*For BIS Use Only*

**BUREAU OF INDIAN STANDARDS**

*(New Delhi)*

**AGENDA**

**Man-made Fibres, Cotton and their Products Sectional Committee, TXD 31 33rd Meeting**

|  |  |  |
| --- | --- | --- |
| **Date/Day** | **Time** | **Venue** |
| 19 July 2024 | 1100 | Through Video Conferencing |

**CHAIRPERSON: Shri Kartikay Dhanda**

(Textiles Committee, Mumbai)

**MEMBER SECRETARY:** Shri Mayur Katiyar

**Item 0 WELCOME AND INTRODUCTORY REMARKS BY THE CHAIRMAN**

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

**1.1** The minutes of the 32nd meeting of the committee held on 23 April 2024 through VC were circulated vide BIS Directorate General letter No. TXD 31/A2.32 dated 03 May 2024. No comments were received.

**1.1.1** The committee may **CONFIRM**.

**Item 2 COMPOSITION AND SCOPE OF TXD 31**

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

**2.1.1** The committee may **DECIDE.**

**2.2** The co-option requests received from the following organizations/Person are given in **Annex 2 (P-6 to 9).**

1. Northern Railways
2. Karnataka Cotton Association
3. Saurashtra Ginners Association
4. Cotton Association of Orissa
5. Shri Akhtarul Islam Amjad (CV attached separately)

**2.2.1** The committee may **DECIDE.**

**Item 3 ISSUES ARISING OUT OF THE PREVIOUSMEETING**

**3.1** Summary of actions taken on the various decisions of the previous meetings are given in **Annex 3 (P- 10 to 11)**.

**3.1.1** The committee may **NOTE**.

**Item 4 DRAFT STANDARDS/AMENDMENTS FOR FINALIZATION**

**4.1** In the last meeting, the committee decided to wide circulate the draft amendment for [IS 3566: 2023](https://www.services.bis.gov.in/php/BIS_2.0/StandardsFormulationV2/Upload3.php?ID=dG91eVhYbU9GZ1B4cWp2N0hBY1BMQT09) for Textiles - Viscose Rayon Cut Staple (Spun) Yarn - Specification ( Second Revision ) [TXD/31/25551] for a period of 30 days for eliciting technical comments. No comments have been received on the draft amendment. The draft amendment is given in **Annex 4 (P- 12 to 14)** to the agenda.

**4.1.1** The committee may **DECIDE**.

**4.2** In the last meeting, the committee decided to wide circulate the draft for Textiles - Continuous Filament Polypropylene Yarns - Specification [TXD/31/25547] for a period of 60 days for eliciting technical comments. The draft is given in **Annex 5** **(Attached separately)** to the agenda. The comment received on the draft standard from M/s Techfab India is given below.

1. I agree with the Draft

**4.2.1** The committee may **DECIDE**.

**Item 5 COMMENTS RECEIVED ON PUBLISHED STANDARDS**

**5.1** The comments received from the following organizations on IS 17261 : 2022 are given in **Annex 6 (P- 15 to 40)** to the agenda.

1. Office of the Commissioner of Customs, Navi Mumbai
2. Sancheti Impex LLP.
3. Welspun India Ltd.
4. SGCCI, Surat
5. Pandesara Weavers Co Op Society Ltd.
6. Recron (Malaysia) Sdn Bhd

**5.1.1** The committee may **DECIDE.**

**5.2** The comments received on IS 18739 : 2024 for Bedsheet, pillow cover and blanket cover from M/s Redstone Ventures LLP are given in **Annex 7 (P- 41 to 48)** to the agenda**.**

**5.2.1** The committee may **DECIDE.**

**5.3** The comments received on 17264 : 2022 for Polyester IDY from Omega QMS Pvt Ltd. are given in **Annex 8 (P- 49)** to the agenda. In the last meeting the committee decided thatM/s Reliance Industries shall provide the complete data regarding the requirements of the adhesive activating finish including the test method used for testing it within next 15 days. The committee also decided that technical inputs from M/s Shakti Cords Private Limited, Madurai shall also be taken on the above points for deliberation in the committee. The inputs received from M/s Reliance are given in **Annex 9** **(P- 50 to 51)** to the agenda. The inputs from M/s Shakti Cord are awaited.

**5.3.1** The committee may **DECIDE.**

**Item 6 REVIEW OF INDIAN STANDARDS**

**6.1** As per procedure of BIS, standards which were published/reaffirmed five years ago or before are required to be reviewed to assess adequacy of the requirements specified. Review is carried out keeping in view the changes in technology, current industrial practices and the needs/ expectations of the consumers/users so as to decide regarding further reaffirmation/revision/ withdrawal/amendment of the standards under review. The standards due for review in 2024-25 are given below:

|  |  |  |
| --- | --- | --- |
| 1 | IS 2422 : 2015 | Textiles – Fabric, water repellent for capes and rain coats – Specification (third revision) |
| 2 | IS 9543 : 2015 | Textiles – Spun polyester sewing threads – Specification (first revision) |
| 3 | IS 16369 : 2015 | Textiles – Saris made of cotton, man-made fibres filaments and their blends – Specification |
| 4 | IS 16374 : 2015 | Textiles – Woven suitings made of cotton man-made fibres filaments and their blends – Specification |
| 5 | IS 16394 : 2015 | Textiles – Woven shirtings made of cotton man-made fibres filaments and their blends – Specification |

**6.1.1** The committee may **DEIDE.**

**Item 7 ANY OTHER BUSINESS**

**ANNEX 1**

**(Item 2.1)**

**COMPOSITION AND SCOPE OF TXD 31**

**Scope & Composition of Man-made Fibres, Cotton and their Products Sectional Committee, TXD 31**

**Scope: (a)** To formulate Indian Standards for terminology, grading, packaging and specification for kapok, cotton, mill-made cotton fabrics and yarns spun on cotton system.

**(b)** To formulate for terminology, grading, packaging and specification for man-made fibres and their products.

|  |  |  |
| --- | --- | --- |
| **Sl No.** | **NAME OF THE ORGANIZATION** | **REPRESENTED BY** |
|  | Textiles Committee, Mumbai | Shri Kartikay Dhanda**,** Director (Labs)  CHAIRMAN |
|  | All India Cotton Farmer Producer Organization Association, Mumbai | Shri Manish Pratap Daga  Shri Rajendra Laxman Karpe (Alternate) |
|  | Arvind Mills, Ahmedabad | Mr. Shri Pabitra Sahoo  Mr. Shri Prem Kumar (Alternate) |
|  | Association of Synthetic Fibre Industries, New Delhi | Shri M S Verma |
|  | AYM Syntex, Dadra & Nagar Haveli | Shri Arnab Samantha |
|  | Central Institute for Cotton Research, Nagpur | Dr. G.T. Behere  Dr. S. Manickam (Alternate) |
|  | Coats Groups, Madurai | Shri Meril Jenson |
|  | Confederation of Indian Textile Industry, New Delhi | Smt Chandrima Chatterjee  Shri Anmol Gupta (Alternate) |
|  | Consumer Guidance Society of India, Mumbai | Dr Sitaram Dixit  Dr M S Kamath (Alternate) |
|  | Cotton Association of India, Mumbai | Atul S. Ganatra  Shri Vinay N. Kotak (Alternate) |
|  | Defence Material and Stores Research & Development Establishment, Kanpur | Shri Ashok Kumar Yadav  Shri Biswa Ranjan Das (Alternate) |
|  | Department of Chemicals and Petrochemicals, New Delhi | Shri O P Sharma |
|  | Federation of Gujarat Weaver Welfare Association, Surat | Shri Ashok Jirawala  Shri Sanjay Desai (Alternate) |
|  | Farmer Representative | Shri Dilip Thakare |
|  | Grasim Industries Limited, Vadodara | Smt Shailley Garg  Smt Ashmita Panchal (Alternate) |
|  | Garden Silk Mills Pvt Ltd., Surat | Shri Prasenjit Mandal  Dr. Soumyen Pal (Alternate) |
|  | ICAR – Central Institute for Research on Cotton Technology, Mumbai | Dr Senthil Kumar  Dr A Arputharaj (Alternate) |
|  | Kotak & Company, Mumbai | Mr. Suresh A. Kotak |
|  | Northern India Textile Research Association, Ghaziabad | Shri Sanjeev Shukla |
|  | Office of the Textiles Commissioner, Mumbai | Shri Sourabh Kulkarni  (Shri Pranav Parashar) |
|  | Reliance Industries Limited, Mumbai | Shri Ajay Gupta  Shri Keshav Pareek (Alternate) |
|  | SITRA, Coimbatore | Shri V Thanabal  Shri S. Sivakumar (Alternate) |
|  | South Gujarat Chambers of Commerce and Industry, Surat | Shri Himanshu Bodawala  Shri Ashish Gujarati (Alternate) |
|  | South Gujarat Warp Knitters Association, Surat | Shri Brijesh Gondaliya  Shri Raman Megotia (Alternate) |
|  | Textiles Committee, Mumbai | Shri J D Barman  Shri P N S Sivakumar (Alternate) |
|  | The Bombay Textile Research Association, Mumbai | Shri R A Shaikh  Smt Shreyasi Nandy (Alternate) |
|  | The Cotton Corporation of India Ltd, Navi Mumbai | Shri S K Panigrahi  Shri Pranjal P Joshi (Alternate) |
|  | The Southern India Mills’ Association, Coimbatore | Dr. K Selvaraju  Shri Nagarajan Esakkimuthu (Alternate) |
|  | The Synthetic and Art Silk Mills Research Association, Mumbai | Smt (Dr) Manisha Mathur  Smt Ashwini A Sudam (Alternate) |
|  | Veermata Jijabai Technological Institute, Mumbai | Smt (Dr) Suranjana Gangopahyay  Shri S P Borkar (Alternate) |
|  | Maharashtra Cotton Ginners Association | Nomination Awaited |
|  | The Haryana Cotton Ginners Association | Nomination Awaited |
|  | Telengana Cotton Ginners Association | Nomination Awaited |
|  | Vardhman Group | Nomination Awaited |

**ANNEX 2**

**(Item 2.2)**

**COOPTION REQUESTS RECEIVED**

1. **Cooption request received from Cotton Association of Odisha**

To,

Shri J. K. Gupta Scientist-E & Head (Textiles)

Textiles Department

Bureau of Indian Standards

9 Bahadur Shah Zafar Marg

New Delhi

**Subject**: Request for Stakeholder Participation in BIS Decision-Making

Dear Shri J. K. Gupta,

We, the COTTON ASSOCIATION OF ODISHA, proudly represent the entirety of the ginning industry within our region. As a collective voice for the ginners in our area, we are dedicated to fostering growth and ensuring the highest standards within the cotton textile sector.

We write to express our sincere desire to be recognized as a stakeholder and to participate actively in the decision-making processes of the Bureau of Indian Standards (BIS). Given our extensive reach and deep understanding of the challenges and opportunities within the cotton ginning industry, we believe our inclusion would greatly enrich the deliberations and outcomes of BIS initiatives.

In particular, we respectfully request consideration for membership within the TXD 31 committee. By becoming members of this esteemed body, we aspire to contribute meaningfully to the standardization efforts and play a pivotal role in advancing the interests of the cotton textile sector, thereby contributing to the overall progress of our nation.

