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BUREAU OF INDIAN STANDARDS

MINUTES

**Technical Textiles for Agrotech Applications
Sectional Committee, TXD 35**

22nd Meeting

Date	Time	Venue
29 August 2024 (Thursday)	11:00 h	Video Conference through CISCO Webex

ATTENDEES:

1.	Dr. Manisha Mathur (Chairperson)	The Synthetic and Art Silk Mills Research Association, Mumbai
2.	Smt Ashwini Sudam	-do-
3.	Shri Sushant Gupta	Azuka Synthetics LLP, Panchkula
4.	Shri Rakesh Yadav	-do-
5.	Shri Amit Rana	-do-
6.	Dr. Abhilasha	Central Silk Board, Bengaluru
7.	Dr. Brojeswari Das	-do-
8.	Dr. Vihar V Rakhunde	CTM Technical Textiles Limited, Ahmedabad
9.	Dr Swapan Kumar Ghosh	Department of Jute and Fibre Technology, University of Kolkata, Kolkata
10.	Dr. Vijay Ramakrishnan	Garware Technical Fibres Limited, Pune
11.	Shri Sachin P Kulkarni	-do-
12.	Shri Rajendra Ghadge	-do-
13.	Dr Pankaj Sharma	ICAR – National Institute of Biotic Stress Management
14.	Dr. S Sengupta	ICAR-National Institute of Natural Fibre Engineering and Technology (NINFET), Kolkata
15.	Dr. Manoj Khanna	Indian Agricultural Research Institute Library, New Delhi
16.	Smt Ruchita Gupta	Indian Technical Textiles Association, Mumbai
17.	Shri Kamlesh Dhoot	Lamifabs and Papers Private Limited, Aurangabad

18.	Shri K K Kaushal	National Committee on Precision Agriculture and Horticulture, Ministry of Agriculture, New Delhi.
19.	Shri Soumyadipta Datta	Office of the Jute Commissioner, Kolkata
20.	Shri Sivakumar S.	Office of the Textile Commissioner, Mumbai
21.	Shri N. K. Singh	-do-
22.	Shri Dinesh Chandra Mehta	Rishi Techtex Limited, Daman
23.	Shri Mavji Savani	-do-
24.	Shri Parth Nagri	Shri Ambica Polymer Private Limited, Ahmedabad
25.	Shri K C Patel	Texel Industries Limited, Kalol
26.	Shri Sanjay Vilas Koravi	Textiles Committee, Mumbai
27.	Shri Brijesh Kumar Shukla	-do-
28.	Shri Vikesh Kumar Gupta	V.K. Packwell Private Limited, Kanpur
29.	Shri Nitesh Katiyar	-do-
30.	Shri Rahul Soni	-do-
31.	Shri Kuldeep (Invitee)	Lamifab Industries

BIS DIRECTORATE GENERAL:

32.	Shri Gourav Mishra	Scientist-B/Assistant Director (Textiles) & Member Secretary TXD 35
33.	Ms. Shelly Sirohi	Executive Assistant (Textiles)

Item 0 WELCOME & INTRODUCTORY REMARKS

0.1 Dr. Manisha Mathur, Chairperson TXD 35, welcomed all the members present in the meeting. She requested the committee members to actively participate in the meeting and give precise inputs to the agenda items.

0.2 The member secretary also welcomed the Chairperson and all the members of the committee.

Item 1 CONFIRMATION OF THE MINUTES OF THE PREVIOUS MEETING

1.1 In view of no comments, the Committee confirmed the minutes of 21st meeting held on 03rd May 2024 (Friday) through videoconferencing, and as circulated vide BIS DG letter no. TXD 35/A2.21 dated 10th May 2024.

Item 2 SCOPE AND COMPOSITION OF TXD 35

2.1 The committee reviewed the present scope and composition of the committee as given in **Annex 1** to the agenda. After detailed deliberations, the committee decided as follows:

- a) National Committee on Precision Agriculture and Horticulture, New Delhi shall be renamed as National Committee on Precision Agriculture and Horticulture, Ministry of Agriculture, New Delhi.
- b) Shri K C Patel will represent Texel Industries Limited, Kalol as an alternate member.

Item 3 ISSUES ARISING OUT OF THE PREVIOUS MEETING OF TXD 35

3.1 The Committee **NOTED** the summary of actions taken on the various decisions of the 21st meeting as given in **Annex 2** to the agenda.

