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**BUREAU OF INDIAN STANDARDS**

**MINUTES**

**Coir and Coir Products Sectional Committee, TXD 25                                 17th Meeting**

|  |  |  |
| --- | --- | --- |
| **Date (day)** | **Time** | **Venue** |
| 22 July 2024  (Monday) | 1100 h | Through Video Conferencing |

**Attendance:**

|  |  |  |
| --- | --- | --- |
|  | **Dr. Shanmugasundaram O.L, Director (*Chairperson*)** | **Central Institute of Coir Technology, Bengaluru** |
|  | Dr. S Radhakrishnan | Central Coir Research Institute, Kochi |
|  | Smt. Sumy Sebastian | -do- |
|  | Shri Vivek Prasad Shaw | -do- |
|  | Shri P G Todkar | Coir Board, Kochi |
|  | Shri Sajan B Nair | Coir Shippers Councils, Cherthala |
|  | Shri Harirajan | Coir On Foam Products, Noida |
|  | Dr. G Selvakumar | ICAR - Indian Institute of Horticultural Research, Bengaluru |
|  | Dr. D Kalaivanan | -do- |
|  | Shri P. Anil | Kurlon Enterprise Limited, Bengaluru |
|  | Dr. Siby Varghese | Kerla Rubber Limited, Kerala |
|  | Dr Prathesh G Panicker | Kerala state coir corporation Ltd. Alappuzha |
|  | Shri Sunuraj | -do- |
|  | Shri G Sreekumar | -do- |
|  | Assistant Director | National Coir Training and Design Centre, Alappuzha |
|  | Dr Abhishek C. | National Coir Research and Management Institute (NCRMI), Thiruvananthapuram |
|  | Shri Rinu Premraj | -do- |
|  | Shri K Balan | Rajadhani Institute of Engineering and Technology, Thiruvananthapuram |
|  | Dr. Shera Mathew | Rubber Research Institute of India,  Rubber Board Kottayam |
|  | Shri P Mahadevan | Travancore Cocotuft Private Limited, Cherthala |
|  | Prof. K Rajgopal | Andhra university, Visakhapatnam |
|  | Shri Karthikeyan | Tamil Nadu Coir Business Development Corporation (TANCOIR) |
|  | Shri Shiju Nesamony | SFURTI (Coir Cluster) |

**BIS DIRECTORATE GENERAL:**

20. Shri Tanishq Awasthi Bureau of Indian Standards, New Delhi

Scientist B (Textiles), Member Secretary

1. Shri Gopal Tripathi Bureau of Indian Standards, New Delhi

Executive Assistant

**Item 0 WELCOME & INTRODUCTORY REMARKS**

* 1. Shri Tanishq Awasthi, Member Secretary welcomed the Chairman and all the members of the committee.
  2. In the absence of chairperson, Shri J K Shukla, Secretary, Coir Board, the Committee unanimously agreed Shri Shanmugasundaram, Director CCRI to chair the meeting.
  3. **Dr. Shanmugasundaram O L**, Chairman TXD 25 welcomed all the members present in the meeting. He requested all the members for active participation and requested the delegates from industries to keep their active participation in the committee and provide precise inputs on the agenda items to keep standardization activities in the area of Coir and Coir Products Sectional Committee at par with latest industrial practices.

**Item 1 CONFIRMATION OF THE MINUTES OF THE PREVIOUS MEETING**

**1.1** In view of no comments received on accuracy of recording the minutes, the Committee CONFIRMED the minutes of the 16th meeting of the Committee held on 15 September 2023 through CISCO WebEx as circulated vide BISDG letter no. TXD 25/A 2.16 dated 20 October 2023.

**Item 2 COMPOSITION AND SCOPE OF TXD 25**

**2.1** The Committee reviewed the present scope and composition of TXD 25 as given in **Annex 1** to the agenda and DECIDED as under:

1. To co-opt Tamil Nadu Coir Business Development Corporation (TANCOIR), Tamil Nadu in the sectional committee and seek fresh nomination for principal and alternative member from the same.

**Item 3 ISSUES ARISING OUT OF THE PREVIOUS MEETING**

**3.1** The Committee NOTED the summary of actions taken on the various decisions of the 16th meeting as given in **Annex 3** to the agenda.