We are confident that our inclusion as stakeholders will not only enhance the effectiveness of BIS initiatives but also reflect the inclusive ethos of collaborative decision-making that is crucial for the sustainable development of our industry.

Thank you for considering our humble request. We eagerly await your positive response and the opportunity to collaborate closely with BIS for the betterment of the cotton textile industry.

Warm regards,

Arun Kumar Agrawal

President

9437033019

Email: [ambicacotton@gmail.com](mailto:ambicacotton@gmail.com)

1. **Cooption request received from Karnataka Cotton Association**

**KARNATAKA COTTON ASSOCIATION (Regd.)**

Date : 20th APR 2024

**To**

**Shri J. K. Gupta Scientist-E & Head (Textiles)**

Textiles Department

Bureau of Indian Standards

9 Bahadur Shah Zafar Marg

**NEW DELHI**

**Subject: Request for Stakeholder Participation in BIS Decision-Making.**

**Dear Shri J. K. Gupta,**

We, the Karnataka Cotton Association, State Ginners Association, proudly represent the entirety of the ginning industry within our region. As a collective voice for the ginners in our area, we are dedicated to fostering growth and ensuring the highest standards within the cotton textile sector.

We write to express our sincere desire to be recognized as a stakeholder and to participate actively in the decision-making processes of the Bureau of Indian Standards (BIS). Given our extensive reach and deep understanding of the challenges and opportunities within the cotton ginning industry, we believe our inclusion would greatly enrich the deliberations and outcomes of BIS initiatives.

In particular, we respectfully request consideration for membership within the TXD 31 committee. By becoming members of this esteemed body, we aspire to contribute meaningfully to the standardization efforts and play a pivotal role in advancing the interests of the cotton textile sector, thereby contributing to the overall progress of our nation.

We are confident that our inclusion as stakeholders will not only enhance the effectiveness of BIS initiatives but also reflect the inclusive ethos of collaborative decision-making that is crucial for the sustainable development of our industry.

Thank you for considering our humble request. We eagerly await your positive response and the opportunity to collaborate closely with BIS for the betterment of the cotton textile industry.

Warm regards,

**Thanking you,**

**For Karnataka Cotton Association**

1. **Cooption request received from Saurashtra Ginner Association, Gujarat India**

To, Date: 20/04/2024

Shri J. K. Gupta Scientist-E & Head (Textiles)

Textiles Department

Bureau of Indian Standards

9 Bahadur Shah Zafar Marg

New Delhi

**Subject**: Request for Stakeholder Participation in BIS Decision-Making

Dear Shri J. K. Gupta,

We, the Saurashtra Ginners Association proudly representing more than 490 ginning factories in Saurashtra region of Gujarat. As a collective voice for the ginners in our area, we are dedicated to fostering growth and ensuring the highest standards within the cotton textile sector.

We write to express our sincere desire to be recognized as a stakeholder and to participate actively in the decision-making processes of the Bureau of Indian Standards (BIS). Given our extensive reach and deep understanding of the challenges and opportunities within the cotton ginning industry, we believe our inclusion would greatly enrich the deliberations and outcomes of BIS initiatives. Furthermore as we are the biggest regional ginning association in India, our inclusion would greatly play vital role in bringing and convincing ginning fraternity in accepting and implementing entire BIS process.

In particular, we respectfully request consideration for membership within the TXD 31 committee. By becoming members of this esteemed body, we aspire to contribute meaningfully to the standardization efforts and play a pivotal role in advancing the interests of the cotton textile sector, thereby contributing to the overall progress of our nation.

We are confident that our inclusion as stakeholders will not only enhance the effectiveness of BIS initiatives but also reflect the inclusive ethos of collaborative decision-making that is crucial for the sustainable development of our industry.

Thank you for considering our humble request. We eagerly await your positive response and the opportunity to collaborate closely with BIS for the betterment of the cotton textile industry.

Warm regards,

Arvindbhai Pan (President)

Saurashtra Ginners Association Mo.: 9825076050

1. **Cooption request received from M/s Northern Railways**

**Subject**: Request for addition as Co-Op member in Bedsheets, Pillow Cover, Blanket Cover,

Towel Committee TXD-31

Northern Railway had undertaken extensive exercise to revamp its bed linen being provided to railway passengers. In this regard, the strategy undertaken involved comprehensive review of existing specifications, identification of problem statements, and gathering feedback from stakeholders through Rail Madad and other channels. Premier textile institutions like IIT Delhi, BIS, CQA (MoD), Textile Committee, IOFS were consulted, followed by an industry consultation meeting with reputed textile mills. Samples from major manufacturers were analyzed to finalize specifications in terms of feel and finish, with specifications subsequently validated through reverse engineering and testing at NITRA lab.

This mill made Bedsheets, Pillow Cover, Blanket Cover and Towel specification made by Northern Railway were given to BIS through email dated 02.11.2023 and 10.11.2023 for standardization. This material is extensively used by Northern Railway and Indian Railways as whole, and the standardized specification has been made for entire Indian Railways. The team of officers involved in this extensive exercise consists of:

|  |  |  |  |
| --- | --- | --- | --- |
| Name r | Sh. Sanjeev Kumar Jain | Sh. Rajesh Kuma | Sh. Sandeep Kumar  Singh |
| Designation | Principal Chief  Materials Manager | Chief Materials  Manager | Dy. Chief Materials  Manager |
| Email | [cos@nr.railnet.gov.in](mailto:cos@nr.railnet.gov.in) | rajesh.kumar3112@g  ov.in | [sk.singh90@gov.in](mailto:sk.singh90@gov.in) |
| Mobile No. | 9839877637 | 9794935117 | 9411821896 |
| Organization | Northern Railway | Northern Railway | Northern Railway |

We have participated in every TXD-31 meeting held after 02.11.2023. We have also answered all the queries raised regarding specification from other esteemed members or participants from industry. It is requested to please add these above names as Co-Op members from Northern Railway in standard which is under publication or going to be published for Bedsheets, Pillow Cover, Blanket Cover and Towel.

Regards

Sandeep Kumar Singh, IRSS

Dy. Chief Materials Manager

Northern Railway

**ANNEX 3**

**(Item 3.1)**

**SUMMARY OF ACTIONS TAKEN ON THE MINUTES OF PREVIOUS MEETING**

|  |  |  |
| --- | --- | --- |
| **ITEM NO.** | **DESCRIPTION OF ACTION REQUIRED** | **ACTION TAKEN** |
| **2.1** | **SCOPE AND COMPOSITION OF TXD 32** | Updated composition is given in **Annex 1**. |
| **4** | **COMMENTS ON PUBLISHED STANDARD**  **4.1** The Committee decided to wide circulate the amendment of IS 3566 : 2023  **4.2** The committee decided to sought inputs from M/s Shakti Cords Pvt Ltd, Madurai and M/s Reliance Industries, Mumbai on IS 17264 : 2022  **4.3** The committee decided to allocate IS 7866 : 1983 as an ARP to prepare draft revision  **4.4** The committee decided to sought clarification in the comments received from Prof. R Rajgopalan in the IS 17265 : 2023 | Wide circulation completed and coming up for discussion under item 4.1  Inputs from M/s Shakti cords Pvt Ltd., Madurai awaited and inputs from M/s Reliance Industries, Mumbai has been received.  ARP allocated  Inputs awaited |
| **5** | **5.1** The committee decided to finalize the draft amendment to IS 17261 : 2022  The committee decided that M/s SGCCI, Surat shall provide the complete data for polyester mechanical stretch yarn as per the requirements specified in IS 17261 : 2022  **5.2** The committee decided to finalize the draft amendment to IS 17262 : 2022  **5.3** The committee decided to finalize the draft revision to IS 7867 : 2022  **5.4** The committee decided to finalize the draft for Bedsheet, pillow cover and blanket cover  **5.5** The committee decided to finalize the draft revision of IS 7056 : 1989 | Under publication  Inputs received and coming up for discussion under item 5.1  Under publication  Under publication  Published  Published |
| **6.1** | The committee decided to wide circulate the draft on Polypropylene filament yarn | Wide circulation completed and coming up for discussion under item **4.2** |
| **7.1** | The committee decided to reaffirm IS 17217 : 2019 for a period of 5 years without any change | Reaffirmed |
| **9.1** | The committee finalized the amendment to IS 17265 : 2023 | Under publication |

**Annex 4**

**(Item 4.1)**

**DRAFT AMENDMENT TO IS 3566**

DRAFT FOR COMMENTS ONLY **DOC: TXD 31 (25551) WC**

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भारतीय मानक ब्यूरो

भारतीय मानक में संशोधन का मसौदा

आई एस 3566 : 2023 वस्त्रादि — विस्कोस रेयॉन कट स्टेपल (स्पन) धागे — विशिष्टि ( दूसरा पुनरीक्षण ) संशोधन - १

**BUREAU OF INDIAN STANDARDS**

*Draft Amendment to Indian Standard*

**Amendment No. 1 To**

**IS 3566 : 2023 Textiles — Viscose Rayon Cut Staple (Spun) Yarn —**

**Specification**

( *Second Revision* )

Last date of receipt of comments: 03 June 2024

(*Foreword*, *Paragraph* 2, *sentence* 1) *—* Substitute the following for existing:

‘Viscose cut staple spun yarn is a type of yarn manufactured from ring spinning, Airjet spinning and air vortex spinning of viscose staple fibres’

(*Page* 1, *Clause* 1.1, *Scope*) *—* Substitute the following for existing:

‘**1.1** This standard specifies the requirement of 100 percent viscose cut staple ring spun, air vortex spun, and airjet spun yarn.’

(*Page* 1, *Clause* 3.4) *—* Substitute the following for exisiting

‘**3.4 Airjet Spinning** — Airjet spinning is a type of open-end spinning, which is a method used to produce yarn from staple fibres. In this spinning process, drafted fibres are introduced into a spindle by high-speed airflow to insert twist into the yarn.’

(*Page* 1, *Clause* 3.5) *—* Insert the following clause after clause 3.5

‘**3.6 Air vortex spinning** — Air vortex spinning is a textile yarn manufacturing technique that utilizes the air vortex to impart twist in yarn. In this process, staple fibers are subjected to high- speed air currents formed by two nozzles creating vortexes in opposite direction.’

(*Page* 1, *Clause* 4) *—* Insert the following after the clause and renumber the existing clause as 4.1

‘**4.2 Conditioning and Testing** *—* The test specimens shall be conditioned in the standard atmosphere of 27 *±* 2°C temperature and 65 ± 4 percent relative humidity.’