Item 4 DRAFT AMENDMENT FOR FINALIZATION

4.1 The Committee **SCRUTINIZED** the wide circulation draft amendment on **Agro textiles — Insect nets for agriculture and horticulture purposes — Specification** as given in **Annex 3** to the agenda along with comments to include additional variety received from M/s Garware technical fibres Ltd as given in **Annex 4** to the agenda. After detailed deliberations, the committee **DECIDED** that the above draft amendment be held to have been **FINALIZED** for publication. BIS may carry out editorial changes, if any.

Further, the committee requested M/s Garware technical fibres Ltd to provide extensive in-house production data for the last 2 years along with user feedback of the proposed variety and inputs on other prominent varieties, if any. The inputs, along with supporting documents, shall be placed before the committee in the next meeting of TXD 35 for deliberations and discussion.

Item 5 COMMENTS RECEIVED ON PUBLISHED INDIAN STANDARDS

5.1 The Committee considered the comments received from Manak Manthan on **IS 18310 (Part 1) : 2023** ‘Agro Textiles Bird Protection Nets for Agriculture and Horticulture Purposes Specification Part 1 Knotted Bird Protection Nets’; **IS 18310 (Part 2) : 2023** ‘Agro Textiles Bird Protection Nets for Agriculture and Horticulture Purposes Specification Part 2 Knitted Bird Protection Nets’ and **IS 18310 (Part 3) : 2023** ‘Agro Textiles Bird Protection Nets for Agriculture and Horticulture Purposes Specification Part 3 Extruded Bird Protection Nets’ and decided as below:

**IS 18310 (Part 1) : 2023 'Agro Textiles Bird Protection Nets for Agriculture and Horticulture Purposes
Specification Part 1 Knotted Bird Protection Nets'**

Sl No.	Clause No.	Comment	Propose change	Committee Decision
1	Table 1, 5.1	The different combinations of twines '5X3, 2X3, 3X3, 8X3 and 2X3' should be added to Table 1 and related requirements should be changed accordingly.	Given in Annex 5A to the agenda	<p>The committee scrutinized the comments regarding the twine and the additional varieties of bird protection nets. The committee sought to understand the rationale for introducing such a number of varieties and justification for mesh sizes exceeding 30 mm varieties, which might allow small birds to pass through the bird protection net.</p> <p>Shri K. K. Kaushal informed the committee that bird protection nets are procured by the government and are among the subsidized products. He expressed concern that increasing the number of varieties would make the process cumbersome to ensure the quality.</p> <p>Representative from M/s Garware Technical Fibre Ltd. informed the committee that the comments in <i>Manak Manthan</i> were submitted by their organizations. The committee then requested M/s Garware to provide detailed justifications for proposing 10 additional varieties, the majority of which feature larger mesh sizes.</p>
2	5.5	Applicable as per agreement of buyer & seller	Applicable as per agreement of buyer & seller	The committee considered the comment and deliberated that the IS 18310 Part 1 establishes the minimum requirements for Tie Cord, which are essential to ensure quality and to prevent the use of substandard materials. Considering the above, the committee did not agree with the comment.
3	5.6	Applicable as per agreement of buyer & seller	Applicable as per agreement of buyer & seller	The committee considered the comment and deliberated that the IS 18310 Part 1 establishes the minimum requirements for Over Lock Border Rope, which are essential to ensure quality and to prevent the use of substandard materials. Therefore, the committee did not agree with the comment.
4	5.7	Applicable as per agreement of buyer & seller	Applicable as per agreement of buyer & seller	The committee considered the comment and deliberated that the IS 18310 Part 1 establishes the minimum requirements for stitching twine, which are essential to ensure quality and to prevent the use

				of substandard materials. Based on the above, the committee did not agree with the comment.
5	6	Different types of gsm “75, 37, 32, 24, 93, 32, 97, 41, 77, 84 and 26” may be added.	File attached.	Same as SI No 1 col 5
6	7.1	The +10/-0 tolerance shall be permissible for length of the net.	The value of the length depends upon stretching of the net. The error caused by human involvement is so high.	The committee considered the comment for tolerance on length and after detailed deliberations DECIDED to review the existing range of tolerance currently offered in the industry. Further, committee requested M/s Garware to provide inputs for the same and decided to place the inputs in the next sectional committee meeting for deliberation and discussion.
7	7.1	The + 7/-0 tolerance shall be permissible for width of the net.	The value of the width depends upon stretching of the net. The error caused by human involvement is so high.	The committee considered the comment for tolerance on width and after detailed deliberations DECIDED to review the existing range of tolerance currently offered in the industry. Further, committee requested M/s Garware to provide inputs for the same and decided to place the inputs in the next sectional committee meeting for deliberation and discussion.
8	Table 2, 7.2	The different types of gsm “75, 37, 32, 24, 93, 32, 97, 41, 77, 84 and 26” should be added to Table 2 and related requirements should also be changed accordingly.	Given in Annex 5B to the agenda	Same as SI No 1 col 5

