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BUREAU OF INDIAN STANDARDS

MINUTES

Physical Methods of Tests Sectional Committee, TXD 01 **28th Meeting**

Date/Day	Time	Venue
13 August 2024 (Tuesday)	1100 h	Through Video Conferencing

ATTENDEES:

Sl No.	*Representative*	*Organization*
1.	Dr. A. S. M. Raja (***Chairperson***)	ICAR - Central Institute for Research on Cotton Technology (CIRCOT) Mumbai
2.	Dr T. Senthilkumar	-do-
3.	Smt. Deepali Plawat	Ahmedabad Textile Industries Research Association, Ahmedabad
4.	Dr. Prakash N. Bhat	Central Silk Technological Research Institute, Bengaluru
5.	Shri Anand Majaria	Delta Ropes Mfg. Co., Kolkata
6.	Shri R K Baruah	Directorate General of Quality Assurance, New Delhi
7.	Shri Sachin Kulkarni	Garware Technical Fibres Limited, Pune
8.	Dr. Surajit Sengupta	ICAR - National Institute of Natural Fibre Engineering and Technology (NINFET), Kolkata
9.	Dr. Nagesh Kumar	-do-
10.	Smt. Soumita Chowdhury	Indian Jute Industries Research Association, Kolkata
11.	Shri Bhudipta Saha	Indian Jute Mills Association, Kolkata
12.	Shri Munendra Singh	Kusumgar Corporates, Mumbai
13.	Shri S P Kalia	National Test House, Kolkata
14.	Shri Somyadipta Datta	Office of the Jute Commissioner, Kolkata
15.	Shri Mahadeb Dutta	-do-
16.	Shri Sivakumar S.	Office of the Textile Commissioner, Mumbai
17.	Dr Karthikeyan K.	SGS India Pvt. Ltd, Chennai
18.	Smt. Anitha Jeyaraj	-do-

19.	Shri Shivendra Parmar	Tuv Rhineland (India) Private Limited, Mumbai
20.	Dr. P. Ravichandran	Textiles Committee, Mumbai
21.	Shri R.A. Sheikh	The Bombay Textile Research Association, Mumbai
22.	Shri Vishal Masand	Tirupati Technik, Mumbai
23.	Dr. Suranjana Gangopadhyay	VJTI, Mumbai
24.	Dr. Neha Mehra	-do-
25.	Shri Sridhar Devarakonda	Welspun India Limited, Mumbai
26.	Shri Babarao Narotepatil	-do-
27.	Shri Varun Gupta	World Traders Manufacturing Co., Mumbai
28.	Shri Muthusamy C ***(Invitee)***	Weavers Service Centre, Chennai
29.	Dr. P Thennarasu ***(Invitee)***	Indian Institute of Handloom Technology, Salem
30.	Smt. Meeta Shingala (***Invitee)***	Testtex India Laboratories Pvt Ltd., Mumbai

BIS DIRECTORATE GENERAL:

1.	Shri Amit Kumar Pandey (Scientist-B, Textiles)	Bureau of Indian Standards, New Delhi

Item 0 WELCOME AND INTRODUCTORY REMARKS BY THE CHAIRPERSON

0.1 Dr A. S. M. Raja, Chairperson of TXD welcomed all the members of the committee in the meeting and appreciated the active participation of members in the technical committee meetings. He informed the committee members about the stringent rules set by BIS, as per the directions of the competent authority i.e. DG BIS, for the active participation of members in the technical committee meeting. He also requested all the committee members for providing their precious inputs on the Wide circulation drafts and Preliminary drafts through the BIS portal which is very essential for improving the quality of standardization.

0.2 Shri Amit Kumar Pandey, Member Secretary, extended a warm welcome to the Chairperson and committee members. He also urged the committee members to provide their precise inputs over the agenda items.

Item 1 CONFIRMATION OF THE MINUTES OF THE PREVIOUS MEETING

1.1 The committee scrutinized the comment received from Shri Anand Majaria, representing M/s Delta Ropes Manufacturing Co., Kolkata on the minutes of 27th meeting of TXD 01 held on 10 April 2024.