(*Page* 1, *Clause* 5.1, *Title*) *—* Substitute ‘Airjet’ *for* ‘Vortex/Airjet’ (*Page* 1, *Clause* 5.1,*line* 1) *—* Substitute ‘Airjet’ *for* ‘Vortex/Airjet’ (*Page* 2, *Table* 1, *Title*) *—* Substitute ‘Airjet’ *for* ‘Vortex/Airjet’

(Page 3, Clause 5.2) *—* Insert the following clause after clause 5.2 and renumber the subsequent clauses:

‘**5.3 Viscose Air vortex spun yarn**

**Table 3 Requirements of 100 Percent Viscose Air Vortex Yarn**

(*Clause* 5.3)

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Sl.**  **No.** | **Characteristics** | **Count of Yarn, Tex (Ne)** | | | | **Method of Test, Ref to** |
| 29.5 tex ( 20s) | * 19.6 to   29.5 tex (20s -   30s) | * 14.7 to   19.6 tex (30s -   40s) | ≤ 14.7 tex (≥ 40s) |
| **(1)** | **(2)** | **(3)** | **(4)** | **(5)** | **(6)** | **(7)** |
| i) | Count, Ne | As declared with a tolerance of   3.0  percent | As declared with a tolerance of   3.0  percent | As declared with a tolerance of   3.0  percent | As declared with a tolerance of   3.0  percent | IS 1315 |
| ii) | Count CV, Percent,  *Max* | 2.2 | 2.2 | 2.2 | 2.2 | IS 1315 |
| iii) | CSP, *Min* | 1700 | 1700 | 1650 | 1650 | IS 1671 |
| iv) | Lea breaking Load  CV, Percent, *Max* | 5.5 | 5.5 | 6 | 6 | IS 1671 |
| v) | Yarn tenacity,  cN/tex, *Min* | 11.5 | 11.5 | 11.0 | 11.0 | IS 1670 |
| vi) | Yarn tenacity CV,  percent, *Max* | 9.5 | 10.5 | 11.0 | 11.5 | IS 1670 |
| vii) | Breaking elongation, percent,  *Min* | 11.0 | 9.5 | 9.0 | 9.0 | IS 1670 |
| viii) | Unevenness,  percent, *Max* | 10.2 | 11.3 | 12.1 | 12.9 | IS 16576 |
| ix) | Unevenness CV,  percent, *Max* | 11.8 | 13.7 | 15.2 | 16.1 | IS 16576 |
| x) | Hairiness index,  *Max* | 6.2 | 5.0 | 4.5 | 4.0 | Annex C |
| xi) | Imperfections/km,  *Max* |  | | |  | IS 16576 |
| Thin (-50%) | 6 | 17 | 35 | 61 |
| Thick (+50%) | 20 | 44 | 76 | 116 |
| Neps (+200%) | 23 | 40 | 59 | 80 |
| Total | 49 | 101 | 170 | 257 |
| NOTE — The requirement for hairiness index shall be applicable for doubled yarns also. | | | | | | |

(*Page* 4, *clause* 5.3, *sentence* 1) — Substitute the following for existing:

‘The single yarn used for producing multifold yarn shall satisfy the requirements specified in 5.1, 5.2 and 5.3’

(*Page* 4, *clause* 5.3.6) — Substitute the following for existing:

‘The requirement for hairiness index as specified in Sl No. (x) of Table 1, Sl No. (xi) of Table 2 and Sl No. (x) of Table 3 shall be applicable for airjet multifold yarn, ring multifold yarn and air vortex multifold yarn respectively. The hairiness shall be tested as per the method prescribed in Annex C.’

TXD 31

**Annex 6**

**(Item 5.1)**

**COMMENTS RECEIVED ON IS 17261**

1. **Comments received from M/s Pandesara Weavers Co. Op. Soc. Ltd**
2. Subject: - The Technical Details of Mechanical Stretch Yarn.

Ref: - The sample collected (FDY Yarn) by the BIS team in August 2023.

Respected Sir,

With reference to above mentioned subject we would like to inform you that the samples of FDY yarns were collected by BIS team in month of August 2023. Two type of FDY yarns were collected. 80/48 FDY & 50/48 FDY yarn. This yarn samples were submitted to various laboratories for testing the various parameters like Denier (DTex), Tenacity, Elongation, etc. The results arrived in the month of January 2024. The results were discussed in the committee.

We would like to inform that the FDY yarn of 80/48 (80 deniers and 48 filaments) is a Mechanical Stretch yarn. This is a specialty yarn used to manufacture 4-way stretchable fabric. It is also called SPH/ SSY.

‘SPH is a kind of composite yarn of polyester. It adopts a new type of elastic fiber with twin-screw and two-component, that is, two different elastic polyester fibers are combined to make the fabric have long-lasting elasticity.''

This yarn is differentiated at fiber stage itself. This specialty yarn is not being manufactured in India and hence the TRA’s and textile laboratories of India are not aware of the technical specifications of this yarn. We are attaching the Technical specification of this yarn and also the Certificate of Analysis (COA).

We request you to kindly take a note of this.

With Regards,

Thanking you,

Thanks & Regards,

Ashish Gujarati

9375590456

**Pandesara Weavers Co. Op. Soc. Ltd**

**COA mechanical Strech Yarn**

CERTIFICATE TO QUALITY

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **LOT: XN7840** | | **SPEC: FD 88dtex/48f(80D/48F)** | | |
| FDY | | | | |
| **No.** | **DESCRIPTION** | **UNIT** | **TEST RESULT** | **REMARK** |
| 1 | TITRE | Dtex | 87.9 |  |
| 2 | VARIATION COREFICIENT OF TITRE (CV) | % | 0.34 |  |
| 3 | TENACITY | CN/dtex | 2.42 |  |
| 4 | VARIATION COREFICIENT OF TENACITY (CV) | % | 2.92 |  |
| 5 | ELONGATION | % | 25.3 |  |
| 6 | VARIATION COREFICIENT OF ELONGATION (CV) | % | 7.64 |  |
| 7 | USTER (CV) | % | 1.43 |  |
| 8 | BWS | % | 7.0 |  |
| 9 | O.P.U | % | 1.002 |  |
| 10 | INTERLACE | N/m | 7 |  |
| GRADE | | AA | |  |

**Mechanical Strech Yarn**

**SPECIFICATION**

TO WHOM IT MAY CONCERN: Date: April 20, 2023

|  |  |  |
| --- | --- | --- |
| **TEST ITEMS** | **POLYESTER SPH 88 DTEX/48F**  **LOT NO: SPH7530 - 1** | |
| **STANDARD** | **TEST** |
| Fiber density (dtex) | (88) ± 1.0 | 87.69 |
| Cv of fiber density Cv (% ) | ≤ 0.8 | 0.26 |
| Breaking Strength (cn/dtex) | ≥ 2.2 | 2.23 |
| Cv of breaking strength Cv (%) | ≤ 3.0 | 2.18 |
| Percent of breaking elongation (%) | (22) ± 2.0 | 22.13 |
| Cv of elongation Cv(%) | ≤ 8.0 | 5.2 |
| Boiling water shrinkage (%) | (8.5) ± 1 | 8.22 |
| Evenness (um) | ≤ 1.2 | 1.00 |
| Intermingle (Numbers/Meter) | (20) ± 5.0 | 22 |

ii) Subject: - The Technical Details of Mechanical Stretch Yarn.

Ref: - The sample collected (FDY Yarn) by the BIS team in August 2023.

Respected Sir,

With reference to above mentioned subject we would like to inform you that the samples of FDY yarns were collected by BIS team in month of August 2023. Two type of FDY yarns were collected. 80/48 FDY & 50/48 FDY yarn. This yarn samples were submitted to various laboratories for testing the various parameters like Denier (DTex), Tenacity, Elongation, etc. The results arrived in the month of January 2024. The results were discussed in the committee.

We would like to inform that the FDY yarn of 80/48 (80 deniers and 48 filaments) is a

Mechanical Stretch yarn. This is a specialty yarn used to manufacture 4-way stretchable fabric. It is also called SPH/ SSY.

‘SPH is a kind of composite yarn of polyester. It adopts a new type of elastic fiber with twin-screw and two-component, that is, two different elastic polyester fibers are combined to make the fabric have long-lasting elasticity.''

This yarn is differentiated at fiber stage itself. This specialty yarn is not being manufactured in India and hence the TRA’s and textile laboratories of India are not aware of the technical specifications of this yarn. We are attaching the Technical specification of this yarn and also the Certificate of Analysis (COA).

We request you to kindly take a note of this.

With Regards,

**Thanking you,**

Ashish Gujarati,

President

Pandesara Weavers Co-op Soc. Ltd. Surat

1. **Comments received from M/s SGCCI**
2. **Sub: Submission of Clarification on the Type of FDY Samples collected and sealed by BIS team during their Visit to Surat on 15/09/2023.**

**Ref: Letter from Pandesara Weavers Co. Op Soc. Ltd dated 25th April, 2024**

Respected Sir,

Greetings from The Southern Gujarat Chamber of Commerce & Industry, Surat.

This refers to the last TXD31 meeting held on 23rd of April, 2024m in which various stakeholder of user industry has claimed that when BIS team visited Surat to collect various FDY and POY samples (imported) for the purpose of testing the specifications of the imported yarn viz-a-viz domestic yarn, it has come to the notice of the sample providers that the said sample of FDY which were collected from our members were Speciality yarn called as “ Mechanical Stretch Yarn” instead of regular FDY.

In confirmation of the above, we have received a letter from Pandesara Weavers Cooperative Soc. Ltd who was instrumental in coordinating the said samples for BIS.

We therefore, herewith make a humble submission that the results obtained against the FDY samples be considered that of “Mechanical Stretch Yarn” and any deviation observed in the Tenacity, Elongation etc. like features should be conforming to the best specifications of Mechanical Stretch Yarn as accepted Globally.

This is for your information and necessary action.

**Thanks & regards,**

**Ramesh Vaghasia,**

**President**

**Subject: - The Technical Details of Mechanical Stretch Yarn.**

Ref: - The sample collected (FDY Yarn) by the BIS team in August 2023.

Respected Sir,

With reference to above mentioned subject we would like to inform you that the samples of FDY yarns were collected by BIS team in month of August 2023. Two type of FDY yarns were collected. 80/48 FDY & 50/48 FDY yarn. This yarn samples were submitted to various laboratories for testing the various parameters like Denier (DTex), Tenacity, Elongation, etc. The results arrived in the month of January 2024. The results were discussed in the committee

We would like to inform that the FDY yarn of 80/48 (80 deniers and 48 filaments) is a Mechanical Stretch yarn. This is a specialty yarn used to manufacture 4-way stretchable fabric. It is also called SPH/ SSY.

' SPH is a kind of composite yarn of polyester. It adopts a new type of elastic fiber with twin-screw and two-component, that is, two different elastic polyester fibers are combined to make the fabric have long-lasting elasticity."

This yarn is differentiated at fiber stage itself. This specialty yarn is not being manufactured in India and hence the TRA's and textile laboratories of India are not aware of the technical specifications of this yarn. We are attaching the Technical specification of this yarn and also the Certificate of Analysis (COA).

We request you to kindly take a note of this.

With Regards,

Thanking you,

For Pandesara Weavers Co-Op &Delhi

Panident/Vice President/Secretary/Treasurer

Ashish Gujarati,

**ii) Sub: Handing over you the sample of polyester Stretch yarn also commercial name called "SPH / SSY"**

**Ref No: Discussion held in the TXD-31 Meeting held on 23rd April, 2024 and agreed by Mr. Keeshav Parikh in the meeting.**

**Dear Sir,**

Greetings from The Southern Gujarat Chamber of Commerce & Industry, Surat.

This has a reference to the discussion held in the meeting of TXD-31 on 23.04.2024 by the BIS, during the discussion on specialty Polyester yarns, which falls under FDY category, it was decided that SGCCI will provide sample of such imported Specialty yarn to Reliance Industries Ltd, Surat office, the said discussion was passed in the meeting and was agreed by Mr. Keeshav Parikh — Representative of Reliance Industries Limited on TXD-31 Committee.

It is further decided, that reliance will undertake the technical study of this sample and will let the BIS Committee know that whether such products can be manufactured by Reliance in India or not.