IS 18310 (Part 2) : 2023 ‘Agro Textiles Bird Protection Nets for Agriculture and Horticulture Purposes
Specification Part 2 Knitted Bird Protection Nets’

Sl No.	Clause No.	Comment	Propose change	Committee Decision
1	7.1, 7.2 and Table 1 (Sl no. i and iii)	The value of the length, width, mesh sizes and gsm depend upon stretching of the net. In case of square net, the mesh side should be straight is principle of measurement of all so there is no difficulty in measurement. But in case of diamond shape net, the mesh knot always lies in a straight-line during stretching. The amount of stretching is not fixed to measurement of length, width, mesh size and gsm. Accordingly, a significant amount can be shown during measurements of all.	For the diamond shape net, a fixed number of mesh may be set in length and width direction for accurate measurement of length, width, mesh size and gsm. Hence a suitable test method may be specified in the standard specially for diamond shape knitted net.	The committee scrutinized the comments on the mesh size requirement for diamond shape net and after the deliberations DECIDED to incorporate mesh size requirements for length and width separately in the standard. Further, committee assigned responsibility to M/s Garware technical fibres to provide the inputs for mesh size in both the directions for diamond shape nets along with suitable test method for measurement. The inputs received shall be placed in next meeting for discussion.
2	7.1	The tolerance value for the length is so tight as the value of the length depends upon stretching of the net.	The + 10/- 0 tolerance may be permissible for length of the net. Since extra length doesn't impact the performance of the product, an increment of positive side tolerance may be considered.	The committee considered the comment for tolerance on length and DECIDED to review the existing range of tolerance currently offered in the industry. Further, committee requested M/s Garware to provide inputs for the same and decided to place the inputs in the next sectional committee meeting for deliberation and discussion.
3	7.1	The tolerance value for the width is so tight as the value of the width depends upon stretching of the net.	The + 7/- 0 tolerance may be permissible for width of the net. Since extra width doesn't impact the performance of the product, an increment of positive side	The committee considered the comment for tolerance on width and DECIDED to review the existing range of tolerance currently offered in the industry. Further, committee requested M/s Garware to provide inputs for the same and decided to place the inputs in the next sectional

			tolerance may be considered.	committee meeting for deliberation and discussion.
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IS 18310 (Part 3) : 2023 ‘Agro Textiles Bird Protection Nets for Agriculture and Horticulture Purposes Specification Part 3 Extruded Bird Protection Nets				
Sl No.	Clause No.	Comment	Propose change	Committee decision
1	4.1	This net is used for protection of crops and plants from birds. As IS 10146 specifies polyethylene for its safe use in contact with foodstuffs, pharmaceutical and drinking water, there is no requirement like Part 1 & Part 2.	Consider the deletion of the requirement for conforming material to IS 10146.	The committee deliberated on the comment regarding conformity of material to IS 10146 and after detailed deliberations DECIDED to delete the requirement for conformity to IS 10146.
2	6.1	Usually, classifications of any product are based on the performance of the products. However, classification based on the width of the extruded net is not justifiable. It restricts the farmer/consumer’s demand for nets of widths other than 3 m and 6 m.	Different types other than 3 m and 6 m width of net may also be considered for inclusion in the standard.	The committee considered the comment on width of net, after detailed deliberation DECIDED to seek further inputs from extruded bird protection nets manufactures for all other widths of bird protection nets being manufactured. The inputs so received shall be placed before the committee for further deliberations
3	Table 1, Sl no. (i, ii, iii, iv and vii)	The value of the length, width and mesh sizes depend upon stretching of the net. In case of square net, the mesh side should be straight is the principle of measurement of all so there is no difficulty in measurement. But in case of diamond shape net, the mesh knot always lies in a straight-line during stretching. The amount of stretching is not fixed to measurement of length, width and mesh sizes.	For the diamond shape net, a fixed number of mesh may be set in length and width direction for accurate measurement of length, width and mesh size. Hence a suitable test method may be specified in the standard for diamond-shaped knitted net.	The committee deliberated on the comment for diamond shape net mesh size and it was informed during meeting that since part 3 nets are extruded and thus mesh size is controlled during the extrusion, also in the standard separate mesh size is already mentioned for both directions. Considering the above, the committee did not agreed to the comment.

