*For BIS Use Only*

**BUREAU OF INDIAN STANDARDS**

*(New Delhi)*

**AGENDA**

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

|  |  |  |
| --- | --- | --- |
| **Date/Day** | **Time** | **Venue** |
| 09 February 2024 | 1430 | Through Video Conferencing |

**CHAIRPERSON: Shri Kartikay Dhanda**

(Textiles Committee, Ministry of Textiles, New Delhi)

**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 30th meeting of the committee held on 09 November 2023 through VC were circulated vide BIS Directorate General letter No. TXD 31/A2.30 dated 24 November 2023. No comments were received.

**1.1.1** The Committee may **DECIDE**.

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

**2.1** The present scope and composition of the committee is given in **Annex 1 (P-6 to 7).**

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

**2.2** Co-option request has been received from the following organization are given in **Annex 2 (P-8 to 10).** The cooption request received fromM/s Manjushree Spntek Pvt Ltd., Bengaluru is given in **Annex 3 (Attached separately).**

i) M/s Sanrhea Technical Textiles Limited,

ii) M/s Geelon Industries Private Limited, and

iii) M/s Polyester Textile Apparel Industry Association,

**2.2.1** Ministry of Textiles has requested to include Farmer, Ginner & Spinner Associations (big and small) in TXD 31 sectional committee in order to ensure suitable representation of stakeholders pertaining to cotton industry.

**2.2.2** The committee may **DELIBERATE** and **DECIDE**.

**2.3** As directed by DG, BIS the memberships of the organizations which did not attend last two sectional committee meetings was terminated. The list of all such organizations is given below.

1. AYM Syntex, Silvassa
2. Gimatex Industries Pvt Ltd, Nagpur
3. Textiles Committee, Mumbai
4. South Gujarat Texturizers Welfare Association, Surat
5. The Synthetic and Rayon Textiles Export Promotion Council, Mumbai
6. Northern Indian Textiles Mills’ Association, Chandigarh
7. Cotton Association of India, Mumbai
8. The Cotton Textile Export Promotion Council of India, Mumbai
9. Office of Textile Commissioner, New Delhi
10. GBTL, Bhiwani

The following organizations have requested to reconsider the termination of the membership. The request for reconsideration is given in **Annex 4 (Attached separately).**

1. Cotton Association of India, Mumbai
2. AYM Syntex, Silvassa

**2.3.1** 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 5 (P- 11)**.

**3.1.1** The Committee may **NOTE**.

**Item 4 COMMENTS RECEIEVD ON PUBLISHED STANDARDS**

**4.1** The comments received from the following organizations on IS 17261 : 2022 are given in **Annex 6 (P- 12 to 43).** The comments received from M/s Geelon Industries Pvt Ltd., on IS 17261 : 2022 is given in **Annex 7 (Attached separately).** Additional comments received from M/sThe Federation of Indian Art Silk Weaving Industry are given in **Annex 8 (Attached separately)**.

1. M/s Ved Road Art Silk Scale Co. Op. Federation Ltd.,
2. M/s South Gujarat Warp Knitters Association, Surat
3. M/s The Federation of Indian Art Silk Weaving Industry (FIASWI)
4. M/s Pandesara Weavers Co. Op. Soc. Ltd.
5. M/s J Korin Spinning Pvt Ltd.

**4.1.1** In the 28th meeting,the committee decided that random samples of prominent varieties of polyester FDY shall be collected from SGCCI, FGWWA and SGWKA in the presence of one officer of Textiles Committee, one officer of BIS, and representatives of above users and the same shall be sent to NITRA, Textiles Committee, and SASMIRA for testing all the requirements of Table 3 of IS 17261 : 2022 and the reports for the same shall be provided to BIS. The reports for the same is given in **Annex 9 (Attached separately).**

**4.1.2** The committee may **DECIDE.**

**4.2** The comments received from the following organizations on IS 17262 : 2022 are given in **Annex 10 (P- 44 to 69).**

1. M/s The Federation of Indian Art Silk Weaving Industry (FIASWI)
2. M/s Pandesara Weavers Co. Op. Soc. Ltd.
3. M/s South Gujarat Warp Knitters Association, Surat

**4.2.1** In the 28th meeting, the committee decided that random samples of prominent varieties of polyester POY shall be collected from SGTA in the presence of one officer of Textiles Committee, one officer of BIS, and representative of SGTA and the same shall be sent to NITRA, Textiles Committee, and SASMIRA for testing all the requirements of Table 3 as per IS 17262 : 2022 and the reports for the same shall be provided to BIS. The reports for the same is given in **Annex 11 (Attached separately).**

**4.2.2** The committee may **DECIDE.**

**4.3** The comments received from the following organizations on IS 17264 : 2022 are given in **Annex 12 (P- 70 to 80).**

1. Office Of The Textile Commissioner
2. M/s Pix Transmissions LTD, Nagpur
3. M/s Vinko Auto Industries Limited, Jalandhar
4. M/s BLSX Limited, Hyderabad
5. M/s Sanrhea Technical Textiles Limited, Ahmadabad

**4.3.1** The committee may **DECIDE.**

**4.4** Comments received from Manak Manthan organized by Chandigarh branch office on 26 December 2023 and M/s Suryalakshmi Cotton Mills Limited, Amanagallu on IS 17265 : 2023 are given in **Annex 13 (P- 81 to 83).**

**4.4.1** The committee may **DECIDE.**

**4.5** Comments received from the following organizations on IS 17266 (Textiles – Viscose staple fibres – Specification) are given in **Annex 14 (P- 84 to 87).**

1. M/s Ganga Acrowools Limited
2. M/s Wool & Woollens Export Promotion Council

**4.5.1** The committee may **DECIDE.**

**4.6** Comments received from M/s NITMA, Chandigarh on IS 3566 : 2023 are given in **Annex 15 (P- 88 to 89).**

**4.6.1** The committee may **DECIDE.**

**4.7** The comments received from CMD-II, BIS on IS 187 are given in **Annex 16 (P- 90 to 90).**

**4.7.1** The committee may **DECIDE.**

**4.8** The comments received from M/s Indian Railways on IS 7056 : 1989 and IS 175 : 1989 are given in **Annex 17 (attached separately).** The draft revision ofIS 7056 : 1989 and IS 175 : 1989 as prepared by BIS after incorporating the inputs received from M/s Indian Railways is given in **Annex 18 (P- 91 to 109).**

**4.8.1** The committee may **DECIDE**.

**Item 5 DRAFT REVISION FOR WIDE CIRCULATION**

**5.1** In the 29th meeting of TXD 31, the committee decided to constitute a panel under the convenorship of Shri Ravi Chandran, Textiles Committee for prepare the draft revision of IS 7867 for nylon continuous filament yarn. The first meeting of panel was held on 19 January 2024. The draft revision prepared by panel is given in **Annex 19 (P- 110 to 130).**

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

**Item 6 DRAFT STANDARDS FOR FINALIZATION**

**6.1** As per the decision of the committee, the draft Indian Standard on **‘Textiles Elastomeric Yarn Specification’** [**Doc No.: TXD 31 (23953)]’** was issued under wide circulation for a period of 2 months for eliciting technical comments. The wide circulation draft is given in **Annex 20 (P- 131 to 157).** The comments received on the draft by M/s SASMIRA, Mumbai and M/s BTRA, Mumbai are given in **Annex 21 (P- 158 to 158)**.

**6.1.1** The committee may **DECIDE**.

**Item 7 NEW WORK ITEM PROPOSAL**

**7.1** The new work item proposal for formulation of new standard on polypropylene filament yarn is given in **Annex 22 (Attached separately).**

**7.1.1** The committee may **DECIDE.**

**Item 8 REVIEW OF INDIAN STANDARDS**

**8.1** 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 Indian Standards due for review is IS 17217 : 2019 Textiles – Disruptive pattern (Camouflage pattern) cloth for jungle operations made of nylon and cotton blended (NYCO) material – Specification).

