flexural resistance and resistance to bending are not the same, and 1060 (Part 5/ Sec 8) does not cover deflection resistance, the method given in IS 4006 (Part 1) should be retained.

1. **Air Permeance Testing**

IS 4006 (Part 1) recommends using the Bendsten apparatus for air permeance testing.

BIS has also published the following standards for air permeance testing:

* IS 1060 (Part 5/Sec 11): 2021 (ISO 5636-3: 2013) – Bendsten Method
* IS 1060 (Part 5/Sec 13): 2021 (ISO 5636-4: 2013) – Sheffield Method
* IS 1060 (Part 5/Sec 14): 2014 (ISO 5636-5: 2013) – Gurley Method

**Recommendation:** Since IS 1060 (Part 5/Sec 11): 2021 provides a method for air permeance using the Bendsten method and aligns with ISO standards, the method given in IS 4006 (Part 1) for determination of air permanence should be dropped.

1. **Methods for testing Total Copper and Iron**

IS 4006 (Part 3) provides methods for testing Total Copper, Total Iron, Water-Soluble Copper, and Water-Soluble Iron.

IS 1060 (Part 4/Sec 11), currently under revision, also provides methods for testing acid-soluble copper and iron.

**Recommendation:** As acid-soluble methods are preferred for their accuracy, the methods given in IS 4006 (Part 3) for determination of Acid Soluble iron and copper should be dropped.

The Working Group noted that the referred three Indian Standards are currently in the publication stage. During the processing of these documents, it was noted that separate Indian Standards exist for some of the methods given in these standards.

**After deliberations, the working group recommended as given below:**

1. **Flexural resistance:** Retain the method in IS 4006 (Part 1) for flexural resistance and deflection.
2. **Air permeance:** Drop the method from IS 4006 (Part 1) as this has been covered in IS 1060 (Part 5/Sec 11): 2021.
3. **Acid soluble Copper and iron:** Retain the methods given in IS 4006 (Part 3) for water soluble methods.

Additionally, the Working Group recommended that the given ISO Standards related to test methods be adopted identically under dual numbering. This would enable alignment with internationally accepted test methods and facilitate mutual trade:

1. ISO 5633:1983 Paper and board — Determination of resistance to water penetration
2. ISO 16532-1:2008 Paper and board — Determination of grease resistance — Part 1: Permeability test
3. ISO 16532-2:2007 Paper and board — Determination of grease resistance — Part 2: Surface repellency test
4. ISO 16532-3:2010 Paper and board — Determination of grease resistance — Part 3: Turpentine test for voids in glassine and greaseproof papers
5. ISO 12192:2011 Paper and board — Determination of compressive strength — Ring crush method
6. ISO 5628:2019 Paper and board — Determination of bending stiffness — General principles for two-point, three-point and four-point methods
7. ISO 5629:2017 Paper and board — Determination of bending stiffness — Resonance method
8. ISO 3036:1975 Board — Determination of puncture (***Under DIS stage***)

As there was no change required in IS 4006 (Part 2 & 3), the documents have been processed for publication. A decision is required w.r.t. IS 4006 (Part 1).

Keeping the above in view, CHD 16 endorsed the action taken w.r.t. IS 4006 (Part 2 & 3) and accepted the recommendation of Working Group w.r.t to IS 4006 (Part 1) and adoption of ISO standards.

BIS Secretariat was advised to process the IS 4006 (Part 1) further for publication after dropping the method for Air Permeance since it has already been covered in IS 1060 (Part 5/Sec 11): 2021.

Further, the committee approved the adoption of the following ISO standards related to test methods under dual numbering to align with internationally accepted test methods and facilitate mutual trade:

1. ISO 5633:1983 Paper and board — Determination of resistance to water penetration
2. ISO 16532-1:2008 Paper and board — Determination of grease resistance — Part 1: Permeability test
3. ISO 16532-2:2007 Paper and board — Determination of grease resistance — Part 2: Surface repellency test
4. ISO 16532-3:2010 Paper and board — Determination of grease resistance — Part 3: Turpentine test for voids in glassine and greaseproof papers
5. ISO 12192:2011 Paper and board — Determination of compressive strength — Ring crush method
6. ISO 5628:2019 Paper and board — Determination of bending stiffness — General principles for two-point, three-point and four-point methods
7. ISO 5629:2017 Paper and board — Determination of bending stiffness — Resonance method
8. ISO 3036:1975 Board — Determination of puncture (***Under DIS stage***)

# NEXT TECHNICAL COMMITTEE MEETINGS

In the meeting the committee decided that the next meeting will be held on 07th December, 2024 in Chennai along with Peperex South India.

# ANY OTHER BUSINESS

Under this agenda item, BIS Secretariat informed that as decided in the previous meeting, *‘Paper based packaging materials for food and beverages serving’* related document has been issued into wide circulation and a stakeholder consultation is being held on 14th November 2024 in hybrid mode. Members were requested to share this information with the relevant stakeholders and encourage them for their participation and contribution in stakeholder consultation.