1.2 After detailed deliberations, the committee **CONFIRMED** the minutes of the 27th meeting of the TXD 01 as circulated vide BIS Directorate General Letter No. TXD 01/A2.27 dated 26 April 2024 without any changes.

Item 2 COMPOSITION AND SCOPE OF TXD 01

2.1 The committee reviewed the present scope and composition of TXD 01 as given in **Annex 1** to the agenda and decided as follows:

i) A revised nomination shall be provided from M/s Garware Technical Fibres Ltd., Pune as Shri Kishor Darda is no longer an employee of the organization.
ii) A revised nomination shall be provided from Office of the Jute Commissioner, Kolkata as Shri Mahadev Dutta is no longer an employee of the organization.
iii) A revised nomination shall be provided from Testing Centre & Testing Station Division, Ministry MSME, New Delhi as Shri Phool Singh is no longer an employee of the organization.

2.1.1 The committee further decided that National Jute Board, Kolkata shall be co-opted on the committee considering their role in the jute industry.

2.2 The Committee scrutinized the request received from Shri Akhtarul Islam Amjad for representation on TXD 01 in individual capacity along with his CV and other information as given in **Annex 2** to the agenda. Thereafter, the committee unanimously decided to reject the request due to absence of relevant experience as per the scope of the committee.

2.3 The Committee scrutinized the request received from Mrs. Meeta Shingala representing M/s Testtex India Laboratories Pvt. Ltd., Mumbai to continue their membership in TXD 01 sectional Committee. After considering their role in the textile industry and their earlier contribution in the technical committee, the committee decided to co-opt the organization and requested to provide the nomination from her organization.

Item 3 ISSUES ARISING OUT OF THE PREVIOUS MEETING

3.1 The committee noted the actions taken on the various decisions in the last meeting as given in **Annex 3** to the agenda.

Item 4 DRAFT STANDARDS FOR FINALIZATION

4.1 The Committee scrutinized the following draft Indian Standards as given in **Annex 4** to the agenda:

i) **[Doc. : TXD 01 (24993)]**, Textiles - Biaxial tensile properties of woven fabric - determination of maximum force and elongation at maximum force using the grab method

ii) **[Doc. : TXD 01 (25026)]**, *Second revision* of IS 7032 (Part 1-9), Textiles – Physical methods of test for uncut Indian Jute, Mesta and Bimli

iii) **[Doc. : TXD 01 (25027)]**, *First revision* of IS 9030, Textiles – Methods for determination of Seam Strength of Jute Fabrics including their laminates

iv) **[Doc. : TXD 01(255573)],** Textiles - Synthetic Filament Yarns - Electrostatic propensity evaluation by measuring electrical resistance

v) **[Doc. : TXD 01(25579)],** Textiles - Synthetic Filament Yarns - Test methods for crimp properties of textured yarns

vi) **[Doc. : TXD 01(24909)]**, *Amendment no. 1 to* IS 3442, Textiles – Method for determination of crimp and linear density of yarn removed from fabrics (*second revision*)

vii) **[Doc. : TXD 01(25561)]**, *Amendment no. 2 to* IS 1969 (Part -1), Textiles – Tensile properties of fabrics – Part 1 -Determination of maximum force and elongation at maximum force using the strip method (*fourth revision*)

4.1.1 After detailed deliberations on the comment received, the committee decided to finalize all the above draft standards and amendments after incorporating the following changes. BIS may carry out the editorial changes in the draft if required.

a) Draft Standard at Sl No. vi (Doc: TXD/01/24909, *Amendment no. 1 to* IS 3442)

(*Page 1, Clause **6.1**, last sentence*) – Substitute the following for the existing:

"Each clamp shall consist of two jaws, preferably metallic or suitable rubber with flat surface or lining or bent C shaped, considering the material of the yarn and slippage between yarn and jaw, having parallel gripping surfaces.

NOTE — Any available tester may be used for this purpose satisfying above description.