**8.1.1** The committee may **DECIDE.**

**Item 9 REPRESENTATION RECEIVED ON QUALTIY CONTROL ORDER**

**9.1** The representations received from various organizations regarding the Quality Control Order on polyester yarns, viscose fibre and yarn is given in **Annex 23 (Attached separately).**

**Item 10 DATE AND PLACE OF NEXT MEETING**

**Item 11 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 |
|  | Association of Synthetic Fibre Industries, New Delhi | Shri M S Verma |
|  | 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) |
|  | 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) |
|  | Grasim Industries Limited, Vadodara | Smt Shailley Garg  Smt Ashmita Panchal (Alternate) |
|  | Garden Silk Mills Pvt Ltd., Surat | Prasenjit Mandal  Dr. Soumyen Pal (Alternate) |
|  | ICAR – Central Institute for Research on Cotton Technology, Mumbai | Dr Senthil Kumar  Dr A Arputharaj (Alternate) |
|  | Northern India Textile Research Association, Ghaziabad | Shri Sanjeev Shukla |
|  | 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) |
|  | The Bombay Textile Research Association, Mumbai | Shri R A Shaikh  Smt Pragati Kulkarni (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) |

**ANNEX 2**

**(Item 2.2)**

**CO-OPTION REQUEST**

1. **Sanrhea Technical Textiles Limited**

Dear Shri Gupta ji,

We would like to introduce our company as a well established ISO 9001 / 14001 registered manufacturer of RFL Dipped Fabrics catering to the Indian Rubber Product Industry – whether it be Tyres, Conveyor Belts, Marine Inflatables, or Auto Components. We are manufacturing RFL Dipped fabrics from High Tenacity Nylon and polyester twisted yarn.

Our Managing Director Mr. Tushar Patel is already a member of BIS Committee TXD-38. He is regularly attending and participating in the meetings.

As we are in manufacturing textile products from Nylon, Polyester and PP yarn, we would like to request you to add our Managing Director in BIS Committee TXD-31, as the agenda of that committee is similar to our line and we will be able to contribute and participate in the issues related to the same.

Kindly advise us of the procedure so that our MD will also become a member of TXD-31.

Await hearing from you soon,

Thanking you and best wishes,

**BHAVESH SHAH**

**GENERAL MANAGER-FINANCE**

**Sanrhea Technical Textiles Limited**

**Tel. - (02764) 225204/227831**

**Fax - (2764) 227696**

**Email-sanrhea@gmail.com** [**www.sanrhea.com**](http://www.sanrhea.com/)

1. **Geelon Industries Private Limited**

B) **Subject: Regarding BIS today Webex session not informed to related members. We are looking to participate in any discussion regarding BIS mandate for mother/mono – Polyester/ Nylon yarn.**

Respected Sir/Mam,

I, Alpesh Gandhi, the Director of Geelon industries Private limited would like to request you to keep involve my organization any discussion regarding the BIS mandate for mother/mono-Poly tester/Nylon yarn as we would be actively looking to participate in any conversation for the same.

Please contact us via email gandhicapital@yahoo.com or phone on +91 9825 148581

We already submitted our letter dated 10 June 2023 (Attached letter in the mail) we are a prestigious member of the SGCCI, Surat with our membership number L2700.

Surprisingly and shockingly, we have not been informed about this morning Webex session, kind request to share us the outcome along with MOM at the earliest. Also, please keep us posted on all such future sessions in advance so that we can also participate proactively.

Thank you

Alpesh Gandhi

Director of Geelon Industries Private limited

Surat

1. **Polyester Textile Apparel Industry Association**

Ref: PUA/19\_08\_2023

19th August 2023

To

Sh. J.K. Gupta,

Scientist – E

Bureau of Indian Standards (BIS)

Manak Bhawan

New Delhi

Email: [lppd@bis.gov.in](mailto:lppd@bis.gov.in)

Subject: **Invitation to attend all BIS meetings relating to Man-made Fibre Industry**

Dear Sir,

Polyester Textile Apparel Industry Association is representing the User Industry of Man – made Fibre.

Our members use PTA and MEG and produce/use Fibre, Filament, Yarn, PET Chips, Polyester Chips, Polyester Film.

Ours is a registered Body, attending all official meetings in the Textile, Commence Ministries, Department of Chemicals & Petrochemicals, Ministry of Chemicals and Fertilizers and is fully involved in all BIS meetings in the areas of textile, chemicals & petrochemicals.

We request you to please to invite us whenever any meetings are called by BIS on Man-made Fibre Industry to decide the quality norms and other important matters.

Thanking you,

Yours faithfully,

**For POLYESTER TEXTILE APPAREL INDUSTRY ASSOCIATION**

**R.K.VIJ**

**SECRETARY – GENERAL**

**MOBILE # : 9999910119**

**ANNEX 5**

**(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**  In 29th meeting the committee scrutinized the comments received from M/s North Western Railways on IS 177 : 1989 for Cotton drills and decided to finalize the amendment. | Under Publication |
| **5** | **DRAFT STANDARD FOR FINALIZATION**  In the 29th meeting, the committee scrutinized the wide circulation draft of IS 3566 : 2022 as given in Annex 4 to the agenda. The committee also decided to finalize the draft revision after incorporating the changes. | Published |
| **6** | **NEW WORK ITEM PROPOSAL**  In 29th meeting, the committee decided to issue the draft on elastomeric yarn under wide circulation for a period of 2 months | Wide Circulation completed and coming up for discussion under item 6.1 |
| **6.1** | In 29th meeting the committee scrutinized the comments received from M/s Reliance Industries on IS 17879 : 2022 and decided to finalize the amendment | Under Publication |

**ANNEX 6**

**(Item 4.1)**

**COMMENTS RECEIVED ON IS 17261 : 2022**

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

To,

Shri Narendra Bhai Modiji,

Hon’ble Prime Minister of India,

Govt. of India, Prime Minister's Office,

152, South Block, Raisina Hill,

NewDelhi-110011, Email: [connect@mygov.nic.in](mailto:connect@mygov.nic.in)

Subject:-Necessity to Re-think the decision regarding BIS implementation.

Respected Sir,

We, VED ROAD ART SILK SMALL SCALE CO-OP FEDERATION LTD, a co-operative society registered in a year 2008. More than 1,500 p1us weavers are our members. We request you to rethink on the matter of evenness in FDY MMF yarn. We request you consider following matter regarding Importance of Evenness in FDY MMF Yarn.

Man made fibre and yarn is known for the Evenness. The natural fibres are yarn are uneven. MMF Textile contribute 75% of the total textile.

The major properties of are Denier, Tenacity, Elongation and Boiling Water Shrinkage. This properties plays a major role in the end use of the fabric and textile.

The MMF textile is widely used in Garments and technical textiles. Knitted fabric is used in the world for both garments and technical textiles.

For producing the world class fabric Evenness of the yarn is very important.

The coefficient of variation (CV), of the above mentioned properties of yarn should be minimum to produce the highest quality of fabric and garments.

In the weaving industry twisted yarn and zero twisted yarn are used to produce fabric, garments and technical textiles.

Zero twisted yarn is used to produce major technical textiles and High end textiles, whenever zero twisted yarn is used to produce textile the yarn quality has to be at the highest standard. If the coefficient of variation is not strictly maintained at the lowest level the functionality of the fabric will not be upto the mark.

Majority of the textile producing countries maintain the highest standard of yarn quality. The Evenness of the yarn is at the highest level.

As the MMF yarn is produced by very high standards of technology machines the Evenness of the yarn is easy to maintain.

With the support of Government of India, More than 1.25 lacs looms of hy speed machinery has been set up in South Gujarat. More than INR 35,000 crores have been invested in South Gujarat in weaving sector of Textiles. It is beyond the capacity of Front line spinners to produce Yarns of this quality and Quantity to meet up the demands created by Weavers.

More than 1 lacs families are dependent on the weaving sector of Textiles.

On considering the above observation, we humbly urge you to rethink on the implementation of BIS.

**2. Comments received from M/s South Gujarat Warp Knitters Association, Surat**

1. Re: BIS Standard: IS 17261:2022 for Polyester Continuous Filament Fully

Drawn Yarn.

Sub: To include agenda Item for the meeting to be held on 11th Oct, 23 of Tech

Committee: TXD 31 sectional committee, to exempt Polyester Mother Yarn from

BIS

Respected Sir,

Warp knitting is by far the most versatile and a high productive fabric production system in the

textile industry.

Since last 10 years, New Investment of about 3000 crores has been made in the Warp knitting

industry, resulting in about 600% increase in installed capacity, generating direct/indirect

employment for about 57000 persons.

Polyester Mother Yarn, 200/10 is one of the major raw materials used by our industry to make

import substitute NET FABRIC (mesh fabric). Earlier there were huge imports of Net Fabric from China. Now after establishing the Warp Knitting Industry in India, import of Net fabric is almost negligible*.*

In our warp knitting industry only, approx. 350 high speed split warpers are installed in Surat, apart from Surat, in Silvassa, Amritsar, Ludhiana, Panipat, and Delhi the split warpers are also installed. The beaming capacity of one split warper is 20 MTS tons per month, it clearly indicates that our industry has a total installed capacity of 7000 MTS tons per month out of which approx. 2000 MTS Nylon mother yarn consumed by our industry. That means 5000 MTS tons of Polyester Mother Yarn required per month to run the knitting industry. There are many units which do not have the facility of split warper; they are also consuming polyester mother yarn. There are a total 3000 warp knitting machines installed in India having installed capacity of 15000 MTS per month. As per market demand we are consuming a minimum 9000 MTS Nylon & Polyester Mother Yarn put together.

