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BUREAU OF INDIAN STANDARDS
(New Delhi)

AGENDA

Smart Textiles Sectional Committee, TXD 41

1st Meeting

Date	Time	Venue
25 November, 2024	1200 PM	Through Video Conferencing

Chairman: Prof Bhanu Nandan,
Indian Institute of Technology, New Delhi

Member Secretary: Shri Gourav Mishra
Scientist B, BIS

Item 0 WELCOME & INTRODUCTORY REMARKS

Item 1 BACKGROUND FOR COMMITTEE CONSTITUTION

1.1 In the 25th meeting of Textile Division Council held on 19 May 2023, Dr. A N Desai, Scientific Member, SITRA Council, Coimbatore proposed for constitution of new Sectional Committee on Smart Textiles/ E-Textiles under TXDC to have a focused approach for developing Indian Standards in this emerging area. The Council, after detailed deliberations, agreed for the above proposal. The Council further constituted a panel to recommend the Title, Scope and Composition of the New Committee on Smart Textiles/ E-Textiles, the composition of the panel constituted during 25th meeting is as follows:

- a) Dr. A. N. Desai, Scientific Member, SITRA Council, Coimbatore
- b) Dr. G. Thilagavathi, PSG College of Technology, Coimbatore
- c) Prof Abhijit Majumdar, IIT, Delhi
- d) Dr. Mrinal Chaudhury, WRA, Mumbai
- e) Dr. Anup Rakshit, ITTA, Mumbai
- f) Shri J. K. Gupta, Head Textiles

1.2 The panel meeting was held under the convenorship of Dr. A. N. Desai, Scientific Member, SITRA Council on May 28, 2024, to discuss and seek recommendations for the title, scope, chairperson, and composition of a new committee on Smart Textiles/E-Textile.

After detailed deliberation, the panel recommended the title and scope as given below for the new technical committee on ‘Smart Textiles’.

Technical Committee: Smart Textiles Sectional Committee, TXD 41

Scope: To formulate Indian standards on terminology, test methods, specifications, and codes of practice for the application, performance evaluation, safety and sustainability of smart textiles.

1.3 The recommendations of the panel were further deliberated in 26th meeting of Textile Division Council held on 04 June 2024. After detailed deliberations, the council decided to exclude smart textiles with any use of electronic sensors, signals measurements from the scope of new technical committee as the similar subjects are being dealt by ‘Wearable Electronic Devices and Technologies Sectional Committee, LITD 33’ to avoid any overlapping/duplication with LITD 33 work. The council decided the scope of new committee as follows along with composition as given in **Annex 1** to the agenda:

‘To formulate Indian Standards on terminology, test methods, specifications, codes of practice for the application, performance evaluation, safety and sustainability of smart textiles which include, but are not limited to: phase change textiles, shape change textiles, chromic textiles, auxetic textiles, dilating and shear thickening textiles, any other smart textile that does not involve electronic sensors or signals measurements.’

Item 2 SCOPE AND COMPOSITION OF TXD 41

2.1 The present scope and composition of the committee is given in **Annex 1 (Pages 4-5)**.

2.1.1 The committee may **REVIEW**.

Item 3 INTERNATIONAL STANDARDIZATION ACTIVITIES

3.1 The following technical committees of International Organization for Standardization (ISO) are responsible for formulating international standards on the subject:

ISO/TC 38/WG 32 - Smart Textiles

3.2 The list of standards published/underdevelopment by ISO/TC 38/WG 32 is given in **Annex 2** to the agenda (Page 6).

3.3 Other international standards published/under-development by various international standardization organizations is given in **Annex 3** to the agenda (Page 7).

3.3.1 The Committee may **DECIDE**.

Item 4 COMMENCEMENT OF ISO BALLOTS RECEIVED UNDER TXD 41

4.1 As ‘P’ member of ISO/TC 38, BIS have received ISO ballots on draft international standard of following ISO standards, related to Smart Textiles, for member body voting:

BALLOT TYPE	REFERENCE NUMBER	TITLE
DIS	ISO/DIS 17971	Textiles — Smart Textiles — Test method for fabric interface with capacitive touchscreens

4.2 The inputs are sought from the National Standards Bodies of ‘P’ member countries on the following aspects:

i) Do you approve the technical content of the DIS draft

The received DIS ISO ballot document is given in **Annex 4** to the agenda (separate file attached).