(*Page* 3, *Clause* **9.1.6**, *first sentence*) – Substitute the following for the existing:

Make the yarns into bundles or loops and if only agreed between the interested parties, remove the finishing material as given in Annex B."

Item 5 DRAFT STANDARDS FOR WIDE CIRCULATION

5.1 The Committee scrutinized the following preliminary draft of the Indian Standards as given in **Annex 5** to the agenda:

i) [Doc. : TXD 01(26247)], *First revision* of IS 3689, Textiles – Yarn count systems for designating linear density

ii) **[Doc. : TXD 01(26246)],** *First revision* of IS 6940, Textiles – Test methods for determination of stiffness of fabrics

iii) **[Doc. : TXD 01 (26245)]**, *Second revision* of IS 1315, Textiles – Method for determination of linear density of yarn spun on cotton system

5.1.1 After detailed deliberations on the comment received from Shri Bhudipta Saha representing IJMA, Kolkata on Sl. No. i (Doc. : TXD 01(26247), First revision of IS 3689) as given in **Annex 1**(Page 10) to the minutes, the committee decided to wide circulate the above draft standards after incorporating the following changes. BIS may carry out the editorial changes in the draft if required.

a) Draft Standard at Sl No. i (Doc: TXD/01/26247 *first revision* of IS 3689)

(Page 1, *Clause* 3*)* – Substitute the following for the existing:

"3 TERMINOLOGY

For the purpose of this standard, following definitions shall apply.

3.1 Direct System — A system to express the coarseness or the fineness of the yarn is expressed in the terms of mass per unit length (linear density, often called yarn number).

NOTE — Some examples of direct system of yarn count are Tex, Denier, Grist etc.

3.1.1 *Tex* — It expresses the linear density, that is to say, the mass, in grams, of 1 000 m length of yarn.

3.1.2 *Denier* — It expresses the linear density, that is to say, the mass, in grams, of 9 000 m length of yarn.

3.1.3 *Grist* — It expresses the linear density, that is to say, the mass, in pounds, of 14 400 yd length of yarn.

NOTE – Grist is specifically used as yarn count system for Jute, Hemp and Linen (dry spun) yarns.

3.2 Indirect System — A system to express the coarseness or the fineness of the yarn is expressed in the terms of length per unit mass.

NOTE — Some examples of Indirect system of yarn count are Cotton Count (N_{eC}), Metric Count (N_m) etc.

3.2.1 *Cotton Count (Ne$_C$)* — It expresses the yarn count in indirect system i.e. no. of hanks of 840 yds of yarn in 1 pound (lb) mass of yarn. It is also often known as English Count.

3.2.2 *Metric Count (Nm)* **—** It expresses the yarn count in indirect system i.e. no. of hanks of 1 000 m of yarn in 1 kilogram (kg) mass of yarn.

3.2.3 *Worsted Count (Ne$_W$)* **—** It expresses the yarn count in indirect system i.e. no. of hanks of 560 yds of yarn in 1 pound (lb) mass of yarn."

Item 6 COMMENTS ON PUBLISHED INDIAN STANDARDS

6.1 Issue of Tolerance for relative humidity as ± 4% instead of ± 2% for atmospheric conditioning of Textiles in IS 6359 : 2023

6.1.1 Shri Amit Kumar Pandey, member secretary, informed the committee about the long pending issue of Tolerance for relative humidity as ± 4% instead of ± 2% for atmospheric conditioning of Textiles in IS 6359 : 2023. He also informed the committee about the directions

from the competent authority of Bureau for harmonizing the Indian Standards with the International standards. The member secretary also informed the committee about the changes in the tolerance value for the relative humidity in ISO 139 : 2005 (2nd Edition) and ASTM D1776/D1776M – 20 (Reapproved 2024).

6.1.2 The Committee scrutinized the international standards on Atmospheric conditioning and testing of textiles and after detailed deliberations, the committee unanimously decided to made the following amendment in IS 6359 and to wide circulate the same for a period of two months for eliciting comments from other stakeholders.