Based on above premise, we are handing over to you 1 sample of polyester Stretch yarn also commercial name called "SPH /SSY" for your consideration. We are also submitting the certificate of analysis (COA, the technical specifications) of the said yarn.

We look forward to your earliest response on possibility of manufacturing the said materials in India by Reliance or any other Polyester manufacturers at the earliest.

Thanking you,

Yours Sincerely,

Paulik Desai

Dy Secretary,

1. **Comments received from Ved Road Art Silk Small Scale Co Op Federation Ltd.**

**Subject : The Technical Details of Mechanical Stretch Yarn.**

**Ref: - The sample collected (FDY Yarn) by the BIS team in August 2023.**

Respected Sir,

With reference to above mentioned subject we would like to inform you that the samples of FDY yarns were collected by BIS team in month of August 2023. Two type of FDY yarns were collected. 80/48 FDY & 50/48 FDY yarn.

This samples were collected from our members (VASFOC members)

This yarn samples were submitted to various laboratories for testing the various parameters like

Denier (DTex), Tenacity, Elongation, etc. The results arrived in the month of January 2024. The

results were discussed in the committee.

We would like to inform that the FDY yarn of 80/48 (80 deniers and 48 filaments) is a Mechanical Stretch yarn. This is a specialty yarn used to manufacture 4-way stretchable fabric. It is also called SPH/ SSY.

‘SPH is a kind of composite yarn of polyester. It adopts a new type of elastic fiber with twin-screw and two-component, that is, two different elastic polyester fibers are combined to make the fabric have long-lasting elasticity.''

This yarn is differentiated at fiber stage itself. This specialty yarn is not being manufactured in India and hence the TRA’s and textile laboratories of India are not aware of the technical specifications of this yarn. We are attaching the Technical specification of this yarn and also the Certificate of Analysis (COA).

We request you to kindly take a note of this.

With Regards,

Thanking you

1. **Comments received from Welspun India Ltd.**
2. Respected Sir,

We are writing this email to seek a clarification regarding the applicability of the Quality Control Order (QCO) for Polyether-ester fibre/filament, specifically Solucell, which is a patented technology developed by M/s. BYR International Co., Ltd., Italy, and manufactured in China.

Solucell is not Polyester FDY, as enclosed Tests and technical points given. It is also not matching the basic spirit of BIS quality control, since it is used for dissolving in order to give cotton yarn different function and property, it never exists in finished products (Attached - Soluble Test). Therefore, it does not fall into BIS management ideas

We have been importing Solucell filament yarn and using it to produce value added product called zero twist yarn. We have been in continuous discussions with BIS committee, advocating for permanent exclusion of Solucell yarn from BIS norms considering it’s different technical specs and melting temperature, also with consideration of the fact that no-one is producing Solucell yarn in India.

**Below are the Key Differentiators:**

1. **Composition**: Unlike normal polyester, which is a homopolymer of Terephthalic Acid and Ethylene Glycol, Whereas the Solucell is copolymer of Terephthalic Acid, Ethylene Glycol and Polyethylene Glycol, making it chemically distinct as a "Polyether-ester" rather than a PET. As per the attached test reports it is evident that Solucell is not polyester. The tests provided earlier assumed the type of raw material. However, a proper analysis confirms that Solucell is indeed a different material. The reason to occur above big differences than requirement, is that Solucell is not Polyester (PET) by chemical definition which already tested by SGS via FTIR spectrum (Attached 3 Report)

2. **Solubility and Strength**: Solucell dissolves completely in alkali solutions, resulting in fibre/filament strength that is more than 40% lower and elongation that is over 30% higher than normal polyester. Solucell is a special soluble material designed to dissolve in NaOH conditions, unlike PET. This unique characteristic further differentiates it from PET, as demonstrated in the attached test results.

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Items | Unit | Specifications | | | | | | | | | |
| Solucell | PET | Solucell | PET | Solucell | PET | Solucell | PET | Solucell V2 | PET |
| 30D/12f | 30D/12f | 50D/36f | 50D/36f | 75D/36f | 75D/36f | 100D/72f | 100D/72f | 150D/72f | 150D/72f |
| Linear density | Denier | 30 | 30 | 50 | 50 | 75 | 75 | 100 | 100 | 150 | 150 |
| Linear density bias (CVb) | % | 1.3 | 1.4 | 1.36 | 1.42 | 1.34 | 1.4 | 1.32 | 1.35 | 1.4 | 1.42 |
| **Breaking Strength** | **cN/dtex** | **3.6** | **6.3** | **3.65** | **6.5** | **3.68** | **6.5** | **3.65** | **6.8** | **2.23** | **6.8** |
| Breaking Strength (CVb) | % | 3.5 | 3.4 | 3.6 | 3.7 | 3.5 | 3.4 | 3.5 | 3.4 | 3.5 | 3.4 |
| **Elongation at break** | **%** | **34** | **25** | **34.1** | **24** | **33.6** | **25** | **34.5** | **24** | **28.9** | **23** |
| Elongation at break (CVb) | % | 6.1 | 6 | 6.2 | 6 | 6.1 | 6 | 6.2 | 6 | 6.1 | 6.1 |
| Oil Content | % | 0.75 | 0.8 | 0.75 | 0.8 | 0.75 | 0.8 | 0.75 | 0.8 | 0.75 | 0.8 |
| Moisture regain | % | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 |

3. **Market and Pricing**: The price of Solucell is significantly higher than that of polyester, reflecting its premium status and specialized application. Solucell filaments are priced at over USD 4.00 per kg, compared to USD 1.90 per kg for polyester FDY, based on India's import data.

4. **Environmental Safety**: Post-dissolution residues of Solucell do not contain harmful substances, as verified by M/s.SGS-CSTC Standards Technical Services Co., Ltd. (Annexure-II).

Table Showing Difference in Solucell Yarn & Polyester:

|  |  |  |
| --- | --- | --- |
| **Items** | **Normal Polyester** | **Solucell** |
| **Brief Name** | PET | PET/PEG |
| **Polymers** | Terephthalic Acid Ethylene Glycol Homopolymer | Terephthalic Acid Ethylene Glycol Polyethylene Glycol Copolymer |
| **CAS No.** | 113669-95-7 | 9016-88-0 |
| **Chemical Name** | Poly (oxy-1, 2- ethanediyloxycarbonyl-1, 4- phenylenecarbonyl) | 1,3-Benzenedicarboxylic acid, 5-sulfo-,1,3-bis(2-hydroxyethyl) ester, sodium salt (1:1), polymer with 1,3-benzene dicarboxylic acid, 1,2-ethanediol and alpha-hydro-omega-hydroxy poly (oxy-1,2-ethanediyl), block |
| **Molecular Formula** | (C10H8O4)n | (C12H14O9S.C8H6O4.C2H6O2.(C2H4O)nH2O.Na)× |
| **Application for Textile** | Direct Use in Textile | Zero Twist Yarn, Hollow Cotton Yarn etc. |
| **Composition in finished Fabric** | 100% | 0% (dissolved before dyeing) |
| **Solubility against Alkali** | Very poor (non-soluble) | Excellent (Soluble) |
| **Machinery to be used** | Knitting Machine, weaving looms, Warp Knit Machine, Core Spinning Frame occasionally like for Sewing Thread | TFO, Core Spinning Frame, weaving loom occationally |

**SGS** **report** has also clearly indicated that it is not PET.

**Citi petition** on Clarification on Solucell Yarn : **Categories requiring clarification Solucell: Solucell fibre/filament are chemically termed as “Polyether-ester” and is widely used in Cotton/Solucell twisted yarn as well as core spun yarn to improve the functionalities of final fabric in term of extreme softness and improved water absorption**.

The evidence clearly demonstrates that Solucell is distinct from conventional PET in composition, pricing, and specifications. We have been using Solucell for years, which underscores our familiarity with its unique properties and applications.

Based on above scenario we request BIS committee to exclude Solucell yarn from FDY BIS norms, it will help us as well as will support textile industry to explore new growth avenues in export market by offering innovative products

Given these distinctions, Solucell is a specialty raw material essential for maintaining our competitive edge in the market. The mandatory BIS compliance would not impact the foreign supplier but could severely affect the Indian users who rely on this premium product.

All test reports & Petitions enclosed for your easy reference.

**Request**: In light of the above, we humbly request a clarification stating that the QCO will not be applicable for Polyether-ester fibre/filament (Solucell). We also request suitable directives be issued to BIS to facilitate ease of doing business and help sustain our market share in this niche segment.

We appreciate your understanding and prompt attention to this matter.

Thanks

Kuldeep

**ii) Petition from SIMA**

September 12, 2023

Ms. Nivedita Shukla Verma I.A.S.,

Secretary,

Ministry of Chemicals and Fertilizers,

Government of India,

A-Wing, Shastri Bhawan,

Dr. Rajendra Prasad Road,

New Delhi 110001

[Sec.cpc@nic.in](mailto:Sec.cpc@nic.in)

Dear Madam,

Sub.: Request to clarify regarding the applicability of various QCOs issued for polyester fibre/ filaments by the Department of Chemicals and Petrochemicals during April 2021 for polyether-ester fibre/ filaments (brand name “Solucell”) - reg

The implementation of Government’s vision of making India the global hub for quality products, restricting the manufacture of products harmful to the people and the environment, etc., by way of issuing product-specific Quality Control Orders (QCOs) is a laudable move. We are also thankful to the Hon’ble Minister of Chemicals and Fertilisers and your goodself for favourably considering the request of the connected industry and extending few polyester fibre/filaments and their value-added textile products’ QCOs upto 5th October 2023.

Madam, we bring to your kind attention that the Indian textile industry is predominantly cotton based due to the availability of quality cotton in the country and the industry is on the path to become a global player in MMF textiles & clothing segment due to the policy initiatives taken by the Government under the dynamic leadership of Hon’ble Prime Minister.

In order to capture fresh market opportunities, the industry has been carrying out continuous research and development to manufacture new products with unique characteristics to meet the requirements of certain niche markets. One such invention is the “Solucell” fibre / filament (patented technology) by M/s. BYR International Co., Ltd., Italy which is manufactured in China due to the availability of latest technology machinery, key raw materials, industry-friendly policy, etc. The Solucell filament is vastly used in Cotton/Solucell twisted yarn as well as core spun yarn where the Solucell filament will be wrapped around by cotton fibres. The Solucell filament will be always chemically degraded (dissolved) during the processing of fabric, leaving pure cotton with added functionalities. The twisted yarn will give extreme softness and improved water absorption to towels, while the core spun yarn will form a hollow core in the yarn making the end product lighter, softer and with advanced functions of moisture management and thermal regulations. This type material has found a place in the manufacture of towel fabrics and manufacturers in India viz., Welspun, Himatsingka Linens, Kapoor Industries, Trident, Mohan Spintex, Sambandam Spinning Mills Limited, etc. are sourcing this raw material.

Normal polyester is a homopolymer of Terephthalic Acid and Ethylene Glycol. Whereas the Solucell is copolymer of Terephthalic Acid, Ethylene Glycol and Polyethylene Glycol. Since Solucell completely dissolves in alkali solution the strength of its fibre/filament are more than 40% lower than the normal polyester fibre/filament. The elongation of Solucell is more than 30% higher than the normal polyester. The key difference between Solucell fibre/filament when compared to normal polyester fibre/filament are enclosed as Annexure-I.