		Accordingly, a significant amount can be shown during measurements of all.		
4	Table 1, SI no. (i)	The tolerance value for the width is so tight as the value of the width depends upon stretching of the net.	The + 7/- 0 tolerance may be permissible for width of the net. Since extra width doesn't impact the performance of the product, an increment of positive side tolerance may be considered.	The committee considered the comment for tolerance on width and DECIDED to review the existing range of tolerance currently offered in the industry for width. Further, committee decided to seek inputs from the manufacturer regarding the same.
5	Table 1, SI no. (vii)	The tolerance value for the length is so tight as the value of the length depends upon stretching of the net.	The + 10/- 0 tolerance may be permissible for length of the net. Since extra length doesn't impact the performance of the product, an increment of positive side tolerance may be considered.	The committee scrutinized the comment for tolerance on length and DECIDED to review the existing range of tolerance currently offered in the industry for length. Further, committee decided to seek inputs from the manufacturer regarding the same.
6	Table 1, SI no. (vii)	Usually, length of net is measured in rope form for the extruded net. But as per B-4, length shall be measured in stretched form.	A suitable note may be specified below in Table 1 or clause B-4 which may specify the measurement of length of net in rope form.	The committee noted the comments and decided to seek further inputs from extruded bird protection nets manufactures. The inputs so received shall be placed before the committee for further deliberations
7	Table 1, SI no. (viii & ix)	The unit of the tensile strength should be N/m.	Substitute 'N/m' for 'kN/m'.	

Item 6 NEW WORK ITEM PROPOSAL

6.1 The Committee scrutinized the below listed P-drafts as finalized during the 2nd working group meeting as given in **Annex 9A**; **Annex 9B** and **Annex 9C** along with comments received from **Shri Ajay Pandit** as given in **Annex 10** to the Agenda.

i) Agro Textile – High Density Polyethylene (HDPE) Woven Azolla Beds – Specification

- ii) Agro Textile – High Density Polyethylene (HDPE) Woven Grow Bags – Specification
- iii) Agro Textiles – High Density Polyethylene (HDPE) Woven Bhusa Bags – Specification

6.1.1 Agro Textile – High Density Polyethylene (HDPE) Woven Azolla Beds – Specification

After detailed deliberations the committee decided to wide circulate the P-draft of HPDE woven Azolla Beds for 2 months time period for eliciting comments from the stakeholders. BIS may carry out the editorial changes in the draft if required.

Agro Textile – High Density Polyethylene (HDPE) Woven Grow Bags – Specification

After detailed deliberations, the committee decided to incorporate the below changes in the draft of HPDE woven Grow bags:

- i) To incorporate the requirement of drainage holes in the bottom of grow bags, Committee assigned the responsibility to M/s V K Packwell to share the technical specifications for the same.
- ii) To incorporate the requirement of stitch density in grow bags, Committee assigned the responsibility to M/s V K Packwell to share the technical specifications for the same.

Also, the committee did not agreed to the comments of Shir Ajay Pandit on Grow bags as Committee noted that tolerance as minimum value is already specified in draft for requirements specified in table 1 and colour fastness to light is important for the aesthetic as grow bags are also used in home gardens , also jute grow bags being a different fibre product need to be specified in a separate standard.

Further, the committee decided to wide circulate the P-draft of HPDE woven Grow bags after incorporating the above requirements for 2 months time period for eliciting comments from the stakeholders. BIS may carry out the editorial changes in the draft if required.

Agro Textiles – High Density Polyethylene (HDPE) Woven Bhusa Bags – Specification

After detailed deliberations, the committee decided to incorporate the below changes in the draft of HPDE woven Bhusa bag:

- i) [Clause 6, Table 1, SI No (xi)] - delete the requirement of colour fastness to artificial light.
- ii) To incorporate the requirement of two top covers in the Bhusa bag one having ventilation holes and other laminated, the committee assigned the responsibility to M/s V K packwell to share the technical specifications for the same and to place the inputs along with the revised draft before the committee in the next sectional committee meeting.