(*Foreword*, *para* 5) — Insert the following new para after para 3:

"This revision of IS 6359 includes the allowance for uncertainty of measurement in the overall tolerances for relative humidity. However, although the tolerances for relative humidity appear more lenient, in practice, the laboratory must still be controlled (measured humidity) essentially to the same level as 65 ± 2% Relative Humidity"

(Page 1, Clause 5.2.3) — Substitute the following for the existing:

"Tolerance limits shall be ± 2 °C for temperature and shall be ± 4 for relative humidity for conditioning of all the textile materials except the fibres whose moisture regain value is more than 8 % such as cotton, wool, silk, jute, linen and viscose fibres etc. for which the tolerance limit for relative humidity remain as ± 2.

NOTE — The textile materials referred in the above clause consist of fibres, yarn, fabrics, and made-up textiles including technical textile products."

6.2 The Committee scrutinized the comments received on IS 3675 : 2020 for updating the parameters of calibration cotton as updated by ICAR – CIRCOT along with the draft amendment given in **Annex 6** to the agenda.

6.2.1 After detailed deliberations, the committee unanimously decided to finalize the draft amendment as given in **Annex 6** to the agenda after making editorial changes, if needed, by waiving off the wide circulation as the matter is urgent and non-controversial as stated in subclause (4) of clause 22 of BIS Rules, 2018.

6.3 The Committee scrutinized the comments received on IS 4871 : 1968 regarding the issue that the different test instruments uses different specimen weight for determination of lint and trash content in cotton along with the draft amendment given in **Annex 7** to the agenda.

6.3.1 Shir Amit Kumar Pandey, member secretary, informed the committee that international standards related to the determination of trash content in cotton fibres specifies the known weight of specimens as 100 ± 5g.

6.3.2 After detailed deliberations, the committee unanimously decided to finalize the draft amendment as given in **Annex 7** to the agenda after making editorial changes, if needed, by

waiving off the wide circulation as the matter is urgent and non-controversial as stated in subclause (4) of clause 22 of BIS Rules, 2018.

ITEM 7 NEW SUBJECTS FOR STANDARDIZATION

7.1 Smt. Soumita Chowdhury representing from IJIRA, Kolkata brief the committee about the proposal for formulation of Indian Standard on "Test method for determination of bursting strength of fabric using ball bursting method". She also informed the committee that "Physical Methods of Test TXD 01" has already published the standard for determination of bursting strength of fabric using hydraulic and pneumatic method, however, no standard has been published yet for the above-mentioned subject.

7.1.1 Shri Amit Kumar Pandey, member secretary, informed the committee about the existing International Standards related to the above subject i.e. ASTM D3787 – 16 (Reapproved 2020) Standard Test Method for Bursting Strength of Textiles – Constant Rate of Traverse Ball Burst Test, ASTM D6797 – 24 Standard Test Method for Bursting Strength of Fabrics – Constant Rate of Extension Ball Burst Test and ISO/DIS 9073 -5 Nonwoven – Test methods – Part 5 – Determination of resistance to mechanical penetration (ball burst procedure).

7.1.2 Smt. Soumita Chowdhury also informed about the usefulness of this test for Jute sacking bags or other packaging bags for measuring the multidirectional force bearing capacity that can be taken as an alternative to tensile test which involves difficult sampling and testing procedures for the above mentioned products or can be taken as an additional requirement.

7.1.3 Shri R.A. Shaikh representing BTRA, Mumbai informed the committee about the non-suitability of ball burst test for woven fabrics especially jute fabrics as they have higher pick spacing as compared to other fabric due to coarser jute yarns. He informed the committee that when the force is applied using the ball on the fabric, then, the yarns get displaced from the force region due to high pick spacing and therefore, all the yarns cannot participate in bearing the applied force and hence, the achieved bursting strength using ball burst method does not represent the actual bursting strength of the Jute fabric.

7.1.4 After detailed deliberations, the committee decided to accept the proposal received from Smt. Soumita Chowdhury for formulation of Indian Standard on the above mentioned subject under TXD 01 by taking considerable assistance from the referred International Standards. However, the committee also informed that the decision to be taken for the applicability of this test for jute sacking bags as an additional requirement or as an alternative to the requirement of tensile test is outside of the purview of this committee, therefore, this matter can be discussed by the proposer in the relevant sectional committee.