Solucell fibre/filament are chemically termed as “Polyether-ester” and their major composition is not Polyethylene Terephthalate (PET) based on the test result issued by M/s.SGS-CSTC Standards Technical Services Co., Ltd. (report enclosed as Annexure-II). Moreover, the residues of Solucell after dissolving do not possess any harmful substances (report enclosed as Annexure-III). The CAS registry lookup results and solubility test results of Polyester and Solucell are enclosed as Annexure-IV and V respectively for your kind information. It is also important to note that the price of Solucell Filaments is more than USD 4.50 per kg as against USD 1.87 per kg of polyester FDY, based on India’s import data, and the price of Solucell staple fibre is more than USD 3.50 per kg as against USD 1.21 per kg of polyester staple fibre, based on India’s import data (supporting invoice copy for Soulecell is enclosed as Annexure - VI and import data of Polyester filament yarn and staple fibre are enclosed as Annexure - VII).

On the whole, this may be noted that Polyether-ester fibre/filament (Solucell) are speciality raw materials and manufactured only by M/s.BYR International Co. Ltd. Being a premium product, the foreign supplier will not be affected by the mandatory BIS compliance while the Indian users of such raw materials will lose the already established market opportunities.

Therefore, we humbly request your goodself to kindly issue a clarification stating that the QCO will not be applicable for Polyether-ester fibre/filament (Solucell) and also direct BIS suitably so as to enable ease of doing business and sustain the market share in this niche segment.

Thanking you,

Yours Faithfully,

(Dr. K. Selvaraju)

Secretary General

**iii) Petition from CITI**

**Request for list of polyester yarn not available domestically - reg.**

**Cir(024)/2024 April 18, 2024**

**Committee:**

**Sub.: Request for list of polyester yarn not available domestically - reg.**

Dear Sirs/Madam,

This has reference to the request of the textile industry for exemption of certain categories of specialized polyester yarns which are not manufactured in India and are import dependent (interms of quality or quantity), from the scope of the recently announced QCOs. Secretary (Department of Chemicals and Petrochemicals) has sought a list of such products for review of the matter. We are sharing a tentative list of such categories which CITI has compiled on the basis of representations received from various associations.

We seek your feedback on any further amendment in the list, if needed, along with proper justification of the same.

Please share your inputs latest by 22nd April 2024, 2 PM so that the same can be incorporated and shared with Ministry for the necessary action.

Placed for your information and necessary action.

Thanking you,

With Best regards,

**Chandrima Chatterjee**

Secretary General

**Fully Drawn Yarn (FDY) and Partially Oriented yarn (POY) Polyester**

* + No production in India-

1. Mechanical stretch yarn: The yarn is 100% polyester yarn (FDY and DTY Route yarn) and provides elasticity/stretchability to the fabrics required by most of fabric end users nowadays. FDY route consist of 95% or more of total stretch yarn import volume.

2. PBT Stretch Yarn: Like the Mechanical stretch yarn, this yarn also provides elasticity/stretchability to the fabrics but has different fell fall for the fabrics.

3. T400 and T800 Yarn: These yarns are used to substitute/ replace spandex from fabrics and is 100% polyester yarn also that too mainly FDY route yarn.

4. ITY/BSY (Quality wise): As the name itself suggest the yarn is Bi- shrinkage yarn and gives fabric a unique feel wherein one part of the yarn shrinks more than the other part of the yarn. Again, this yarn is 100% Polyester yarn and comes in FDY and DTY route as well. FDY occupies the majority market.

5. Low deniers (10D-50D): There are several foreign companies that manufacturers low denier multifilament and single filament items. These kinds of yarns are mainly used for manufacturing light weight and heavy price range fabrics fit for export as well local market.

6. Low Denier High filaments (20D-150D and 12-288 Filaments): These kinds of yarns are called as microfilaments yarns and usually have Denier per filament (DPF) below 1. These yarns give super soft feel to the fabrics.

7. Low denier Low Filaments (10D-50D): These yarns have Denier per filament (DPF) above 1 and are mainly used to make organza-based fabric that have peculiar use for Indian sarees and garment market as well.

8. 30D Sparkle yarn/ Diamond yarn (Less than 50D yarn in general): The diamond or sparkle yarn are 4 side cross sectional yarns with ultra shining properties. There is no or negligible low denier (less than 50D) local yarn producers and the quality for higher deniers have a huge difference in terms of quality and quantity as well along with prices. For these items, imported materials are at a higher cost than local suppliers because of difference in quality.

9. Intimation yarn: These yarns are 100% polyester yarns but the fabric of such yarns exhibit properties (Fabric feel/ Fabric look/etc.) like other yarn’s fabric. Few of them are:

* + Silk like yarn- It is 100% polyester but is popularly used as copy of silk yarns.
  + Viscose like yarn- It is 100% polyester but is popularly used as copy of viscose filament yarns.
  + Acetate like yarn- It is 100% polyester but is popularly used as copy of acetate yarns.

10. Functional yarns: These yarns perform a special additional function. Few of them are:

* Cool pass yarn- these kinds of yarns help fabrics to remain cool during all seasons.
* Conductive yarn- These yarns conduct electricity and are growing steadily in demand. They find applications in various fields ranging from medical to automobile textiles.
* Fluorescent yarn- The yarns glow in dark and fond application in industrial safety apparels and equipment also.

11. Different cross-sectional yarn: These yarns have unique and different cross section apart from round, trilobal (Triangle) and flat (Rectangle). They provide different feel fall and look to the fabric.

12. Bi component yarns: These yarns are made up of more than one chemical compound and provides different properties to the fabric. Mechanical stretch and BSY are few examples that fall under this category of the yarn.

13. High Tenacity Low Shrinkage Polyester FDY (Trilobal)- This product is used in the manufacturing of twisted embroidery threads and is not available in the Indian market with desired quality standards.

* Negligible production/ No quality or price control:

1. FDY Super bright (Quality wise and Denier range wise): The AA grade (According to International norms) is very scare in local market production and also the brightness is way lower than foreign suppliers.

2. Full Dull yarn (Denier range wise): The denier range and the production quantity of local suppliers are not as per current and future consumption of the Indian market.

3. Hollow yarns (Denier ranges and quality wise): The production quantity and quality offer by Indian suppliers is not up to the mark.

4. Dope dyed black and dyed yarns: The quantum, quality and denier range is again not enough for the current market.

5. Mother yarn (SD/TBR/ yarn dyeing) (Quantity and quality wise): The quantity, quality and denier ranges along with dyeing properties in general offered by foreign suppliers is way superior in comparison the local twisuppliers.

* Categories requiring clarification

1. Solucell: Solucell fibre/filament are chemically termed as “Polyether-ester” and is widely used in Cotton/Solucell twisted yarn as well as core spun yarn to improve the functionalities of final fabric in term of extreme softness and improved water absorption.

**Annexure-I**

**Table -1: Comparison of Normal Polyester Vs. Solucell**

|  |  |  |
| --- | --- | --- |
| **Items** | **Normal Polyester** | **Solucell** |
| **Brief Name** | PET | PET/PEG |
| **Polymers** | Terephthalic Acid Ethylene Glycol Homopolymer | Terephthalic Acid Ethylene Glycol Polyethylene Glycol Copolymer |
| **CAS No.** | 113669-95-7 | 9016-88-0 |
| **Chemical Name** | Poly (oxy-1, 2- ethanediyloxycarbonyl-1, 4- phenylenecarbonyl) | 1,3-Benzenedicarboxylic acid, 5-sulfo-,1,3-bis(2-hydroxyethyl) ester, sodium salt (1:1), polymer with 1,3-benzene dicarboxylic acid, 1,2-ethanediol and alpha-hydro-omega-hydroxy poly (oxy-1,2-ethanediyl), block |
| **Molecular Formula** | (C10H8O4)n | (C12H14O9S.C8H6O4.C2H6O2.(C2H4O)nH2O.Na)× |
| **Application for Textile** | Direct Use in Textile | Zero Twist Yarn, Hollow Cotton Yarn etc. |
| **Composition in finished Fabric** | 100% | 0% (dissolved before dyeing) |
| **Solubility against Alkali** | Very poor (non-soluble) | Excellent (Soluble) |
| **Machinery to be used** | Knitting Machine, weaving looms, Warp Knit Machine, Core Spinning Frame occasionally like for Sewing Thread | TFO, Core Spinning Frame, weaving loom occasionally |

**Table-2: Comparison of Polyester Staple Fibre Vs. Solucel Staple Fibre**

|  |  |  |
| --- | --- | --- |
| **Items** | **Recron (Reliance)** | **Solucell** |
| **Denier & Cut Length** | 1.4 × 38mm | 1.4 × 38mm |
| **Tenacity (in gpd)** | 6.4 ± 0.4 | 3.1 |
| **Elongation (in %)** | 24 ± 5 | 65.8 |
| **Crimps (in cm)** | 3.6 – 4.2 | 5.1 |
| **DHS at 180°C – 30 minutes (in%)** | Max 6.5 | 16 |
| **Oil Content** | 0.145 ± 0.015 | 0.26 |

**Table – 3: Comparison of Polyester Filament Yarn Vs. Solucell Filament Yarn**

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Items | Unit | Specifications | | | | | | | | | |
| Solucell | PET | Solucell | PET | Solucell | PET | Solucell | PET | Solucell V2 | PET |
| 30D/12f | 30D/12f | 50D/36f | 50D/36f | 75D/36f | 75D/36f | 100D/72f | 100D/72f | 150D/72f | 150D/72f |
| Linear density | Denier | 30 | 30 | 50 | 50 | 75 | 75 | 100 | 100 | 150 | 150 |
| Linear density bias (CVb) | % | 1.3 | 1.4 | 1.36 | 1.42 | 1.34 | 1.4 | 1.32 | 1.35 | 1.4 | 1.42 |
| **Breaking Strength** | **cN/dtex** | **3.6** | **6.3** | **3.65** | **6.5** | **3.68** | **6.5** | **3.65** | **6.8** | **2.23** | **6.8** |
| Breaking Strength (CVb) | % | 3.5 | 3.4 | 3.6 | 3.7 | 3.5 | 3.4 | 3.5 | 3.4 | 3.5 | 3.4 |
| **Elongation at break** | **%** | **34** | **25** | **34.1** | **24** | **33.6** | **25** | **34.5** | **24** | **28.9** | **23** |
| Elongation at break (CVb) | % | 6.1 | 6 | 6.2 | 6 | 6.1 | 6 | 6.2 | 6 | 6.1 | 6.1 |
| Oil Content | % | 0.75 | 0.8 | 0.75 | 0.8 | 0.75 | 0.8 | 0.75 | 0.8 | 0.75 | 0.8 |
| Moisture regain | % | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 |

**Annexure-III**

Test Report Number: SHAH00596804

Applicant: BYR INTERNATIONAL CO., LTD

ROOM 1702, BUILDING A QINGDAO ART-TECH

CERTER, NO. 63, HAIER RD, 266061, QINGDAO, P.R.CHINA

Attn: WANG CHEN YU

Sample Description:

One (1) submitted sample said to be:

Grey Powder (Possible residues on Solucell made Comfortech Hollow fabrics: fabric made by cotton (solucell) Core spun yarn, dissolved under 5g/L 100% NaOH solvent, 105 d.c. ×60 mins, filtered by ceramic film, and receive powder substance by further filtration by filter paper (15-20µm)).