Apart from this, the weaving industry also consumes Poly and Nylon Mother Yarn. As per letter received by weavers’ association, they are using 4000 MTS Polyesters mother yarn and 3000 MTS Nylon Mother Yarn per month all over India. Looking at the above scenario, the industry needs 9000 MTS tons of polyester mother yarn per month.

There is a huge shortage between demand and supply of AA Grade Even Polyester Mother Yarn. The quality of domestic polyester mother yarn is also very inferior in quality as compared to imported Mother Yarn. The same was explained during visit of Mr. Mayur and his team went to Surat. For making defect less fabric, we require good quality, equal length and without breakage yarn for our high-speed split warper and on high-speed warp knitting machine.

After imposing BIS on poly mother yarn there will be a huge gap between demand and supply, which will result in an artificial price hike of polyester mother yarn in the domestic market. The same thing happened in the past in the month of March 2023 when BIS was supposed to be implemented from 1st April 2023.

A close-up of a list

Description automatically generated

* Inspite of decrease in Raw Material price, there is a increase in price of Polyester Mother Yarn SD by 19%.
* There is a huge difference of Rs.25per kg in price of Polyester Bright Mother Yarn to Semi dull mother yarn. Which is usually Rs. 1 or 2 per kg in other FDY.
* Due to non-availability enough quantity of polyester mother yarn and higher prices, quality like Silicon Fabric suffered a lot.

If there will be a major price gap between imported and domestic polyester mother yarn then import of NET FABRIC and garment will again start in full swing from China as earlier it happened. Due to fabric import our plant will be shut down which results in the loss of employment and the huge capital investment.

Also, Polyester Mother Yarn, is not a product which falls under the category of mandatory BIS

requirement viz. public interest, protection of human, animal or plant health, safety of environment, prevention of unfair trade practices and national security.

Therefore, we request you to please exempt our Polyester Mother Yarn from BIS. Expecting your positive response,

With Best regards

Brijesh Gondalia

President.

South Gujarat Warp Knitters Association, Surat.

204, Jai Sagar Complex

Nr. Sita Hospital, Khatodara,

1. **Ref No. - KAWI/BIS/002**

**To,**

**Shri Deepak Mishra,**

**Jt. Secretary – Petrochemicals**,

Department of Chemicals, A wing,

Shahstri Bhavan, New Delhi.

Email: jspc-cpc@gov.in

**Re : BIS Standard: IS 17261 :2022 for Polyester Continuous Filament Fully Drawn Yarn and IS 17262: 2022 for polyester Partially Oriented yarns, Department of Chemicals, Govt. of India’s Order No. 3193 ( E ) & SO No. 3194 ( E) both dated 17th July, 2023**

**Sub: Humble Request**

**1. To extend date of implementation of QCO orders for BIS on various Polyester Yarns which are to be implemented from 3rd Oct, 2023 to further 9 months or till the Ample Availability of the AA grade Polyester FDY yarn in the Local Market & implementation of suggested corrections by user industry.**

**2. To Exempt Polyester Mother Yarn**

**3. To Remove QCO orders for Polyester Yarn from Mandatory Certification.**

**4. To correct infeasible provisions in current guidelines.**

**Sir,**

**Submission of views of Textile Weaving and Knitting industry on proposed BIS standards for Polyester Yarn Viz IS: 17261 and IS 17262 for FDY and POY yarns to be effectively being implemented from 3rd October, 2023**

**[A] Shortage of Polyester Yarn of AA Grade, Even Packing in India:**

· After incentive schemes like TUF and other steps taken by our Honourable Prime Minister to boost investment in employment generating textile fabric manufacturing industry, there is a huge gap between demand and supply of good quality Polyester FDY and POY. Artificial control on import of quality raw will disturb fabric manufacturing industry i.e., weaving and knitting.

· Till Today Weaving & Knitting industry have invested huge money under TUF to make them competitive for international market also generated huge employment for skilled and semi-skilled work and have added more than 120000 High Speed Weaving Machines and more than 3000 high speed knitting machines

· Further the huge investment is projected in another 5 years in High speed weaving machines & about 3000 high speed Knitting machines and adding employment of more than 1 lakh people.

· **Import of Yarn by leading spinners, which proves there is a shortage of good quality of polyester yarn with AA Grade even packing.Import data with bill entry number can be produced if required.**

**· Improved Sales performance of Domestic Yarn Manufacturer**. Out of 12 major spinners the majority of the spinners have doubled their sales in just the last 2 Years.

· **Majority of Yarn imported are of AA Grade, even packing**, Out of total import of 167000 MT, 116900 MT (70%) is of AA Grade, even packing material during 01/01/2022 to 31/12/2022.

**[B] Quality Standard Suggested are of very low grade and against the main object of BIS to provide third party assurance of reliable Quality:**

· **Deviations suggested are far more labral as compared to international standards**. Technical requirement for yarn under BIS certification is totally against the main objective of BIS to provide third party assurance of Quality and Reliability of products to user Industry. Suggested code of quality approval not with compliance to provide required quality of yarn to fabric manufacturer. BIS Standard for QCO IS 17261 and 17260 should be strictly as per **annexure-1** attached herewith.

· Absence of important parameters like Dyeing Guarantee, Even Length Packing, Age of material etc...

**[C] QCO orders will block import of more than 16 types of Speciality Polyester FDY Yarns not manufactured in India used for various high end applications and upcoming fashion trends.** Domestic Polyester Manufacturers do not have any production capabilities to produce Speciality polyester yarns, this speciality yarns are used to produce export oriented goods as well as special application materials, non-availability of such materials ( As imported suppliers are not

granted BIS and Domestic manufacturers do not have production capacity) could lead to the closure of all such units.

(1) Mechanical stretch Yarn (2) PBT stretch Yarn (3) T400 and T800 Yarn (4) ITY/BSY Yarn (5)

Low Denier Yarn (6) Low denier high filament (7) Low denier low filament (8) 30 Denier Sparkle

Yarn / Diamond Yarn (9) Imitation Yarn Silk like yarn, Viscose like Yarn, Acetate like Yarn (10)

Functional Yarn (11) Different cross section Yarn (12) Bi- Component Yarn (13) Super Bright Yarn (13) Full Dull Yarn (14) Hollow Yarn (15) Dope dyed black and dyed Yarn (16)Polyester Mother Yarn, SD/TBR/ Dope Dyed.

**Polyester Mother Yarn**, is one of the major raw materials used by the warp knitting industry to

make import substitute NET FABRIC (mesh fabric). Earlier there were huge imports of Net Fabric

from China. Now after establishing the Warp Knitting Industry in India, import of Net fabric is

almost negligible. There is a shortage of quality mother yarn suitable for high speed warp knitting

machines. Our humble request to exempt polyester mother yarn. Detail note attached herewith.

Currently the consumption of each yarn is 60 Metric tons to 9000 metric tons per month and hence this yarns should be exempted. We in South Gujarat have ventured into the Garment industry and if we consider the index value of Yarn as 100 then we convert this yarn to Garment, the index value of garment at retail level would be between 1500 to 2500. Hence there is a value addition of

15 to 25 times.

**[D] Many international Suppliers of Polyester yarn has not been granted BIS Certification**: even after applying months before (eg. Dec-2021) which will then create a shortage of material in the market.

**[E] QCO for Polyester yarn should not be mandatory.** Considering Polyester yarn as an industrial raw material, buyers/ customers are well aware about their requirement for Quality of

yarn they need to manufacture fabric. The BIS Certificate scheme is basically voluntary in nature. It’s nowhere fall under the guide line for mandatory certification. i.e. Public Interest, Protection of human, animal or plant health, Safety of environment Prevention of unfair trade practices. **In fact, due to non-availability of good quality yarn from the international market, it will increase unfair trade practices by domestic yarn manufacturers.**

**It should not be used as a trade barrier and should not restrict our right to have international quality of yarn at an international competitive price. In the textiles value chain, any trade barrier should be first imposed on garments then on fabric, then on yarn.**

**[F] NEGATIVE IMPACT:**

**a. Shortage of raw material: Implementation wef 3rd October, 2023 will create heavy shortage of Polyester yarn to the user industry which will lead to closure of our weaving / knitting unit, unemployment, profiteering by few suppliers having BIS certification. We have heavily invested in modern warp knitting machines, if we are deprived of yarn, our key raw material at international competitive price and international quality we will incur huge losses. Also the few spinners will have a control of all the verticals of the textile industry.**

**b.** Increase in Import of fabric and garments

c. Unavailability of international quality of Raw material i.e. Polyester FDY at international competitive price will lead to Domestic fabric and garment manufacturing uncompetitive in the international market and hence result in reduction in export of Fabric and Garment.