7.2 Shri Muthusamy C (***Invitee***) representing Weavers' Service Centre, Chennai brief the committee about the importance of the proposed subject and the problems being faced by Enforcement wing of Development of Handloom Commissioner for implementation of Handlooms (Reservation of Articles for Production) Act 1985 due to non-availability of test method for determining the loom origin of the fabric.

7.3. After detailed deliberations, the committee unanimously decided to accept the proposal, received from Development Commissioner for Handlooms (Enforcement wing), Ministry of Textiles, Government of India, for formulation of an Indian Standard on the subject "Test method for detection of loom origin of fabric" under TXD 01. The committee also decided to constitute a working group under the convenorship of Shri Muthusamy C representing Weavers' Service Centre, Chennai for preparation of a preliminary draft on the above subject. The composition of the working group shall be the following:

a) Shri Muthusamy C, WSC, Chennai (***Convenor***)
b) Shri Vishal Nautiyal, WSC, Delhi
c) Dr. P Thennarasu, IIHT, Salem
d) Shri Prakash Bhatt, CSTRI, Bangalore
e) Smt. Deepali Plawat, ATIRA, Gujarat
f) Shri R. A. Shaikh, BTRA, Mumbai
g) Dr. Surajit Sengupta, ICAR-NINFET, Kolkata
h) Dr. P. Ravichandran, Textiles Committee, Mumbai
i) Representatives from Handloom Boards or societies may also be invited.

Item 7 INTERNATIONAL ACTIVITY

7.1 The committee scrutinized the extract of latest ISO standard ISO 9867 : 2022, as given in **Annex 10** to the agenda, for harmonizing with earlier adopted Indian standard IS 16575 : 2016/ISO 9867 : 2009.

7.2 After detailed deliberations, the committee decided that WC drafts for revision of **IS 16575 : 2016/ISO 9867 : 2009** based on the above latest ISO standard shall be prepared by BIS for issuing the same in **wide circulation** for **two months** for eliciting technical comments, after incorporating editorial changes, if any.

Item 9 DATE AND PLACE OF NEXT MEETING

The Committee DECIDED to hold the next meeting after all the actions arising out of this meeting are completed. The date and place of the meeting will be finalized in consultation with the Chairman, TXD 01, in due course.

Item 8 ANY OTHER BUSINESS

8.1 The member secretary TXD 01 informed the committee that, as per the directions of DG BIS, all the working panels formulated under the technical committee will now be renamed as working group which is working for a fixed period for achieving their objectives.

8.2 The member secretary TXD 01 also informed the committee about the "Handbook for TC members" published by BIS and available at BIS portal under standardization tab which comprises all the rules and guidelines to be followed for being a technical committee member. He further informed the committee about the commenting procedures on the ISO ballot along

with the currently floated ballots available on the BIS portal for the inputs from the committee members.

8.3 There being no other business, the meeting ended with a hearty vote of thanks to the *Chair* and all the members.

Annex 1

(*Item 5.1.1*)

Comments received from Shri Bhudipta Saha representing Indian Jute Mills Association, Kolkata on the preliminary draft [Doc. : TXD 01(26247)], *First revision* of IS 3689, Textiles – Yarn count systems for designating linear density

Name of the proposer and Organization	Clause no.	Line no.	Figure /Table	Type of Comment	Comment/ Suggestions	Proposed changes
Shri Bhudipta Saha, IJMA, Kolkata	3.3 to 3.8	-	-	General	Point 3.3 Point 3.4 Point 3.5 Point 3.6 Point 3.7 Point 3.8	Point 3.3 Point 3.4 Point 3.5 Point 3.6 Point 3.7 Point 3.8
					Point 3.3 to Point 3.5 to be placed after Point 3.1 Point 3.6 to Point 3.8 to be placed after Point 3.2	Point 3.3 to Point 3.5 to be placed after Point 3.1 Point 3.6 to Point 3.8 to be placed after Point 3.2