Tests Conducted

1 Detection of Amines Derived From Azocolourants and Azodyes

By Gas Chromatographic- Mass Spectrometric (GC-MS) and High Performance Liquid Chromatographic (HPLC) Analysis.

Test Method: EN 14362-1:2012

EN 14362-3: 2012 for p-Aminoazobenzene

|  |  |  |  |
| --- | --- | --- | --- |
|  | Forbidden | Cas No | Result |
| 1 | 4-Aminodiphenyl | 92-67-1 | ND |
| 2 | Benzidine | 92-87-5 | ND |
| 3 | 4-Chloro-o-Toluidine | 95-69-2 | ND |
| 4 | 2-Naphthylamine | 91-59-8 | ND |
| 5 | o-Aminoazotoluene | 97-56-3 | ND |
| 6 | 2-Amino-4-Nitrotoluene | 99-55-8 | ND |
| 7 | p-Chloroaniline | 106-47-8 | ND |
| 8 | 2,4-Diamlnoanisole | 615-05-4 | ND |
| 9 | 4,4-Diaminodiphenylmethane | 101-77-9 | ND |
| 10 | 3,3-Dichlorobenzidine | 91-94-1 | ND |
| 11 | 3,3-Dimethoxybenzidine | 119-90-4 | ND |
| 12 | 3,3-Dimethylbenzidine | 119-93-7 | ND |
| 13 | 3,3-Dimethyl-4,4diaminodiphenylmethane | 838-88-0 | ND |
| 14 | p-Cresidine | 120-71-8 | ND |
| 15 | 4,4-Methylene-Bisc(2-Chloroniline) | 101-14-4 | ND |
| 16 | 4,4-Oxydianiline | 101-80-4 | ND |
| 17 | 4,4-Thiodianiline | 139-65-1 | ND |
| 18 | o-Toluidine | 95-53-4 | ND |
| 19 | 2,4-Toluylenediamine | 95-80-7 | ND |
| 20 | 2,4,5- Trimethylaniline | 137-17-7 | ND |
| 21 | o-Anisidine | 90-04-0 | ND |
| 22 | p-Aminoazobenzene | 60-09-3 | ND |
| 23 | 2,4-Xylidine | 95-68-1 | ND |
| 24 | 2,6-Xylidine | 87-62-7 | ND |

Remark: ND = Not Detected

Detection Limit = 10 ppm

Ppm = parts per million =mg/kg

2. Formaldehyde Content

By Water Extraction and Followed by High Performance Liquid Chromatographic (HPLC) Analysis

Result (mg/kg):21

Remark: Detection Limit = 5.0 mg/kg

3. Extractable heavy metals (chem. Cert.)

|  |  |
| --- | --- |
| Element | Result(ppm) |
| Sol. Antimony (Sb) | 9.0 |
| Sol. Arsenic (As) | <0.1 |
| Sol. Lead (Pb) | <0.1 |
| Sol. Cadmium (Cd) | <0.03 |
| Sol. Mercury (Hg) | <0.01 |
| Sol. Copper (Cu) | 2.0 |
| Sol. Chromium (Cr-Total) | 1.0 |
| Sol. Chromium VI (Cr-VI) | ND (<0.5) |
| Sol. Cobalt (Co) | <0.3 |
| Sol. Nickel (Ni) | 1.5 |

Remark: ppm = Parts per million =mg/kg

Sol. = Soluble

ND =Not Detected (<0.5 ppm)

**Annexure-V**

TEST REPORT

Number: SHAT03832062

Applicant: BYR INTERNATIONAL CO. LTD.

RM1702, BUILDING A, ART-TECH

CENTRE, NO. 63 HAIER ROAD, QINGDAO, CHINA

Attn: DAVID LIU

Sample Description As Declared:

No. of Sample : Two

Fibre Content : 100% Polyester

Material : (A) Solucell 50D A Modified Polyester FDY yarn, No Twist (B) 50D A Regular Polyester FDY Yarn

Finishing : -

End Uses : Towel

Colour : Raw White

Style No. : -

Order No./PO No. : -

Buyer’s Name : Welspun India Limited

Manufacturer’s Name : BYR INTERNATIONAL CO. LTD.

Agent. : Tirupati Yarns

Tests Conducted (As requested by the applicant)

1. Filament Solubility in NaOH Solution

Applicant Test Method:

Put 0.16 g Test Sample In 350 ml 100 ℃ 5g/l NaOH Solution For 60 Minutes. After 60 Minutes, Check Whether Have Remaining Filament in Solution. If Yes, Weigh Remaining Filament. Test Result Will Be Soluble, Insoluble or Partial Soluble According to Below Test Phenomenon.

Soluble - No Remaining Filament in Solution.

Partial Soluble - Have Less Than 90% Remaining Filament in Solution.

Insoluble - Have More Than 90% Remaining Filament in Solution.

Test Result:

Sample A is soluble according to above applicant test method.

Sample B is insoluble according to above applicant test method.

**Annexure-VII**

**Table – 1: India’s Import of Polyester Filament Yarn (HS Code: 54023300)**

|  |  |  |  |
| --- | --- | --- | --- |
| Year | Quantity  (MTs) | Values  (US$ Mn.) | USD/KG |
| 2014-15 | 19,501.34 | 36.82 | 1.89 |
| 2015-16 | 15,367.51 | 26.64 | 1.73 |
| 2016-17 | 14,271.70 | 20.2 | 1.42 |
| 2017-18 | 11,467.65 | 22.98 | 2.00 |
| 2018-19 | 7,977.09 | 17.28 | 2.17 |
| 2019-20 | 10,209.74 | 20.02 | 1.96 |
| 2020-21 | 13,012.07 | 21.18 | 1.63 |
| 2021-22 | 16,017.34 | 32.66 | 2.04 |
| 2022-23 | 17,224.46 | 34.48 | 2.00 |
| **Average** | | | **1.87** |
| *Source: Ministry of Commerce* | | | |

**Table – 2: India’s Import of Polyester Staple Fibre (HS Code: 550320)**

|  |  |  |  |
| --- | --- | --- | --- |
| Year | Quantity  (MTs) | Values  (US$ Mn.) | USD/KG |
| 2014-15 | 80,145.11 | 112.7 | 1.41 |
| 2015-16 | 98,142.81 | 108.99 | 1.11 |
| 2016-17 | 98,770.17 | 102.31 | 1.04 |
| 2017-18 | 87,221.04 | 106.55 | 1.22 |
| 2018-19 | 90,400.09 | 124.67 | 1.38 |
| 2019-20 | 1,14,303.49 | 129.69 | 1.13 |
| 2020-21 | 83,009.95 | 85.77 | 1.03 |
| 2021-22 | 76,450.07 | 101.75 | 1.33 |
| 2022-23 | 93,137.76 | 113.91 | 1.22 |
| **Average** | | | **1.21** |
| *Source: Ministry of Commerce* | | | |

**SGS TEST REPORT FOR SOLUCELL**

CUSTOMER NAME : BYR International Co. Ltd.

ADDRESS : 1702 Art Tech Plaza, 63 haier road, LaoShan District, Qingdao, China

Sample Name : Solucell soluble synthetic filament yarn

Product specification : 50d

Product or Lot No. : F-235-01

Buyer : Welspun India

Manufacturer : BYR International

Above information and sample (s) was/were submitted and confirmed by the client. SGS, however, assumes no responsibility to verify the accuracy, adequacy and completeness of the sample information provided by client.

SGS Ref. No. : QDIN2303000390PL01

Date of Receipt : Mar 15, 2023

Testing Start Date : Mar 15, 2023

Testing End Date : Mar 17, 2023

Test result(s) : For further details, please refer to the following page(s)

(Unless otherwise stated the results shown in this test report refer only to the sample(s) tested)

Summary of Results:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| No. | Test Item | Test Method | Result | Conclusion |
| 1 | Major Composition Qualitative Analysis | ASTM E 1252-98(2021) | See result | / |

Note: Pass : Meet the requirements;

Fail : Does not meet the requirements;

/ : Not Apply to the judgement.

**SGS TEST REPORT**

Test Item : Major Composition Qualitative Analysis

Sample Description : String

Test Method : ASTM E 1252-98(2021), analysis was performed by FTIR.

Sample Technique : Hot-pressed film

Test Result:

|  |  |
| --- | --- |
| Test item | Test result |
| Major Composition Qualitative Analysis | Polyether-ester  (FTIR spectrum see Fig. 1) |

Note: The major composition of the sample is not Poly(ethylene terephthalate)(PET).

Fig. 1

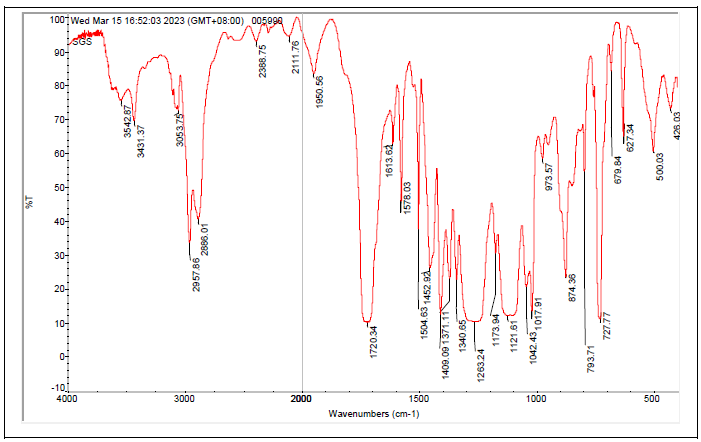
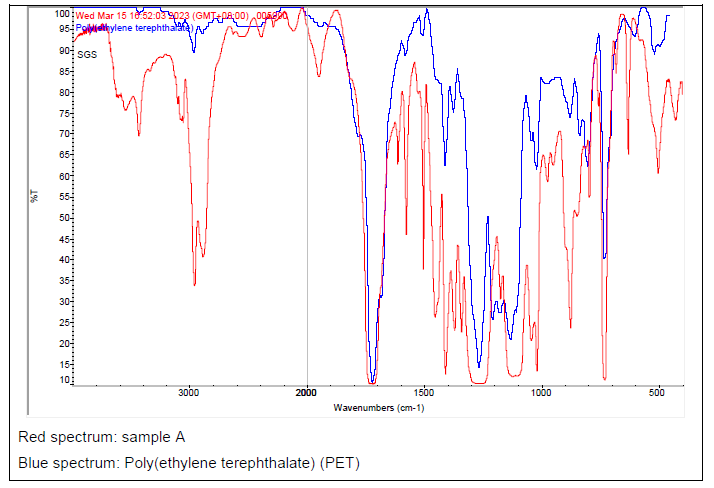
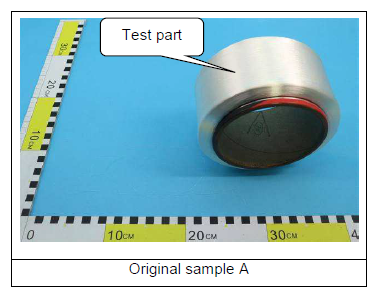


Fig. 2



Test Photo:



Equipment Information:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Equipment | Model | Equipment No. | Calibration date | Next Calibration Date |
| FTIR | Nicolet iS50 | GZMR-PL-E329 | 2023-01-18 | 2024-01-17 |