**We humbly request you to please:**

**1. Extend date of implementation of QCO orders for BIS on various Polyester Yarns which are to be implemented from 3rd Oct, 2023 to further 9 months or till the Ample Availability of the AA grade Polyester FDY yarn in the Local Market & implementation of suggested corrections by user industry.**

**2. Exempt Polyester Mother Yarn**

**3. Correct Technical Specification as per requirement of user industry.**

**4. QCO for Polyester Yarns should not be mandatory.**

**5. Arrange immediate visit to overseas applicant exporters.**

We look forward to your positive cooperation.

With Best regards

Brijesh Gondalia

President.

South Gujarat Warp Knitters Association, Surat.

204, Jai Sagar Complex

Nr. Sita Hospital, Khatodara,

B/H J.K. Tower,

off Ring road, Surat,

Email id: [info@warpknitters.org](mailto:info@warpknitters.org)

**3. Comments received from M/s, The Federation of Indian Art Silk Weaving Industry (FIASWI)**

**A. 1 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.

**• 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 suppliers.

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Table 1 | | | | | | | | | | | | | | |
| **Tolerence = T / Vaariation**  **Coefficient - CV%** | **FD/SD/BRT/**  **SBRT/OW** | **Age of**  **Material**  **(Prod**  **Date To**  **Sale Date)** | **Maximum Allowed**  **Broken**  **Filaments In A Bobbin**  **Weight Of**  **5kgs Plus** | **Intermi**  **Ngling**  **Nips** | **Paper Tube And**  **Box/Pallet**  **S Packing**  **of**  **International**  **Standards** |  |  | **Uneve Nness -Uster**  **%** | **Tenacity Gpd** | | **Elongation %** | | **Boiling Water**  **Shrinkage** | |
| **FDY, Cationic Dyeable, Mother**  **Yarn** |  | **Range**  **Denier** | **1%** | **Maxim**  **Um**  **CV%** | **Range/B**  **atch** | **Max**  **Variati**  **On/Bat**  **ch -T** | **Range/Ba**  **tch** | **Max**  **Variation/Ba**  **Tch -T** | **Range** | **Max**  **Variation /Batch**  **-T** |
| **FDY** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| **Dyeing Guaranted Material Supplied For Manufacturing**  **International Grade Of Textile Fabrics And Apparels For Weaving**  **And Knitting Industry, And For International Grade Dyed Yarn(Exported In Big Qty In Turkey)** | **AA Grade Even Packing: Weight and Length are**  **Even** | Less Than 120  Days | 1 Max | 15 Plus | Brand New | 10 - 59  den | +/- 1% | <1% | >=3.8 | +/-0.15 | 28-35 | +/-2 4 | 4-8 | +/-0.75 |
| 60-600  den | < +/-  0.75% |
| **A Grade Uneven**  **Packing: Weight are Uneven.** | 0-180  Days | 1 Max | 15 Plus | Brand New | 10 - 59  den | +/- 1% | <1% | >=3.8 | +/-0.15 | 28-35 | +/-2 4 | 4-8 | +/-0.75 |
| 60-600  den | < +/-  0.75% |
| **Supply Grade For Secondary Use In Mfg. Jari Yarn, Narrow Looms, Vagha Fabric, Decoration Fabric -Not Guaranteed For Dyeing Evenness Etc…** | **B Grade** | 180-360  Days | 5 Max | 10 Plus | Brand  New/Recycl Ed But Non Demaged | 10 - 59  den | +/- 2% | 2% | >=3.25 | +/-0.3 | 25-40 | +/-3 | 4-9 | +/-1 |
| 60-600  den | < +/-  1.5% |
| **Supply Grade For Dori Manufacturing etc…** | **C Grade** | 0-360 Days | 5 Plus | 0 Plus | -NA | 10 - 59  den | +/- 3% | 2%  PLUS | >=3 | +/-0.35 | 20-45 | +/-5 | 4-10 | +/-2 |
| 60-600  den | < +/-  2.5% |
| **CATIONIC DYEABLE** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| **Dyeing Guaranted Material Supplied for Manufacturing**  **International Grade of Textile Fabrics and Apparels For Weaving**  **and Knitting Industry, and for International Grade Dyed Yarn(Exported Big Qty in Turkey)** | **AA Grade Even Packing: Weight and Length are Even** | Less Than  120 Days | 2 Max | 15 Plus | Brand New | 10 - 59  den | +/- 1% | <1% | >=3.25 | +/-0.15 | 25-33 | +/-2 | 6-8 | +/-0.75 |
| 60-600  den | < +/-  0.75% |
| **A Grade Uneven Packing : Weight are Uneven** | 0-180  Days | 2 Max | 15 Plus | Brand New | 10 - 59  den | +/-  1.5% | <1% | >=3.25 | +/-0.15 | 25-33 | +/-2 | 6-8 | +/-0.75 |
| 60-600  den | < +/-  1% |
| **Supply Grade for Secondary Use In Mfg. Jari Yarn, Narrow Looms, Vagha Fabric, Decoration Fabric -Not Guaranteed for Dyeing Evenness** | **B Grade** | 180-360  Days | 6 Max | 10 Plus | Brand  New/Recycl Ed But Non Demaged | 10 - 59  den | +/- 2% | 2% | >=2.75 | +/-0.3 | 20-35 | +/-3 | 6-9 | +/-1 |
| 60-600  den | < +/-  1.5% |
| **Supply Grade for Dori Manufacturing** | **C Grade** | 0-360 Days | 6 Plus | 0 Plus | -NA | 10 - 59  den | +/- 3% | 2% Plus | >=2.0 | +/-0.35 | 20-40 | +/-5 | 6-10 | +/-2 |
| 60-600  den | < +/-  2.5% |
| **MOTHER YARN** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| **Dyeing Guaranted Material Supplied for Manufacturing**  **International Grade of Textile Fabrics and Apparels for Weaving**  **and Knitting Industry, and for International Grade Dyed Yarn(Exported In Big Qty In Turkey)** | **AA Grade Even Packing: Weight and Length are Even** | Less  Than 90 Days | 0 | 0 | Brand New | 200 -  360 den | +/-  1.2% | <1% | >=3.8 | +/-0.15 | 28-35 | +/-2 | 7 | +/-0.75 |
| 360-600  den | < +/-  1% |
| **A Grade Uneven**  **Packing: Weight are Uneven.** | 0-180  Days | 1 Max | 0 | Brand New | 200 -  360 den | +/-  1.2% | <1% | >=3.8 | +/-0.15 | 28-35 | +/-2 | 7 | +/-0.75 |
| 360-600  den | < +/-  1% |
| **Supply Grade for Secondary Use In Mfg. Jari Yarn, Narrow Looms, Vagha Fabric, Decoration Fabric -**  **Not Guaranteed for Dyeing Evenness** | **B Grade** | 180-360  DAYS | 3 Max | 0 | Brand  New/Recycl Ed But Non Demaged | 200 -  360 den | +/- 2% | 2% | >=3.25 | +/-0.3 | 25-40 | +/-3 | 5-9 | +/-1 |
| 360-600  den | < +/-  1.75% |
| **Supply Grade for Dori Manufacturing** | **C Grade** | 0-360  DAYS | 5 Plus | 0 Plus |  | 200 -  360 den | +/- 3% | 2% Plus | >=3 | +/-0.35 | 20-45 | +/-5 | 4-10 | +/-2 |
| 360-600  den | < +/-  2.5% |
| NOTES:  1. AA GRADE PACKED MATERIAL IF CROSSES AGE OF 120DAYS CAN NOT BE SOLD AS AA GRADE AS IT LOOSES SPIN FINISH REQUIRED FOR SMOOTH RUNNING ON HIGH SPEED WARPING MACHINES AND KNITTING MACHINES AND LOOMS.  2. A GRADE MATERIAL CAN NOT BE SOLD AS A GRADE AFTER 180 DAYS OF AGEING AS IT BECOME DIFFICULT TO PRODUCE GOOD QUALITY FABRIC OUT OF THIS AGED DRY YARN.  3. AA GRADE PACKAGE SIZE CAN BE different from supplier to supplier. It can be any weight/bobbin from 5-15KGS, What is important is that It has to be EQUAL IN LENGTH and WEIGHT per bobbin.  4. Purpose of AA GRADE yarn is mainly for EVEN LENGTH AND EVEN WEIGHT OF EACH BOBBIN which is run on WARPING machine, Which are preparatory of all KNITTING and WEAVING LOOMS, It reduces the WASTAGES, It improves quality of BEAMS to the level that Knitting and Weaving Machines can run for more than 95% efficiency. This kind of efficiency produces Fabric without any quality defects. All international apparel brands needs fabric with Dyeing Guarantee and Fabric without faults. So, AA grade materials are must to keep our fabric quality standards high and comparable to International level.  5. Every spinners/Yarn producers have different grading system which confuses all the customers. Whereas world over Internationally all quality grading is done on basis of AA, A, B and C grades. All invoices should show the GRADE of their yarn on their packing list and Invoice.  6. All international apparel brands needs fabric of DYEING GUARANTEED.  7. Generally Denier Variations in AA grade materials can not be more than 0.2% when produced on latest spinning machines with high quality of raw materials.  8. Even a small percentage of variation in DENIER, ELONGATION, TENACITY and BOILING WATER SHRINKAGE can generate Dyeing Variation even though fabric is made on latest imported European WARPING, KNITTING or WEAVING machines. So, BIS standard parameters have to be stringent if the final aim of BIS and OUR PETROLEUM MINISTRY is to improve the quality of fabric produced in our country. | | | | | | | | | | | | | | |