## Item 4 DRAFT INDIAN STANDARDS FOR FINALIATION

**4.1** The committee scrutinized the comments received from **Dr. G Selvakumar, Principal Scientist, Indian Institute of Horticultural Research, Bengaluru** on **IS 17739 : 2022 Raw Coir Pith — Specification**(*first revision*)as given in **Annex 4** to the agenda.

After detailed deliberation, the committee **DECIDED** to incorporate the following changes in the draft:

(*Page* 2, *Clause* 3.1) — Substitute the following clause for existing

**‘3.1 Raw Coir Pith**

Coir pith containing three major constituent that are cellulose, hemi-cellulose and lignin. Coir pith can be biodegraded to composted coir pith, increasing its nutrient status for application in agriculture/horticulture. Washed or Processed coir pith can be used as a growing substrate for horticultural nurseries and soilless cultivation of a wide range of crops.”

(*Page* 3, *Clause* 5.3, *Table* 1) — Substitute the following table for existing

**Table 1 Requirements of Coir Pith**

(*Clause* 5.3)

|  |  |  |  |
| --- | --- | --- | --- |
| **Sl No.** | **Characteristics** | **Requirement** | **Method of Test, Ref to** |
| (1) | (2) | (3) | (4) |
| i) | pH | 5.0 to 7.0 | Annex B |
| ii) | Electrical Conductivity (EC), dS/m | < 3 | Annex C |
| iii) | Cation Exchange Capacity (CEC), cmol/kg, percent, *Max* | 40 | IS 2720 (Part 24) |
| iv) | Nitrogen, percent, *Min* | 0.1 | IS 6092 (Part 2/Sec 5) |
| v) | Phosphorus, percent, *Min* | 0.01 | IS 5305 |
| vi) | Potassium, percent, *Min* | 0.5 | IS 6092 (Part 4) |
| vii) | Copper, mg/kg, *Min* | 1.5 | IS 3025 (Part 42) |
| viii) | Organic carbon(OC), percent, *Min* | 25 | IS 2720 (Part 22) |
| ix) | Carbon: Nitrogen ratio, *Min* | 110:1 | IS 2720 (Part 22/Sec 1) and IS 6092 (Part 2/Sec 5) |
| x) | Lignin, percent, *Max* | 35 | Annex D |
| xi) | Total Organic Matter (TOM), percent, *Min* | 75 | IS 2720 (Part 22/Sec 2) |
| xii) | Moisture, percent, *Max* | 20 | Annex E |
| xiii) | Ash content, percent, *Max* | 1.5 | Clause 6 of IS 199 |
| xiv) | Water Holding Capacity (WHC), percent, *Max* | 800 | IS 14765 |
| xv) | Porosity, percent | 71 to 78 | IS 2720 (Part 17) |
| xvi) | Sand content, percent, *Max* | 2 | Annex F |

(*Page* 6, *Annex* B, *Clause* B-4.1) — Substitute the following for existing

‘**B-4.1** Weigh 10g air-dried finely crushed coir pith and transfer into 500 ml beaker. Add 200ml of distilled water (*see* **B-1.3**) at 27 °C ± 2°C.’

(*Page* 6, *Annex* B, *Clause* B-5) — Insert the following

‘**B- 5 EXPRESSION OF RESULTS**

**B- 5.1** Calculate the mean of the three readings that agreed and round to the nearest 0.1 of a *p*H unit.

**B- 5.2** Otherwise, specify the temperature at the test is carried out.’

(*Page* 7, *Annex* C, *Clause* C-3.1) — Substitute the following for existing

**C-3.1** Weigh 10g air-dried finely crushed coir pith material and transfer into 500 ml beaker. Add (200 ml) water at 27 °C ± 2 °C. Mix the test sample thoroughly to ensure that it is homogeneous. Let the coir pith soak for 12 h, with occasional stirring.’

(*Page* 7, *Annex* C, *Clause* D-4) — Insert the following

‘**D- 4 EXPRESSION OF RESULTS**

**D- 4.1** Calculate the mean of the three readings that agreed and round to the nearest 1 dS/m of unit.’

The committee further DECIDED that the draft revision of Indian standard IS 17739 on **RAW COIR PITH — SPECIFICATION** (*First revision*) as given in **Annex 4** to the agenda be held to have been FINALIZED for publication as Indian standards after incorporating the above-mentioned changes along with editorial changes, if any.