**SITRA TEST REPORT FOR SOLUCELL**

Samples tested at : RH 65% ± 2% and Temp 21 Degree C ± 1 Degree C

|  |  |
| --- | --- |
| Test Parameter | F2304580-1  FILAMENT YARN SAMPLE |
| Fiber Denier & Single Fibre Tenacity  *(As per ASTM D 1377-07 (2018) & ASTM D 3823/D3822 M-14(2020))* | |
| Mean Denier | 2.52 |
| CV% of Denier | 4.05 |
| Tenacity (g/den) | 3.84 |
| CV% of Tenacity | 2.09 |
| Elongation % | 37.16 |
| CV % of Elongation | 6.57 |

Samples tested at : RH 65% ± 2% and Temp 21 Degree C ± 1 Degree C

|  |  |
| --- | --- |
| Test Parameter | F2304579-1  SOLUCELL STAPLE FIBRE SAMPLE |
| Moisture Test  *(As per ASTM D 629-15) (Clause 9)* | |
| Moisture Content % | 2.99 |
| Moisture Regain % | 3.08 |
| Fibre Denier & Single Fibre Tenacity  *(As per ASTM D 1577-07 (2018) & ASTM D 3822/D 3822 M-14 (2020))* | |
| Mean Denier | 1.61 |
| CV% of Denier | 9.12 |
| Tenacity (g/den) | 3.05 |
| CV% of Tenacity | 9.43 |
| Elongation % | 70.74 |
| CV % of Elongation | 28.51 |

1. **Comments received from Office of Commissioner of Customs, Navi Mumbai**

Sir/Madam

**Sub:** Clarification on applicability of provisions of mandatory BIS compliance as per the Polyester Continuous Filament Fully Drawn Yarn (Quality Control) Order 2023 dated 17.07.2023, Goods "Polyester Continuous Filament Fully Drawn Yarn" shall conform to the Indian Standard IS 17261:2019 – reg

Please refer to above mentioned subject.

**2.** The undersigned is investigating an issue wherein the leviability of mandatory BIS compliance is being verified. The goods under verification are yarn made of 100% Polyester Filaments, which is Non-Textured and Not of High Tenacity and are twisted (no. of twists more than 50) with Elongation (%) between 6 to 20.

**3.** Further, in the instant case, the goods were subjected to testing at the Textile Committee. Accordingly, on perusal of the test Reports received, the undersigned has made a note of the fact that as per the Textile Committee Reports, the product in question is 100% Non-Texturized Polyester Filament Yarn, and the elongation percentage is less than 40%. The product is Fully Drawn, Flat Yarn, Twisted with TPM 250 and not a high Tenacity Yarn'.

**3.1** In this regard, an extract from the Customs Explanatory Notes regarding the definition of Texturized/Non-Texturized yarn is reproduced below.

*‘Textured yarns are yarns that have been altered by a mechanical or physical process (e.g., twisting, untwisting, false-twisting, compression, ruffling, heat-setting or a combination of several of these processes), which results in individual fibers being set with introduced curls, crimps, loops, etc.* ***These distortions may be partially or completely Straightened by a stretching force but resume the shape into which they have been set upon being released.***

*Textured yarns are characterized by having either a high bulk or a very high extensibility. The high elasticity of both types makes them especially suitable for use in the manufacture of stretch garments (e.g., tights, hose, underwear) while the high bulk yarns give fabrics softness and wamth of touch.*

*Textured yarns may be distinguished from* ***non-textured (flat) filament*** *yarns by the presence of special twist characteristics, small loops or reduced parallel orientation of the filaments in the yarn.’*

**3.2** Hence, the undersigned derives that Flat Yarns are defined as non-textured yarn (without special Twist characteristics) i.e., post straightening of the yarn through stretching (by force), when released, it does not resume the shape set upon after twisting and therefore remains flat (non-textured). Mere twisting of the yarn does not mean that the yarn is texturized, unless the effect of the twisting is permanent, which has been confirmed as the goods have been reported as non-textured (i.e. flat yarn).

**3.3** Accordingly, it is requested to furnish your valuable comments on the aforementioned subject matter based on the facts detailed above and confirm whether mandatory goods fall under the ambit of mandatory BIS compliance as per the Polyester Continuous Filament Fully Drawn Yarn (Quality Control) Order 2023 dated 17.07.2023, Goods "Polyester Continuous Filament Fully Drawn Yarn" conforming to the Indian Standard IS 17261:2019

**4. An early response in this regard will be highly appreciated, as the matter pertains to a live shipment of the subject goods**

**Regards**

**(Mamta Saini)**

**Additional Commissioner of Customs**

**Gr. III, JNCH, Nhava Sheva**

1. **Comments received from Sancheti Impex LLP**

Dear Sir,

We wish to seek clarification regarding **IS 17621:2022** applicable on Polyester Continuous Filament Fully Drawn Yarns.

We understand from the IS that the QCO is applicable only to Polyester Fully Drawn yarns. Hence, we seek clarification on the below:

1. Whether Polyester High Twisted Yarns are covered under IS 17261:2022.
2. Whether the marking and labelling prescribed under Clause 5 and Clause 8 of IS 17621:2022 are mandatory for Polyester High Twist Yarns.

Please note that Polyester HIGH TWIST YARN are covered under ITC HS 54025200.

1. **Comments received from M/s Recron (Malaysia) Sdn Bhd**

**Sub: Request for clarification in respect of BIS Standard IS 17261 : 2002.**

We have obtained BIS certification Marks Licence No. CM/L-4100172977 as per IS 17261 : 2022 dated 28-03-2024 in respect of Polyester continuous filament Fully Drawn Yarns manufactured by us.

We also further twist the Polyester continuous filament fully drawn yarns asper the customers requirements. The twist per meter ranges from 80 to 1200 twist per meter.

Kindly advise that Twisted Polyester continuous filament Fully Drawn Yarns (Polyester High twist yarn) is **NOT Covered** under the ambit of the BIS standards IS 17261 : 2022 (or any other standard) and there is **NO** labelling (marking) requirements applicable for HTY. (as There is no Standard Published/implemented for Polyester HTY)

Thanking You

Sumanta Chatterjee

Director

**ANNEX 7**

**(Item 5.2)**

**COMMENTS RECEIVED ON IS 18739 FOR BEDSHEET PILLOW COVER AND BLANKET COVERS**

**i) Comment on cover factor**

Dear Sir,

Kind attention: Shri J K GUPTA, Director and Head (Textile Department)

Sub: Draft for comments

Ref.: IS SPECIFICATION NO.18739:2024 V NO.3

This is in continuation to my letter which was mailed to your office on 14th May 2024 (copy attached) on draft specification which now has been adopted under IS SPECIFICATION NO.18739: 2024.

As explained in the above referred letter that due to high number no. of picks i.e. 43 per cm, the Cover factor is coming 37/38 and difficult to Weave fabric if taken as single yarn. In view of this it was requested to either consider to review nos. of picks or may be considered to allow to weave fabrics with 2 parallel yarn. Therefore, clarification is needed on this to avoid problem at later stage.

Thanking you,

Regards,

Redstone Ventures LLP,

Ramesh Khanna,

CEO

1. **Comment on cover factor**

We would like to draw your kind attention to Table- 1 Construction Particulars of the above referred draft specification wherein 3 varieties have been proposed for bedsheets etc. While studying the construction details in Particular of variety No.3 having 74 Ends/ cm and43 Picks/cm, it appeared that due to high cover factor i.e. 37/ 38, it is difficult to Weave the fabric with such high numbers of thread. Generally the fabrics made for making bedsheet is having maximum cover factor of 25/26.

You are well aware that BIS in its specification no.IS:175 :1989, has already defined five varieties of sheeting, Bedsheets out of which four varieties are of 100%cotton and one is of cotton/ polyester blend (52:48). Looking to the construction particulars cover factor of all these varieties are upto....

Table given below:

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **variety**  **no.** | **Fabric**  **Content** | **Approximate Count of Yarn Cotton Count**  **(Tax)** | | **Weaver** | **Ends/cm**  **min** | **Picks/cm**  **Min** | **Mass**  **g/m2**  **min** | **Cover factor** |
| **Warp** | **Weft** |
| (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) |
| 1 | 100%  Cotton | 12s | 10s | 2/1 warp faced I will | 29 | 17 | 240 | 26 |
| 2 | 100%  Cotton | 16s | 16s | Plain | 24 | 21 | 170 | 25 |
| 3 | 100%  Cotton | 14s | 18s | 2/1 or 3/1 I will | 27 | 21 | 185 | 27 |
| 4 | 100%  Cotton | 20s | 20s | Plain | 26 | 23 | 145 | 26 |
| 5 | 48% polyester  52% Cotton | 20s | 20s | plain | 28 | 25 | 155 | 28 |

Even Indian Airforce has also adopted variety No 2 and 5 of IS SPECIFICATION NO.175:1989 for Sheet Barrack (Polyester/Cotton48:52 blend) and 100% Cotton Sheet Hospital under specification no. IAFS 02068:2010 which is also followed by Indian ARMY/ NAVY and these varieties also have very low cover factor.

Currently Indian Railways are procuring Bedsheet from Handloom Sector as per IS 745:2003 V NO.12 which also has cover factor of 25.

Handloom Cotton Bedsheet

**Variety No.12**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Variety no.** | **Count of yarn (for Guidance only) Universal Count (Cotton count)** | | **Ends/dm** | **Picks/dm** | **Mass g/m2** | **Breaking strength, Min Revelled Strip Method N (kgf)** | | **Cover factor** |
| Warp | Weft |  | Warp | Weft |
| (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) |
| 12 | 15 tex × 2 (40s/2) | 15 tex × 2 (40s/2) | 220 | 220 | 140 | 400  (40.77) | 400  (40.77) | 25/26 |

In view of the above, it is requested to please review the specification no.3 of draft specification which has very high no. of threads and it will be difficult to run single yarn on looms which are generally available in Textile Industries.

In single yarn, this quality (Verity NO. 3) is not possible and if we run two parallel yarn then this verity No. 3 is possible to run on looms. In such a case it is to be clarified in the specification itself to avoid ambiguity at the later stage.

Submitted for reconsideration/review of the draft specification, please.

Thanking You,

You’re truly

(Ramesh Khanna)

CEO

Redstone Venture LLP

1. **Comment on GSM**

Dear Sir,

Sub: Tentative Specification for Bedsheet/ Pillow Cover

We would like to draw your kind attention to the following specifications there seems to some error in giving GSM requirements i.e. 142 g. If we calculate with the given count, nos. of threads etc., the GSM (weight) of fabric comes to 112 g only.

We would also like to put forward for your kind reference, the IS specification no.18739:2024 V NO.1 having similar construction, the GSM given is 114 g only. You may see the comparison below;

**A)** Specification under consideration for bedsheet/pillow cover (tentative Specification).

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Fiber Content** | **Count** | | **Weave** | **Ends** | **Picks** | **Mass GSM (g)** |
| **Warp** | **Weft** | **Inch (cm)** | **Inch (cm)** |
| 65% Cotton | 63s | 72 DN | 4/1 sateen | 190 (75) | 110 (43) | 142 |
| 35% polyester |  |  | (alternate) |  |  |  |

**B)**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Fiber Content** | **Count** | | **Weave** | **Ends** | **Picks** | **Mass GSM (g)** |
| **Warp** | **Weft** | **Inch (cm)** | **Inch (cm)** |
| 65% Cotton | 63s | 82 DN | 4/1 sateen | 190 (75) | 110 (43) | 114 |
| 35% polyester |  |  | (alternate) |  |  |  |

Kindly look in to and if there is an error in typing or otherwise, may please be reconciled.