Also, the committee did not agree to the comments of **Shir Ajay Pandit** on specifying tolerance in Table 1 to requirements of bhusa bag as committee NOTED that tolerance as minimum value is already specified in draft.

Item 7 REVIEW OF PUBLISHED STANDARDS

7.1 The Committee considered the following standards due for review under the five-year review criteria. After detailed deliberation, the committee decided as given below:

Sl No.	IS No.	Title	Decision
1	IS 15907 : 2010	Agro textiles — High density polyethylene (HDPE) woven beds for vermiculture — Specification	The committee decided to reaffirm the standard for a further period of 5 years. Also, the committee scrutinized the inputs received from M/s Lamifabs & Papers for inclusion of additional variety in IS 15907:2010. After detailed deliberations, the Committee requested M/s Lamifabs & Papers to provide independent third-party test report along with the utilities of the proposed additional variety. The inputs, along with supporting documents, shall be placed before the committee in the next meeting of TXD 35 for deliberations and discussion.
2	IS 15351 : 2015	Agro textiles — Laminated high-density polyethylene (HDPE) woven geomembrane for water proof lining — Specification (<i>second revision</i>)	Committee decided to reaffirm the standard for 5 years.
3	IS 16366 : 2015	Glossary of terms used in agrotextile	Committee decided to reaffirm the standard for a further period of 5 years.
4	IS 16390 : 2015	Agro textiles — Nylon knitted seamless gloves for tobacco harvesters — Specification	Committee decided to reaffirm the standard for 5years.Also, the committee decided to seek additional inputs from the stakeholders for any changes or additional varieties inclusion.
5	IS 17070 : 2019	Jute Agrotextiles for Growth of Plants and Suppression of Weeds — Specification	Committee decided to reaffirm the standard since its due date for 5 years.

Item 8 REVIEW OF R&D PROJECT

8.1 The committee NOTED the ToR of the R&D project for Woven Ground covers for horticulture application as given in **Annex 13** to the agenda and scrutinized the progress report of the R&D project as received from Smt Ashwini Sudam, SASMIRA, Mumbai (Project leader) and as given in **Annex 14** to the agenda. The committee decided/noted as below:

- i) The committee NOTED that Project leader has completed the literature survey and has also visited 3 manufacturing industries and the collected samples have been forwarded for testing at two different laboratories. After detailed deliberations, committee decided to accept the progress report for the above-mentioned R&D project as submitted by Smt Ashwini Sudam, SASMIRA, Mumbai (Project leader).
- ii) Smt Ashwini Sudam informed the committee that two types of manufacturing technologies (Circular looms and open width loom) being used to manufacture woven ground covers and to cover both type of technologies in project requested for extension of 1 month to complete the R&D project. After detailed deliberations, committee accepted to extend the timeline of R&D project for 1 month and noted that the revised timeline shall be 5 months from the date of release of 1st installment.
- iii) The Committee requested Smt Ashwini Sudam to mention the scale of manufacturing units visited or to be visited as specified in approved ToR before the next review meeting of R&D project.
- iv) The Committee informed Smt Ashwini Sudam to submit the progress report, report on utilization of the 75 percent of the fund, Utilization certificate as per GFR format, statement of expenditure as per BIS R&D guidelines **Doc no. SCMD/R&D Guidelines/20240522** (hosted on BIS website) and DECIDED to circulate all the received document/reports to all committee members for 7 days for approval and in case of no comments from committee members, the reports shall be considered satisfactory for the release of 2nd installment of funds.

Item 9 DATE AND PLACE OF NEXT MEETING

9.1 The Committee **DECIDED** to hold the next meeting of TXD 35 in consultation with the Chairperson after all the actions are completed. The date and place of the meeting would be finalized in consultation with the Chairperson, TXD 35, in due course.

Item 10 ANY OTHER BUSINESS

10.1 Committee considered the inputs received from **M/s Lamifab Industries** as placed during the meeting for inclusion of additional variety in IS 16190:2014. After detailed deliberations, Committee decided to consider the request of inclusion of additional variety subjected to the

submission of report of field trial study of the usage from a government organization of the proposed variety of HPDE flat tubes, users feedback along with the independent third party test report and informed the M/s Lamifab industries to provide the aforementioned reports/documents.

10.2 There being no other business, the meeting ended with a hearty vote of thanks to the Chairperson.