**A. 2 Current Requirement**

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Sl No.** | **Type of**  **Weaving Machines** | **Total**  **installed**  **Qty in NO.s** | **Average**  **Production**  **per Day in**  **Meter per**  **machine** | **Total**  **Production**  **per Year in**  **Meter per**  **machine** | **Average**  **Grammag**  **e of Fabric in gram** | **Total Yarn**  **required per in Kg per machine per year** | **Total Yarn**  **required per year for all machines, in Metric Tons per year** | **75% FDY yarn** | **% of AA**  **grade**  **required** | **Total AA Grade**  **Yarn required**  **in Metric Ton per Year** |
| 1 | Shuttle Looms | 550000 | 60 | 20160 | 60 | 1209.6 | 665280 | 498960 | 25 | 124740 |
| 2 | Water jet Looms | 80000 | 400 | 134400 | 100 | 13440 | 1075200 | 806400 | 100 | 806400 |
| 3 | Rapier Looms | 25000 | 250 | 84000 | 100 | 8400 | 210000 | 157500 | 100 | 157500 |
| 4 | Air Jet Looms | 5000 | 300 | 100800 | 80 | 8064 | 40320 | 30240 | 100 | 30240 |
|  |  |  |  |  |  |  |  |  |  |  |
|  | SUB TOTAL | 660000 | 1010 | 339360 |  |  | 1990800 | 1493100 |  | 1,118,880.00 |
| 5 | WARP KNITTING &  RASCHEL | 3200 |  |  |  | 84000 | 268800 | 225000 | 100 | 225,000.00 |
|  |  |  |  |  |  |  |  |  |  | 1,343,880.00 |
|  | GRAND TOTAL |  |  |  |  |  |  |  |  |  |

13.43 LAKH METRIC

TON OF

AA GRADE YARN IS

REQUIRED

PER YEAR

**PROJECTION IN NEXT FIVE YEARS ANNEXURE II**

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Sl No.** | **Type of**  **Weaving Machines** | **Total**  **installed**  **Qty** | **Average**  **Production**  **per Day in**  **Meter per**  **machine** | **Total**  **Production**  **per Year in**  **Meter per**  **machine** | **Average**  **Grammag**  **e of Fabric in gram** | **Total Yarn**  **required per in Kg per machine per year** | **Total Yarn**  **required per year for all machines, in Metric Tons per year** | **75% FDY yarn** | **% of AA**  **grade**  **required** | **Total AA Grade**  **Yarn required**  **in Metric Ton per Year** |
| 1 | Shuttle Looms | 50000 | 60 | 20160 | 60 | 1209.6 | 60480 | 45360 | 25 | 11340 |
| 2 | Water jet Looms | 75000 | 400 | 134400 | 100 | 13440 | 1008000 | 756000 | 100 | 756000 |
| 3 | Rapier Looms | 40000 | 250 | 84000 | 100 | 8400 | 336000 | 252000 | 100 | 252000 |
| 4 | Air Jet Looms | 4000 | 300 | 100800 | 80 | 8064 | 32256 | 24192 | 100 | 24192 |
|  |  |  |  |  |  |  |  |  |  |  |
|  | SUB TOTAL | 169000 | 1010 | 339360 |  |  | 1436736 | 1077552 |  | 1043532 |
| 5 | WARP KNITTING &  RASCHEL | 1600 |  |  |  | 42000 | 134400 | 90%FDY | 112500 | 112500 |
|  |  |  |  |  |  |  |  |  |  |  |
|  | GRAND TOTAL |  |  |  |  |  |  |  |  | 1156032 |

TOTAL 11.56 LAKH

METRIC TON OF

ADDITIONAL AA

GRADE YARN WILL

BE REQUIRED IN

NEXT 5 YEARS

**A. 4 EXISTING DATA**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Sl No.** | **Type of Weaving Machines** | **Total installed Qty** | **Project Cost of**  **installing per Machine Including Land & Building.** | **Total Project**  **Cost in Crore.** | **Employment per machine** | **Total Employment** |
| 1 | Shuttle Looms | 550000 | 500000 | 27500 | 1 | 550000 |
| 2 | Water jet Looms | 80000 | 1500000 | 12000 | 0.5 | 40000 |
| 3 | Rapier Looms | 25000 | 7500000 | 18750 | 0.5 | 12500 |
| 4 | Air Jet Looms | 5000 | 3000000 | 1500 | 0.5 | 2500 |
| 5 | Warp/ Raschel knit Mc | 3200 | 1000000 | 320 | 2 | 6400 |
|  | Total | **663200** | **13500000** | **60070** |  | **611400** |

**PROJECTED IN NEXT**

**5 YEARS**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Sl No.** | **Type of Weaving Machines** | **Projected**  **Installed Qty in 5 Years.** | **Project Cost of**  **installing each**  **Machine Including Land & Building** | **Total Project**  **Cost in Crore.** | **Employment per machine** | **Total Employment** |
| 1 | Shuttle Looms | 50000 | 500000 | 2500 | 1 | 50000 |
| 2 | Water jet Looms | 75000 | 1500000 | 11250 | 0.5 | 37500 |
| 3 | Rapier Looms | 40000 | 7500000 | 30000 | 0.5 | 20000 |
| 4 | Air Jet Looms | 4000 | 3000000 | 1200 | 0.5 | 2000 |
| 5 | Warp/ Raschel knit Mc | 3200 | 15000000 | 4800 | 2 | 6400 |
|  | Total | **172200** | **27500000** | **49750** |  | **115900** |

**A.5 Financials Figures**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Sr. No | Name of the Company | Sales Turnover (Cr.) | | | Increase of Sales in % terms within 2 years |
|  |  | 20-21 | 21-22 | 22-23 |  |
| 1 | RIL- Hazira |  |  |  |  |
| 2 | RIL-Silvassa |  |  |  |  |
| 3 | RIL- Patalganga |  |  |  |  |
| 4 | Alok (Reliance) |  |  |  |  |
| 5 | JBF (Reliance) |  |  |  |  |
| 6 | Shubhalakshmi (Reliance) |  |  |  |  |
|  |  |  |  |  |  |
| 7 | Welknown Industries Limited | 3,206.00 | 5,396.00 | 6,164.00 | 92.96 |
| 8 | Shree Durga Syntex Pvt. Ltd. | 1,254.00 | 1832.50 | 1,776.00 | 41.63 |
| 9 | Bhilosa Industries Limited | 5,904.00 | 9,126.54 | 12,100.40 | 104.95 |
| 10 | Sanathan Textiles Limited\* | 1,926.90 | 3,192.89 | 3,192.89 | 65.70 |
| 11 | Sumeet Industries Limited | 573.87 | 893.50 | 1,033.12 | 80.03 |
| 12 | Garden Silk Mills Limited | 6,987.00 | 3,463.10 | 3,449.80 | -50.63 |
| 13 | Chiripal Industries Limited\* | 1,266.75 | 1,691.51 |  | -100.00 |
| 14 | Filatex Industries Limited | 2,230.00 | 3,845.00 | 4,306.00 | 93.09 |
| 15 | Indorama Synthetics Limited | 2,043.59 | 3,907.42 | 3,930.79 | 92.35 |
| 16 | Kejriwal Industries Limited\* | 157.00 | 150.00 | 150.00 | -4.46 |
| 17 | Gokulanand (GTX Private Limited) | 346.50 | 591.00 | 600.00 | 73.16 |
|  | Total | 25,895.61 | 34,089.46 | 36,703.00 |  |
|  | | | | | |
| (\*Data Not Available)  (Source: Publicly Available Credit Rating Report of CARE & CRISIL) | | | | | |

**A. 6 Note on request To exempt Polyester Mother Yarn from BIS**

Respected Sir,

Warp knitting is by far the most versatile and a high productive fabric production system in the textile industry.