**4.2** The committee scrutinized the comments received from **Manak Manthan** conductedbyMadurai Branch office, BIS as given in **Annex 6** to the agenda on **Coir Pith Block — Specification** as given in **Annex 7** to the agenda.

After detailed deliberation, the committee **DECIDED** to incorporate the following changes in the draft:

The Unit for measurement of Electrical Conductivity (EC) shall be changed from ‘milli Siemens/meter (mS/m)’ to ‘deci Siemens/meter dS/m.

(*Page* 4, *Clause* 6.3.2) — Substitute the following clause for existing

‘**6.3.2** The weight of the coir pith block when measured using an electronic balance to the nearest 0.1g subject to the tolerance given below in Table 2 for coir pith blocks of weight 650 g and 5 kg. Any other suitable weight as per the agreement between buyer and seller shall be manufactured.’

(*Page* 9, *Annex* B, *Clause* B-4.1) — Substitute the following for existing

‘**B-4.1** Weigh 10g air-dried finely crushed coir pith material and transfer into 500 ml beaker. Add 200 ml of water at (27 ± 2) °C. Mix the test sample thoroughly to ensure that it is homogeneous. Let the coir pith soak for 6 h, with occasional stirring.’

(*Page* 9, *Annex* B, *Clause* B-5) — Insert the following

‘**B- 5 EXPRESSION OF RESULTS**

**B- 5.1** Calculate the mean of the three readings that agreed and round to the nearest 1 dS/m of unit.’

(*Page* 10, *Annex* C, *Clause* C-4.1) — Substitute the following for existing

‘**C-4.1** Weigh 10g air-dried finely crushed coir pith block or equivalent moist material into 500 ml beaker. Add 200 ml of water, so as to maintain a material to water ratio of 1:20. Mix the test sample thoroughly to ensure that it is homogeneous. Let soak for 60 min, with occasional stirring.’

(*Page* 10, *Annex* C, *Clause* B-5) — Insert the following

‘**B- 5 EXPRESSION OF RESULTS**

**B- 5.1** Calculate the mean of the three readings that agreed and round to the nearest 0.1 of a *p*H unit.

**B- 5.2** Otherwise, specify the temperature at the test is carried out.’

The committee further DECIDED that the draft standard on **COIR PITH BLOCK — SPECIFICATION** as given in **Annex 7** to the agenda be held to have been FINALIZED for publication as Indian standards after incorporating the above-mentioned changes along with editorial changes, if any.

**Item 5 RESEARCH AND DEVELOPMENT PROJECT**

**5.1** The committee scrutinized the draft Terms of Reference (ToR) for the proposed research and development project on generation of emperical data for formulation of indian standard on *Coir Garden Articles*. After detailed deliberations the committee finalized the following ToR as given in **Annex 8** to the agenda. The finalized Terms of Reference (ToR) is given as below:

**TERMS OF REFERENCE FOR THE R&D PROJECT**

**[Coir and Coir Products Sectional Committee, TXD 25 under Textiles Department of BIS]**

1. **Title:** Study construction, performance and safety requirements of Coir Garden Articles.
2. **Background:**
   1. Coir garden articles are eco-friendly products made from coconut husks, providing a sustainable alternative for gardening enthusiasts. These articles include items like coir pots, hanging baskets, mulch mats, and plant supports, all crafted from natural coir fibers. They are biodegradable, ensuring that they break down over time without harming the environment. Coir garden articles offer excellent water retention and aeration properties, promoting healthy root growth and plant development. Additionally, these products are lightweight, durable, and versatile, making them a practical choice for gardeners to adopt green practices in their gardening activities.
   2. Coir garden articles come in a variety of types, distinguished by their applications and other parameters, given their growing demand and diverse applications, it becomes essential to formulate the Indian standard for inclusion of all the major varieties of coir garden articles prevailing in the current market scenario.
3. **Objective:** To collect the technical data and scientific evidence for quality, performance and constructional requirement of Coir Garden Articles from primary and secondary sources.
4. **Scope:**
5. Undertake study and analyze the existing literature which include but not restricted to the following:-
6. International and Indian standards and regulation,
7. Journals and research papers,
8. Standard operating procedures (SOPs)/guidelines of Ministry/regulator/users,
9. Studies/research conducted by any organization
10. Any other relevant published information.
11. Collection of the database for manufacturers (small, medium and large-scale), testing infrastructure and users of Coir Garden Articles in the country.
12. Collection of import and export data, type of standards and regulation being followed by domestic/foreign manufacturers, comparative analysis of these standards and regulation.
13. Undertake 2 visits to each of small, medium and large-scale manufacturer and collect the information on the following aspects :-
14. Types of raw material being used
15. Manufacturing process
16. Good manufacturing practice
17. In-process controls being exercised during manufacturing
18. Varieties being manufactured
19. manufactured
20. Standards being followed
21. Testing method being used
22. Testing infrastructure available
23. Post manufacturing quality/in-house data for safety, performance and constructional parameter for all the varieties being manufactured
24. Sampling plan being followed.
25. Marking and labelling of the product. xii) Packaging and storage conditions.
26. Sustainability practices [sustainable raw material, energy efficient processes and methodologies, renewable energy sources, 3Rs (Reduce, Reuse and Recycle), waste management and disposal mechanisms].