# VOTE OF THANKS

There being no other issues to discuss, the meeting concluded with a warm vote of thanks to the Chairperson, and thanked to all members who attended.

[**Annex 1**](#_The_current_composition)

**SCOPE and COMPOSITION of *PAPER BASED PACKAGING MATERIALS SECTIONAL COMMITTEE*, CHD 16**

**SCOPE:**

1. *To formulate standards on terminology, methods of sampling and test, codes of practice and specifications for Paper & Paper board (coated and uncoated) used for Packaging and Serving application; Paper based packaging materials (converted and treated/coated) like cartons, trays, sacks, bags, boxes, paper based Intermediate Bulk Containers, Paper & Paper based Aluminium foil and/or multi-layered laminates, Paper based multilayer composite cartons, Paper based food and beverage accessories.*

1. *To coordinate with the work of ISO/TC 6*

**Liaison:**

1. ISO TC 6 – Paper, Board and Pulp — Principle (P)

**Details of Last Three Meetings:**

|  |  |  |
| --- | --- | --- |
| **Meeting** | **Date** | **Place** |
| **16th** | 24-05-2024 | Physical Meeting (Delhi — BIS HQ) |
| **17th** | 06-09-2024 | Physical meeting (IIP Delhi) |
| **18th** | 29-10-2024 | Virtual Meeting (New Delhi, India) |

**Chairperson: Prof. (Dr.) Tanweer Alam,** Additional Director & R.O, Indian Institute of Packaging, New Delhi

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***COMPOSITION***

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Sl.**  **No.** | **Name of the Organization** | **Principal/Alternate**  **Member** | **Member Email / Member Alternate Email** | **Mobile No.** | **Meetings attended** | | | |
| **16th** | **17th** | **18th** | **Total** |
|  | B&A Packaging India Limited, Kolkata **(I)** | Shri Amal Kumar Mohanty (P) | [akmohanty@bampl.in](mailto:akmohanty@bampl.in) | 7064455746 | A | A | P | **1/3** |
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| Mr. Pankaj Kumar Mohapatra | [Pankaj@bampl.com](mailto:Pankaj@bampl.com) | 7064455742 |
|  | Central Pulp and Paper Research Institute, Saharanpur **(R&D)** | Dr. Sanjay Tyagi (A) | [styagi.cppri@gmail.com](mailto:styagi.cppri@gmail.com) | 9412479054 | A | P | P | **2/3** |
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| Shri. Hem Chandra Joshi (A) | [hemchandra.joshi@adityabirla.com](mailto:hemchandra.joshi@adityabirla.com) | 9358193025 |
|  | Consumer Guidance Society of India (CGSI), Mumbai **(U)** | Dr. Sitaram Dixit (P) | [sitaram.dixit@gmail.com](mailto:sitaram.dixit@gmail.com) | 9967607095 | A | L | P | **1/2** |
| Dr M S Kamath (A) | [dr.m.s.kamath@gmail.com](mailto:dr.m.s.kamath@gmail.com) | 9820455858 |
|  | Department for Promotion of Industry and Internal Trade, New Delhi | Mr. Rajesh Rawat | [rajesh.rawat@nic.in](mailto:rajesh.rawat@nic.in) | 9953644844 | C | L | P | **1/2** |
| (Nomination Awaited) |  |  |
|  | Dr Reddy’s Laboratories Ltd **(U)** | Shri Avinash Kumar Talwar (P) | [avinashkt@drreddys.com](mailto:avinashkt@drreddys.com) | 9177004014 | A | P | P | **2/3** |
| Mr. Vinay Kumar Singh (A) | [vsingh@drreddys.com](mailto:vsingh@drreddys.com) | 9000553919 |
|  | Federation of Corrugated Box Manufacturers of India, Mumbai **(IA)** | Shri K P Singh (P) | [vividh\_pack@rediffmail.com](mailto:vividh_pack@rediffmail.com) | 9811693896 | P | P | P | **3/3** |
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|  | Federation of Paper Converters of India, New Delhi **(IA)** | Shri. Mukesh Gupta (P) | [contact@whaleindia.com](mailto:contact@whaleindia.com) | 9810027520 | P | P | P | **3/3** |
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|  | Indian Agro & Recycled Paper Mills Association, New Delhi **(IA)** | Dr. B P Thapliyal (P) | [sg@iarpma.org](mailto:sg@iarpma.org) | 9412233397 | P | P | P | **3/3** |
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|  | Indian Institute of Packaging New Delhi **(R&D)** | Shri. Subodh K Juikar (P) | [subodh.k.juikar@gmail.com](mailto:subodh.k.juikar@gmail.com) | 9910204704 | P | P | P | **3/3** |
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**NOTE: A -** Absent**, P -** Present**, C -** Co-opted**, WD -** Withdrawn

Name of alternate member is indicated in the ‘**(A)**’ whereas of YP with ‘**(YP)**’