Since last 10 years, New Investment of about 3000 crores has been made in the Warp knitting industry, resulting in about 600% increase in installed capacity, generating direct/indirect employment for about 57000 persons.

Polyester Mother Yarn, 200/10 is one of the major raw materials used by our industry to make import substitute NET FABRIC (mesh fabric). Earlier there were huge imports of Net Fabric from China. Now after establishing the Warp Knitting Industry in India, import of Net fabric is almost negligible.

In our warp knitting industry only, approx. 350 high speed split warpers are installed in Surat, apart from Surat, in Silvassa, Amritsar, Ludhiana, Panipat, and Delhi the split warpers are also installed. The beaming capacity of one split warper is 20 MTS tons per month, it clearly indicates that our industry has a total installed capacity of 7000 MTS tons per month out of which approx. 2000 MTS Nylon mother yarn consumed by our industry. That means 5000 MTS tons of Polyester Mother Yarn required per month to run the knitting industry. There are many units which do not have the facility of split warper; they are also consuming polyester mother yarn. There are a total 3000 warp knitting machines installed in India having installed capacity of 15000 MTS per month. As per market demand we are consuming a minimum 9000 MTS Nylon & Polyester Mother Yarn put together.

Apart from this, the weaving industry also consumes Poly and Nylon Mother yarn. As per letter received by weavers’ association, they are using 4000 MTS Polyesters mother yarn and 3000 MTS Nylon Mother Yarn per month all over India. Looking at the above scenario, the industry needs 9000 MTS tons of polyester mother yarn per month.

There is a huge shortage between demand and supply of AA Grade Even Polyester Mother Yarn. The quality of domestic polyester mother yarn is also very inferior in quality as compared to imported Mother Yarn. The same was explained during visit of Mr.Mayur and his team to Surat. For making defect less fabric, we require good quality, equal length and without breakage yarn for our high-speed split warper and on high-speed warp knitting machine.

After imposing BIS on poly mother yarn there will be a huge gap between demand and supply, which will result in an artificial price hike of polyester mother yarn in the domestic market. The same thing happened in the past in the month of March 2023 when BIS was supposed to be implemented from 1st April 2023.

If there will be a major price gap between imported and domestic polyester mother yarn then import of NET FABRIC and garment will again start in full swing from China as earlier it happened. Due to fabric import our plant will be shut down which results in the loss of employment and the huge capital investment.

Also, Polyester Mother Yarn, is not a product which falls under the category of mandatory BIS requirement viz. public interest, protection of human, animal or plant health, safety of environment, prevention of unfair trade practices and national security.

Therefore, we request you to please exempt our Polyester Mother Yarn from BIS.

**A. 7 IMPORTANCE OF EVENNESS OF MMF YARN.**

**The BIS standards made vide IS: 17261 and IS: 17262 should have separate specifications for AA Grade, A Grade, B Grade and C grade of Materials** to be used by the user industry, the user industry is extremely fragmented and there exists various end use applications of these yarns and each end use has specific quality requirement, the Industry in conformation with the international practise desires to have standards mentioning separate specifications for each quality of use i.e. for yarns requiring higher end applications needs AA grade Material and for lower end applications needs C grade Material and vice versa , and each grade has to have separate specifications with respect to the Tolerance limits of Denier, Elongation, Tenacity, Ageing, Evenness, Dyeing guarantee etc. like parameters.

The Current standards framed by the BIS authority under IS 17261 and IS 17262 has no such separate specifications considering the grade requirement of the user industry and the tolerance limits on each of the important technical parameters like – Coefficient of Variation limits on Denier of the yarn, Elongation, Tenacity is too large to be considered practical, and totally against the main object of BIS to provide third party assurance of Quality and Reliability of Products to user industry and the same to the disadvantage of the user industry.

BIS has been granted to the overseas plant of Reliance Group and Indo Rama Group. They also adhere to the international practice of the gradation of yarn when they export this yarn to textile manufacturing countries.

We therefore urge you to kindly ensure that the BIS standards under IS 17261 and IS 17262 are designed in such a way that it mentions separate specifications for different gradation of Technical Parameters in line with the expectations of the user Industry copy of required specifications attached as Annexure-I.

As per the decided by TxD 31, team from BIS visited user industry and collected samples of various yarn for testing. Results are expected very soon.

Importance of Evenness in FDY MMF Yarn.

Manmade fibre and yarn is known for the Evenness. The natural fibres are yarn are uneven. MMF Textile contribute 75% of the total textile.

The major properties of are Denier, Tenacity, Elongation and Boiling Water Shrinkage. This property plays a major role in the end use of the fabric and textile.

The MMF textile is widely used in Garments and technical textiles. Knitted fabric is used in the world for both garments and technical textiles.

For producing the world class fabric Evenness of the yarn is very important.

The coefficient of variation (CV), of the above mentioned properties of yarn should be minimum to produce the highest quality of fabric and garments.

In the weaving industry twisted yarn and zero twisted yarn are used to produce fabric, garments and technical textiles.

Zero twisted yarn is used to produce major technical textiles and High end textiles. Whenever zero twisted yarn is used to produce textile the yarn quality has to be at the highest standard.

If the coefficient of variation is not strictly maintained at the lowest level the functionality of

the fabric will not be upto the mark.

Majority of the textile producing countries maintain the highest standard of yarn quality. The

Evenness of the yarn is at the highest level.

As the MMF yarn is produced by very high standards of technology machines the Evenness of

the yarn is easy to maintain.

Therefore we request you to implement the BIS norms for all types of yarn as per international

standard.

Thanking You

**QCO**

Date 30th September 2023

To,

Shri J.K Gupta.

Head BIS Textile

New Delhi email: txd@bis.gov.in

Re: BIS Standard: IS 17261 :2022 for Polyester Continuous Filament Fully Drawn Yarn and IS 17262: 2022 for polyester Partially Oriented yarns, Department of Chemicals, Govt. of India’s Order No. 3193 (E) & SO No. 3194 (E) both dated 17th July, 2023

**Sub: Humble Request**

**1. To extend date of implementation of QCO orders for BIS on various Polyester Yarns which are to be implemented from 3rd Oct, 2023 to further 9 months or till the Ample Availability of the AA grade Polyester FDY yarn in the Local Market & implementation of suggested corrections by user industry.**

**2. To Exempt Polyester Mother Yarn**

**3. To Remove QCO orders for Polyester Yarn from Mandatory Certification.**

**4. To Correct infeasible provisions in current guidelines.**

Dear Sir,

This refers to the captioned subject, we would like to express our request for extension of QCO on various polyester yarns due to be applicable from 3rd October, 2023 for further 9 months based on the issues faced by the user Industry as explained below in bullet Points,

* Domestic Polyester Manufacturers do not have any production capabilities to produce Speciality polyester yarns, this speciality yarns are used to produce export oriented goods as well as special application materials, non-availability of such materials (As imported suppliers are not granted BIS and Domestic manufacturers do not have production capacity) could lead to the closure of all such units. We request you to exempt this yarns from QCO. The List of the speciality yarn and its application is attached as **Annex I**
* Current BIS Specifications under IS 17261: 2022 and IS: 17262:2022 are not in line with the expectations of the User Industry, therefore implementation of compulsory QCO on FDY and POY Polyesters has potential to get exploited by creating cartel by the yarn Manufacturers, leaving the user industry high and dry in such a competitive global market. **Deviations suggested are far more labral as compared to international standards.** Technical requirement for yarn under BIS certification is totally against main object of BIS to provide third party assurance of Quality and Reliability of products to user Industry. Suggested code of quality approval not with compliance to provide required quality of yarn to fabric manufacturer. BIS Standard for QCO IS 17261 and 17260 should be strictly as per **Annex-IA** attached herewith.
* Domestic Polyester Manufacturers do no produce AA Grade Quality of FDY yarn, Domestic Production capacity of AA Grade FDY Yarn is only 1.20 las Tonne, against the Present demand of 13 Lacs Tonne. The production capacity and demand of the domestic industry is attached as **Annex II**.
* Most of the Imports of FDY Yarn in last two calendar years has been that of AA grade yarns only – i.e. in CY 2022, out of total imports of FDY in India nearly 70% of the total imports was that of AA grade and in CY 23, out of total imports of FDY, nearly 78% imports are that of AA Grade. This compulsory implementation of QCO from 3rd October, 2023 will block supply of AA Grade FDY yarns as many of the overseas suppliers are yet not granted BIS Certificate, which could result in under utilization of capacities of Weavers and Knitters. The Import Data is Attached as **Annex III**.