4.2.1 The Committee may **DELIBERATE** and **DECIDE**.

Item 5 DATE AND PLACE OF NEXT MEETING

Item 6 ANY OTHER BUSINESS

ANNEX 1

(Item 1.1)

Scope and Composition of Smart Textiles TXD 41

Scope: To formulate Indian Standards on terminology, test methods, specifications, codes of practice for the application, performance evaluation, safety and sustainability of smart textiles which include, but are not limited to: phase change textiles, shape change textiles, chromic textiles, auxetic textiles, dilating and shear thickening textiles, any other smart textile that does not involve electronic sensors or signals measurements.

Sl No.	Organization Represented	Name of the representative Principal/ (Alternate)
1.	Indian Institute of Technology Delhi, New Delhi	Prof Bhanu Nandan (<i>Chairperson</i>)
2.	Ahmedabad Textile Industries Research Association, Ahmedabad	Smt Deepali Plawat Shri Jigar Dave (<i>Alternate</i>)
3.	AiQ Smart Clothing Inc, Taiwan	Nomination Awaited
4.	Arvind Ltd., Gujarat	Nomination Awaited
5.	Avient Corporation, Pune	Nomination Awaited
6.	Clim8, London	Nomination Awaited
7.	E-Text Healthcare Pvt. Ltd., New Delhi	Nomination Awaited
8.	High Performance Textiles Private Limited, Panipat	Dr. Nandan Kumar
9.	IIFT, Bangalore	Nomination Awaited
10.	Indian Institute of Technology Ropar, Punjab	Shri Sarang Prakash Gumfekar Shri Vijay Vaishampayan (<i>Alternate</i>)
11.	Indian Technical Textiles Association, Mumbai	Dr Anup Rakshit Smt Ruchita Gupta (<i>Alternate</i>)
12.	Indo German Yarn and Fibre LLP, Punjab	Nomination Awaited
13.	MesoMat, Canada	Nomination Awaited
14.	Nyoka Technologies, Coimbatore	Nomination Awaited
15.	PSG College of Technology, Coimbatore	Nomination Awaited
16.	Shingora Textiles Private Limited, Ludhiana	Shri Amit Jain Shri Abhishek Kumar (<i>Alternate</i>)
17.	Shubh Swasan India Pvt. Ltd., Tamil Nadu	Nomination Awaited
18.	SITRA Council, Coimbatore	Dr. A. N. Desai

19.	Star Safety Hub, Faridabad	Shri Pawan Kumar Gupta Shri Naveen Gupta (<i>Alternate</i>)
20.	Technosolutions, New Delhi	Nomination Awaited
21.	TexPort Syndicate Ltd, Mumbai	Nomination Awaited
22.	Textiles Committee, Mumbai	Nomination Awaited
23.	The Bombay Textile Research Association, Mumbai	Smt Smita A. Baride Smt Shreyasi Nandy (<i>Alternate</i>)
24.	Troop Comforts Limited, Kanpur	Nomination Awaited
25.	Welspun India Limited, Mumbai	Shri Rajeev Chauhan Shri Basudev Basu (<i>Alternate</i>)
26.	Wool Research Association, Thane	Shri Shishir Tyagi Dr. Mrinal Choudhari (<i>Alternate</i>)

ANNEX 2

(Item 3.2)

The list of standards published/underdevelopment under ISO/TC 38/WG 32

ISO 24584:2022 Textiles — Smart textiles — Test method for sheet resistance of conductive textiles using non-contact type (*Published*)

ISO/TR 23383:2020 Textiles and textile products — Smart (Intelligent) textiles— Definitions, categorisation, applications and standardization needs (*Published*)

ISO/AWI 25242 Textiles — Smart textiles systems — Test method of temperature change (*Under development*)

ISO/AWI 25243 Textiles — Smart textiles systems — Test method for repeated underwater pressurization (*Under development*)

ISO/DIS 17971 Textiles — Smart Textiles — Test method for fabric interface with capacitive touchscreens (*Under development*)

ANNEX 3

(Item 3.3)

Other International standards on Smart textiles

BS EN 16806-1: 2016 Textiles and textile products — Textiles containing phase change materials (PCM) — Part 1: Determination of the heat storage and release capacity (*Published*)

BS EN 16806-2: 2016 Textiles and textile products — Textiles containing phase change materials (PCM) — Part 2: Determination of the heat transfer using a dynamic method (*Under development*)

BS EN 16806-3: 2016 Textiles containing phase change materials (PCM) — Part 3: Determination of the heat transfer between the user and the product (*Under development*)

BS EN 17673:2022 Protective clothing. Protection against heat and flame. Requirements and test methods for garments with integrated smart textiles and non-textile elements (*Published*)

ASTM D8248-19- Standard terminology for smart textiles (*Published*)

ANNEX 4
(Item 4.2)

Separate File attached with Agenda.