Focused group discussions with teams involved in production, testing, and R&D to address quality issues, discuss challenges faced, and gather suggestions for improvement

The feedback from other manufacturers (where visit is not carried out) shall be collected by circulating suitable questionnaire covering above information through email or any other digital means.

1. Undertake 2 visits to users and 2 visits to testing labs (one govt and one private NABL accredited lab) to collect information including but not restricted to the following: -

**User**

1. Standards and regulations being followed
2. Compliance verification mechanism being followed (test certificate from supplier, third party testing)
3. Focused group discussion on quality issues, challenges being faced and suggestions if any.

**Lab**

1. Standards and regulation being followed
2. Testing methods being followed
3. Testing infrastructure
4. Focused group discussion on testing related issues, challenges being faced and suggestion

The feedback from other users and labs (govt and private NABL accredited) where visit is not carried out shall be obtained through suitable questionnaire covering the above information.

1. Collection of 2 samples from each from large, medium and small-scale industries of each type of Coir Garden Article and carry out testing from 2 NABL accredited labs (1 Govt Lab and 1 Pvt. Lab) for parameters used in manufacturing of Coir Garden Articles.
2. Preparation of a comprehensive project report covering all the above information.
3. **Research Methodology**:
4. Collect and analyze the data/information as specified in the scope [4 (a), (b) and (c)].
5. Visit manufacturers, users and labs and collect data/information as specified in the scope [4 (d) and (e)].
6. Collect and test the samples as specified in the scope 4 (f).
7. Analyze the data/information and prepare a comprehensive project report.
8. **Expected Deliverables**:
9. Comprehensive report in soft/hard form of study covering all the aspects detailed in the scope of the R & D project.
10. Questionnaire feedback, testing report, focused group discussion report, other relevant documents and information shall be appended to the project report.
11. **Requirement for the CVs:**

Graduate in Textile Technology/Textile Engineering/Polymer Technology/Agriculture/Horticulture with minimum 2 years of working experience in testing or manufacturing of Coir and Coir Products.

1. **Timeline and Method of Progress Review:** The timeline for the completion of the project is 120 days from the date of award of project.

|  |  |
| --- | --- |
| **Timeline** | **Method of progress** |
| 0 to 30 days | Literature review, desktop study, collection of data and information Note – The sampling plan for visit and collection of samples shall be discussed and finalized with the nodal officer after literature survey and desktop research. |
| 30 to 60 days | **MID-TERM REVIEW**  Visit to manufacturer, user, testing lab and collection of samples |
| 60 to 90 days | Testing of samples (except long duration test with testing time more than 30 days)  preparation and submission of first draft report. |
| 90 to 120 days | Submission of the final project report. |

1. **Support from BIS:**

BIS will provide access to latest available editions of Indian standards and/ or international standards relevant to the project, on request.

1. **Nodal Point**

In case of queries/clarification, nodal officer from BIS Shri Tanishq Awasthi, Scientist B and Member Secretary of TXD 25 may be contacted on [txd@bis.gov.in](mailto:txd@bis.gov.in).

**Item 6 TECHNICAL WORK PROGRAMME OF THE COMMITTEE**

**6.1** The Committee NOTED the list of published standards under TXD 35 as given in **Annex 9** to the agenda.

**Item** **7** **ANY OTHER BUSINESS**

**7.1** The Committee further decided that the issues arising upon IS 8391 Rubberized coir sheets for cushioning (Part 1 to 3) shall be appropriately taken up in the next sectional committee meeting of TXD 25 suitably in due course of time.