**Summary of Imports of FDY**

|  |  |  |  |
| --- | --- | --- | --- |
| Sr. No | Item Description | Import of FDY Yarn in CY-2022 (in Tonnes) | Import of FDY Yarn in CY-2023 ( upto 31st August) in Tonnes |
| 1 | Total import of FDY Yarn | 167,519.00 | 183,346.00 |
| 2 | Import of AA Grade FDY Yarn | 117,440.00 | 142,749.00 |
| 3 | % of AA Grade FDY Yarn Import out of total Imports of FDY Yarn | 70.11 | 77.86 |

**Source:Volza**

* Across Textile value chain, the User Industry i.e. Weavers and Knitters has made highest investment in the sector in last 10 years, shortage of key raw materials of AA Grade quality could jeopardise the entire investment made in the modern weaving and Knitting industry of India, which has potential to create job losses to the tune of 3 to 5 lacs employment. The investment & Employment Data is attached as Annex IV.

\* We in South Gujarat have ventured into Garment industry and if we consider the index value of Yarn as 100 then we convert this yarn to Garment, the index value of garment at retail level would be between 1500 to 2500. Hence there is a value addition of 15 to 25 times. Also we have a Citizen Group who is the largest Manufacturer of Umbrella & Umbrella fabric in the world. Kusumgar Group is 5th largest technical textile producer the world.

* Slow Pace of Modernization in the Spinning Industry: The spinning Industry has a very slow pace of modernization, which is not in line with the market realities of Today, As Textile entrepreneurs are investing heavily in the modern manufacturing capabilities which requires a high grade material. **The spinning industry were protected for more than 10 years by imposing the Anti-Dumping duty, still they did not modernize their plant as per the international demand. They are habituate of protection by the Government.**
* The hue and cry by the domestic Industry of damage to their business prospects on accounts of Imports is completely false, looking at the sale figures of all major Polyester Yarn Manufacturers, Their Sales Has Doubled in just last 2 Financial Years. If imports had been damaging their industry, then their sales could not have been doubled in just 2 years. The Financial Figures of the Yarn Manufacturers is Attached as **Annex V**
* Polyester Mother Yarn, is one of the major raw materials used by warp knitting industry to make import substitute NET FABRIC (mesh fabric). Earlier there were huge imports of Net Fabric from China. Now after establishing the Warp Knitting Industry in India, import of Net fabric is almost negligible. There is a huge shortage of AA Grade Even quality of mother yarn suitable for high speed warp knitting machine. Detail Note attached as **Annex VI** for your ready reference. Our humble request to exempt polyester mother yarn. Detail note attached herewith.
* To increase the export of T&A we need to secure the Raw material of international standard. There is lot of scope to produce the import substitute textile mainly in Technical textile and high fashion garment. So even for the domestic market we need Raw material of Global standards and Global Competitive Price. The detailed Note on Importance of Evenness of Yarn Is Attached as Annex **VII**
* In the sectional committee meeting of TXD-31 of BIS, the committee has decided to submit samples of imported yarn manufacturers for Testing with NITRA/SITRA/SASMIRA/ Textile Committee Laboratory etc, BIS had visited user industry on 15th September, 2023 and the samples of imported POY and FDY are sent for testing with NITRA/ SASMIRA/ Textile Committee Laboratory. The results of this tests are pending, without this results compulsory implementation of QCO orders of FDY and POY will be based on the existing technical parameters, and therefore are not in line with the consumer’s expectation, therefore extension of QCO is necessitated.
* QCO should not be used as a trade barrier and should not restrict our right to have international quality of yarn at international price. In textile trade barrier should be first imposed on garments, then on fabric, then on yarn and lastly PTA/MEG.

**Based on all above issues, We humbly request you to please:**

**1. extend date of implementation of QCO orders for BIS on various Polyester Yarns which are to be implemented from 3rd Oct, 2023 to further 9 months or till the Ample Availability of the AA grade Polyester FDY yarn in the Local Market & implementation of suggested corrections by user industry.**

**2. exempt Polyester Mother Yarn and other speciality yarn.**

**Please arrange the Visit of the team from ministry of Chemical & fertilizers along with the technical team of textile commissioner office to study yarn consumption in SURAT.**

**4. Correct Technical Specification as per requirement of user industry.**

**5. QCO for Polyester Yarns should not be mandatory.**

**6. Arrange immediate visit to overseas applicant exporters.**

Thanking you,

**Ashish Gujarati,**

**President**

**Pandesara Weavers Co-op Soc. Ltd. Surat**

CC

1) Hon. Minister of Textiles, Govt. of India, Udhyog Bhavan, New Delhi.

2) Hon. Minister of State for Textiles, Govt. of India, Udhyog Bhavan, New Delhi.

3) Trade Advisor, Ministry of Textiles, Govt. of India, Udhyog Bhavan, New Delhi.

4) President, The Southern Gujarat Chamber of Commerce & Industry, Surat.

5) President, Federation of Gujarat Weavers Welfare Association, Surat

6) President, South Gujarat Warp Knitters Association.

7) President, South Gujarat Texturizers Welfare Association.

8) FIASWI Chairman

**4. Comments received form M/s Pandesara Weavers Co. Op. Soc. Ltd.**

Date 30th September 2023

To,

**Shri J.K Gupta .**

Head BIS Textile

New Delhi email: txd@bis.gov.in

**Re : BIS Standard: IS 17261 :2022 for Polyester Continuous Filament Fully Drawn Yarn and IS 17262: 2022 for polyester Partially Oriented yarns, Department of Chemicals, Govt. of India’s Order No. 3193 ( E ) & SO No. 3194 ( E) both dated 17th July, 2023**

**Sub: Humble Request**

**1. To extend date of implementation of QCO orders for BIS on various Polyester Yarns which are to be implemented from 3rd Oct, 2023 to further 9 months or till the Ample Availability of the AA grade Polyester FDY yarn in the Local Market & implementation of suggested corrections by user industry.**

**2. To Exempt Polyester Mother Yarn**

**3. To Remove QCO orders for Polyester Yarn from Mandatory Certification.**

**4. To Correct infeasible provisions in current guidelines.**

Dear Sir,

This refers to the captioned subject, we would like to express our request for extension of QCO on various polyester yarns due to be applicable from 3rd October, 2023 for further 9 months based on the issues faced by the user Industry as explained below in bullet Points,

· Domestic Polyester Manufacturers do not have any production capabilities to produce Speciality polyester yarns, this speciality yarns are used to produce export oriented goods as well as special application materials, non-availability of such materials ( As imported suppliers are not granted BIS and Domestic manufacturers do not have production capacity) could lead to the closure of all such units. We request you to exempt this yarns from QCO. The List of the speciality yarn and its application is attached as **Annex I**

· Current BIS Specifications under IS 17261: 2022 and IS: 17262:2022 are not in line with the expectations of the User Industry, therefore implementation of compulsory QCO on FDY and POY Polyesters has potential to get exploited by creating cartel by the yarn Manufacturers, leaving the user industry high and dry in such a competitive global market. Deviations suggested are far more labral as compared to international standards. Technical requirement for yarn under BIS certification is totally against main object of BIS to provide third party assurance of Quality and Reliability of products to user Industry. Suggested code of quality approval not with compliance to provide required quality of yarn to fabric manufacturer. BIS Standard for QCO IS 17261 and 17260 should be strictly as per **Annex-IA** attached herewith.

· Domestic Polyester Manufacturers do no produce AA Grade Quality of FDY yarn, Domestic Production capacity of AA Grade FDY Yarn is only 1.20 las Tonne, against the Present demand of 13 Lacs Tonne. The production capacity and demand of the domestic industry is attached as **Annex II.**

· Most of the Imports of FDY Yarn in last two calendar years has been that of AA grade yarns only – i.e. in CY 2022, out of total imports of FDY in India nearly 70% of the total imports was that of AA grade and in CY 23, out of total imports of FDY, nearly 78% imports are that of AA Grade. This compulsory implementation of QCO from 3rd October, 2023 will block supply of AA Grade FDY yarns as many of the overseas suppliers are yet not granted BIS Certificate, which could result in underutilization of capacities of Weavers and Knitters. The Import Data is Attached as **Annex III**.

**Summary of Imports of FDY**

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| --- | --- | --- | --- |
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**Source: Volza**

· Across Textile value chain, the User Industry i.e. Weavers and Knitters has made highest investment in the sector in last 10 years, shortage of key raw materials of AA Grade quality could jeopardise the entire investment made in the modern weaving and Knitting industry of India, which has potential to create job losses to the tune of 3 to 5 lacs employment. The investment & Employment Data is attached as Annex IV.

\* We in South Gujarat have ventured into Garment industry and if we consider the index value of Yarn as 100 then we convert this yarn to Garment, the index value of garment at retail level would be between 1500 to 2500. Hence there is a value addition of 15 to 25 times. Also we have a Citizen Group who is the largest Manufacturer of Umbrella & Umbrella fabric in the world. Kusumgar Group is 5th largest technical textile producer the world.