Thanking You,

(Ramesh Khanna)

CEO

**Annexure A**

**Finalized specification – Bed sheets and Pillow cover 1A, 2A and 3A\***

**Bed Sheet:** Mill made Bed Sheet white size 229 × 120 cm as per specs in table below, duly screen printed with reactive dye “Name of Zonal Railway” both in Hindi and English on two longitudinal running strips of 15 mm width in COFEE or ORANGE colour as per sketch attached. Manufacturing month and year shall be incorporated in running strip.

**Pillow Cover 1A:** Mill Made Pillow Cover white Size 63 × 43 cms (overall size 64 × 49) per sepcs in table below, duly screen printed with reactive dye “Name of Zonal Railway” both in Hindi and English on two longitudinal running strips of 15 mm width in COFEE or ORANGE colour as per sketch attached. Manufacturing month and year shall be incorporated in running strip.

**Pillow Cover 2A/3A:** Mill Made Pillow Cover white Size 58 × 43 cms (overall size 64 × 49) per sepcs in table below, duly screen printed with reactive dye “Name of Zonal Railway” both in Hindi and English on two longitudinal running strips of 15 mm width in COFEE or ORANGE colour as per sketch attached. Manufacturing month and year shall be incorporated in running strip.

|  |  |  |  |
| --- | --- | --- | --- |
| **Test Property** | **Finalized Specification** | **BIS Method** | **Tolerance limits/Standard Requirement** |
| Bed Sheet Size | 229 × 120 | IS 1954 : 1990/RA:2022 | -2.0 cm |
| Pillow Cover 1A | Size: 63 × 43 cms (Over All Size: 64 × 49 cms) | IS 1954 : 1990/RA:2022 | -2.0 cm |
| Pillow Cover 2A/3A | Size: 58 × 43 cms (Over All Size: 64 × 49 cms) | IS 1954 : 1990/RA:2022 | -2.0 cm |
| Fiber Content | 300 TC - 65/35 cotton  Poly – 1 CM sateen stripes | IS 667 : 1981 | Blend +/-2% from claim |
| Weave type | 4 up/ 1 down Sateen alternate | Plain/Percale/Sateen |  |
| Cotton Type | Combed | Combed |  |
| Yarn Type | Ring Spun | Ring Spun |  |
| Warp yarn count | 63 = [9.374/ Tex] cotton Combed compact | IS 3442 : 2023 | +/-2% |
| Weft yarn count | 72D | IS 3442 : 2023 | +/-2% |
| Ends per Inch | 190 | IS 1963 | Min |
| (RA 2014) |
| Picks per Inch | 110 | IS 1963 | Min |
| (RA 2014) |
| Total thread count (TC) per 1 square inch | 300 | IS 1963 | Min |
| (RA 2014) |
| Fabric Weight [GSM] (Gm/m2)/ | 142 | IS 1964 | +/- 5 GSM |
| (RA 2017) |
| Dimensional stability [Shrinkage] after 3 | +/-2% | IS 2977 | +/-2% |
| (RA 2016) |
| Fabric Skew (%) | Max 2.5% | IS/ISO 13015 | MAX 2.5% |
| Fabric bow (%) | Max 2.5% | IS/ISO 13015 | MAX 2.5% |
| Tensile strength Warp | 30 kgf | IS 1969- 1 | Min 30 kgf |
| (RA 2014) |
| Tensile strength Weft | 40 kgf | IS 1969- 1 | Min 40 kgf |
| (RA 2014) |
| Tear strength – warp | Min 1.5 lbf | IS 6489  (RA 2010) | Min 1.5 lbf |
| Tear strength - weft | Min 2.5 lbf | IS 6489  (RA 2010) | Min 2.5 lbf |
| pH value | 6 to 8 | IS 1390 | 6 to 8 |
| (RA 2017) |
| Pilling for 1000 cycles Min. 3 | Min. 3 | IS 10971 (Part 1) | Minimum 3 |
| (RA 2010) |
| Whiteness Index | Fresh Bedsheet – As per NITRA Lab Result.  After 50 washes - As per NITRA Lab Result. | IS 17263 | Fresh Bedsheet – As per NITRA Lab Result.  After 50 washes - As per NITRA Lab Result . |
| Colour fastness to Crocking/Rubbing (Printed strip area)- Reactive dyes |  | IS/ISO 105- X12: 2016 | Dry: grade 4 minimum |
| IS/ISO 105- X12: 2016 | Wet grade 3 minimum |
| Colour fastness to washing   1. change in colour 2. Staining in adjacent fabric |  | IS/ISO:105-C10: 2006: C (2)/RA : 2021  IS/ISO:105-C10: 2006: C (2)/RA : 2021 | Dry grade 4 minimum  Wet garde 3 minimum |
| Colour fastness to light  g) warp direction  h) Weft direction |  | IS/ISO B02: 2014 | Dry grade 4 minimum  Wet garde 3 minimum |
| Colour fastness to organic solvent  a) change in colour  b) Staining in adjacent fabric |  | IS/ISO 105-X05: 1994  IS/ISO 105-X05: 1994 | grade 4 minimum  grade 4 minimum |
| Appearance after 3 washing | No threads unravelling, no seam opening, no pilling. | Visual evaluation | No threads unravelling, no seam opening, no pilling. |
| Anitmicrobial | Efficacy for 30 washes-As per NITRA lab result  Efficacy for 50 washes – As per NITRA lab result | ISO 20743 | Efficacy for 30 washes – As per NITRA lab result  Efficacy for 50 washes – As per NITRA lab result |
| Soil Release Efficiency | 20th wash – Result against stain of – Tea, coffee, Turmeric, Ketchup, Curry, Ink, Shoe Polish, Oil As per NITRA Lab Result  50th Wah - Result against stain of – Tea, coffee, Turmeric, Ketchup, Curry, Ink, Shoe Polish, Oil As per NITRA Lab Result | IS 11813  AATC: 30 | 20th wash – Result against stain of – Tea, coffee, Turmeric, Ketchup, Curry, Ink, Shoe Polish, Oil As per NITRA Lab Result  50th Wah - Result against stain of – Tea, coffee, Turmeric, Ketchup, Curry, Ink, Shoe Polish, Oil As per NITRA Lab Result |
| Workmanship Defects |  | IS 14466 | Critical major 2.5, minor 4.0 Level 1 |
| Stitches per inch | Minimum | Visual Minimum |  |
| Colour of Running Strip | COFFEE or ORANGE Colour Reactive Dye Running Strip of 15 mm width size on both sides with month and year of manufacturing along with Railway Name | Pentone Coloour Shades COFFEE – 16 – 1235 TCX  ORANGE – 16 – 1362 TPG | Northern Railway |
| Northern Railway |

These are tentative specification and will be frozen after consultation with NITRA and BIS.

**ANNEX 8**

**(Item 5.3)**

**COMMENTS RECEIVED ON IS 17264**

1. **Comments received from Omega QMS pvt Ltd.**

**Enquiry for the coverage of Polyester Industrial Yarn**

Dear Sir,

We have Textile product **Polyester Industrial Yarn** having mechanical properties of High Modulus Low Shrinkage (HMLS) and Low Shrinkage (LS) as per IS 17264:2022. Linear density of aforesaid varieties are more than 3000 D.

We shall like to seek your confirmation if linear density more than 3000 D in **LS and HMLS** categories can be covered under scope of IS 17264:2022 or not.

We greatly appreciate your prompt response in this regard. Thank you for your kind attention to this matter.

**Thanks & Regards,**

**Abdhesh Kumar**

**(A.I.R)**

**OMEGA QMS PVT. LTD.**

**OMEGA INDUSTRIAL CORPORATION**

**ANNEX 9**

**(Item 5.3)**

**COMMENTS RECEIVED FROM RELIANCE INDUSTRIES LTD**

**METHOD FOR DETERMIBATION OF FINISH OIL PICK UP**

**C-1 PRINCIPLE**

The specimen is extracted with petroleum ether in soxhlet apparatus and then distilled. The specimen is then dried, and oil pick up is calculated from the mass of original specimen and the dried specimen.

**C-2 APPARATUS**

**C-2.1 Precision Balance**

**C-2.2 Stainless Steel Vessel / Conical Flask with Stopper and Plastic Beaker**

**C-2.3 Forceps, Tongs**

**C-2.4 Drying Oven**

**C-2.5 Plastic Tray/Bowls**

**C-3 PROCEDURE**

**C-3.1** Take the hank (normally, prepared for denier check of yarn and note down the actual weight of the sample (*A*).

**C-3.2** Take required amount of petroleum ether in the vessel/conical flask and immerse the yarn hank in it with the help of tongs for extraction of oil from yarn samples for 15 min.

**C-3.3** After 15 min take out sample from petroleum ether, squeeze it completely and then place the yarn samples in the tray, kept it in open air for 20 min for evaporation of excess petroleum ether.

**C-3.4** Then put the hanks in oven at 60° C temperature. Take out the yarn sample from the oven after drying for 15 min.

**C-3.5** Keep the yarns for cooling at room temperature for 10 to 15 min.

**C-3.6** Weigh the yarn and note down the weight (*B*).

**C-4 CALCULATION**

Calculate the percent oil extraction by the formula:

(*A* – B) ×100

Percent oil extraction = ——————

*A*

NOTE — For quick and direct comparative estimation of finish oil pick up, Nuclear Magnetic Resonance (NMR) apparatus may be used.

**Method for Determination of Epoxy Finish % on Yarn in Adhesive Activated Products**

In Adhesive activated product two types of finish used during the production of yarn. Primary finish is normal spin finish applied in spinning and Secondary finish is the epoxy finish applied on the yarn.

Total finish on Yarn (%) = Primary Spin Finish (%) + Secondary Epoxy Finish (%)

A. Initially production start by applying only primary spin finish. Yarn sample containing only primary

spin finish collected and its finish on yarn % measured by the method mentioned in Annexure C of IS 17264: 2022

B. Further Secondary finish i.e. epoxy finish also starts applying on spinning machine and its flow can be adjusted by adjusting the rpm of spin finish pump as per customer requirement. Yarn Sample containing both primary spin finish and secondary epoxy finish is collected and its total finish on yarn % measured by the method mentioned in Annexure C of IS 17264: 2022

In case of any adhesive activated (AA) product epoxy finish % on the yarn is calculated by following method:

Percent (%) Epoxy finish on Yarn = (B – A) [Total Finish on Yarn % - Primary Spin finish %]

Note:

1. Epoxy finish is secondary finish application and its flow can be adjusted by adjusting spin finish pump rpm as per customer requirement.

2. Generally in Case of Adhesive activated (AA) yarn epoxy finish contain on yarn is in the range of 0.25 to 0.40 % as agreed between buyer and seller to optimise the rubber adhesion.

3. Following table indicate some of the example for the measurement of % epoxy finish in Adhesive activated products.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Sr. No.** | **Product** | **Primary Spin Finish (%) (A)** | **Total finish on Yarn (%) (B)** | **Epoxy finish % On Yarn (B-A)** |
| 1 | 1000 HMLS AA | 0.55 | 0.8 | **0.25** |
| 2 | 1000 HMLS AA | 0.55 | 0.83 | **0.28** |