· Slow Pace of Modernization in the Spinning Industry: The spinning Industry has a very slow pace of modernization, which is not in line with the market realities of Today, As Textile entrepreneurs are investing heavily in the modern manufacturing capabilities which requires a high grade material. **The spinning industry were protected for more than 10 years by imposing the Anti-Dumping duty, still they did not modernize their plant as per the international demand. They are habituate of protection by the Government.**

· The hue and cry by the domestic Industry of damage to their business prospects on accounts of Imports is completely false, looking at the sale figures of all major Polyester Yarn Manufacturers, Their Sales Has Doubled in just last 2 Financial Years. If imports had been damaging their industry, then their sales could not have been doubled in just 2 years. The Financial Figures of the Yarn Manufacturers is Attached as **Annex V**

· Polyester Mother Yarn, is one of the major raw materials used by warp knitting industry to make import substitute NET FABRIC (mesh fabric). Earlier there were huge imports of Net Fabric from China. Now after establishing the Warp Knitting Industry in India, import of Net fabric is almost negligible. There is a huge shortage of AA Grade Even quality of mother yarn suitable for high speed warp knitting machine. Detail Note attached as **Annex VI** for your ready reference. Our humble request to exempt polyester mother yarn. Detail note attached herewith.

· To increase the export of T&A we need to secure the Raw material of international standard. There is lot of scope to produce the import substitute textile mainly in Technical textile and high fashion garment. So even for the domestic market we need Raw material of Global standards and Global Competitive Price. The detailed Note on Importance of Evenness of Yarn Is Attached as **Annex VII**

· In the sectional committee meeting of TXD-31 of BIS, the committee has decided to submit samples of imported yarn manufacturers for Testing with NITRA/SITRA/SASMIRA/ Textile Committee Laboratory etc, BIS had visited user industry on 15th September, 2023 and the samples of imported POY and FDY are sent for testing with NITRA/ SASMIRA/ Textile Committee Laboratory. The results of this tests are pending, without this results compulsory implementation of QCO orders of FDY and POY will be based on the existing technical parameters, and therefore are not in line with the consumer’s expectation, therefore extension of QCO is necessitated.

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**Based on all above issues, We humbly request you to please:**

**1. extend date of implementation of QCO orders for BIS on various Polyester Yarns which are to be implemented from 3rd Oct, 2023 to further 9 months or till the Ample Availability of the AA grade Polyester FDY yarn in the Local Market & implementation of suggested corrections by user industry.**

**2. exempt Polyester Mother Yarn and other speciality yarn.**

**3. Please arrange the Visit of the team from ministry of Chemical & fertilizers along with the technical team of textile commissioner office to study yarn consumption in SURAT.**

**4. Correct Technical Specification as per requirement of user industry.**

**5. QCO for Polyester Yarns should not be mandatory.**

**6. Arrange immediate visit to overseas applicant exporters.**

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Thanks & Regards,

Ashish Gujarati

President

+91 9375590456

Pandesara Weavers Co. Op. Soc. Ltd.

Plot No. 5, Navdiwala Estate, Vadod, GIDC, Pandesara, Surat.

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **DOMESTIC FDY INSTALLED CAPACITY (MT) ANNEXURE II** | | | | | | | | | | | | | |  |
|  |
|  |  | **Comissioning** |  | **FDY Installed** | | | **Actual Production** | | | | | **Actual production** | | **AA Grade Production** |
| **Sr. No** | **Manufacturer** | **year of Plant** | **Plant Make** | **Capacity/Month** | **Captive Consumption** | **Capacity/Day** | **Bright** | **Semi Dull** | **Cataionic** | **Dope Dyed** | **Recocil** | **Total/Day** | **Total/Month** | **Per Month** |
| 1 | RIL - Hazira | 2006 | Barmeg ( Ger) | 1200 |  | 40 | 20 |  | 10 |  | 10 | 40 | 1200 | 240 |
| RIL - Silvassa | 2016 | Barmeg ( Ger) | 9000 |  | 300 | 120 | 180 |  |  |  | 300 | 9000 | 2250 |
| RIL - Patalganga | 1978 | old ( 2nd Hand Plant imported from Dupont USA ) | 3300 |  | 110 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2 | Welknown | 2012 | Barmeg ( Ger) | 10500 |  | 350 | 150 | 180 | 5 | 15 |  | 350 | 10500 | 1050 |
| 3 | Durga Syntex | 2012 | Barmeg ( Ger) recoditioned | 4950 |  | 165 | 45 | 120 |  |  |  | 165 | 4950 | 495 |
|  |  | 2020 | Barmeg ( Ger) recoditioned | 1500 | 1500 | 50 |  |  |  |  |  |  |  |  |
| 4 | Bhilosa | 2015 | Barmeg ( Ger) recoditioned | 10950 | 3000 | 365 | 180 | 170 |  | 15 |  | 365 | 10950 | 2190 |
|  | JBF ( Reliance ) | 1995 | 40 MT Barmeg reconditioned | 4050 |  | 150 | 70 | 50 |  | 15 |  | 135 | 4050 | 405 |
|  |  |  | 110 MT China |  |  |  |  |  |  |  |  |  |  |  |
| 5 | Sanathan | 2015 | Barmeg | 2400 |  | 80 | 45 | 25 | 10 | 10 |  | 90 | 2700 | 270 |
| 6 | Alok ( Reliance ) | 2000 | Barmeg | 3900 |  | 130 | 100 | 20 |  | 8 |  | 128 | 3840 | 384 |
| 7 | Sumeet |  | Chinese | 3000 |  | 100 |  | 140 |  |  |  | 140 | 4200 | 420 |
| 8 | Garden |  | Chinese | 4050 |  | 135 | 60 | 70 |  |  | 5 | 135 | 4050 | 810 |
| 9 | Shubhalakshmi ( Reliance ) | 2017 | Barmeg | 4500 |  | 150 | 35 | 35 |  | 10 |  | 80 | 2400 | 240 |
| 10 | Chiripal | 2000 | Chinese | 1140 |  | 38 | 20 | 10 |  | 8 |  | 38 | 1140 | 114 |
| 11 | Filatex | 1990 | Silvasa Plant-Chinese recoditioned | 1200 |  | 100 | 20 |  |  | 20 |  | 40 | 1200 | 120 |
|  |  | 2017 | Dahej- Barmeg | 6600 |  |  |  |  |  |  |  | 220 | 6600 | 660 |
| 12 | Indorama | 2008 | Barmeg ( 2nd Hand ) | 1200 |  | 40 | 30 |  |  |  |  | 30 | 900 | 180 |
| 13 | Kejriwal | 2017 | Chinese | 1500 |  | 30 |  | 30 |  |  |  | 50 | 900 | 90 |
| 14 | Gokulanand |  | 2nd Hand Chinese | 1500 | 1300 |  |  |  |  |  |  | 50 | 200 |  |
|  | Poineer |  | Bermag reconditioned | 1050 |  |  |  |  |  |  |  |  | 1050 |  |
|  | Raj Rayon |  | Bermag reconditioned | 500 |  |  |  |  |  |  |  |  | 500 |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  | **Total** |  |  | **77990** | **5800** | **2333** | **895** | **1030** | **25** | **101** | **15** | **2356** | **70330** | **9918** |
|  | **YEARLY PRODUCTION** |  |  | **935880** |  |  |  |  |  |  |  |  |  |  |

**4 Comments received from M/s J Korin Spinning Pvt Ltd.**

To,

**Honourable Prime Minister of India Shri Narendra Modi 3i**

PMO, South Block, Secretariat Building,

Raisina Hill, New Delhi - 110011

[Email: pmindia@nic.in,](mailto:ornindial@nicin,) pmindia@gov.in

**Subject: BIS on Polyester Mother / Mono Yarn [FDY]**

Respected Sir,

**We take this opportunity to appreciate your team to implement 615 on Polyester Mother/Mono Yarn.**

We came to know that some of the Associations intentionally pressurising different government department to exclude FDY [Polyester Mother/Mono Yarn] from BIS to promote Import.

**We would like to again bring your kind attention that Mother Yarn/ Mono Manufacturers of India already have capacity to produce more than the required quantity for the domestic users.**

The details of Polyester Mother Yarn manufacturers and their Monthly Production Capacity are as follows:

|  |  |  |  |
| --- | --- | --- | --- |
| **Sr. No.** | **Name of Manufacture** | **BIS No.** | **Monthly Production Capacity (MT)** |
| 1 | J. Korin Spinning Pvt. Ltd. | 7100039625 & 7100039626 | 1700 |
| 2 | Geelon Industries Pvt. Ltd. | 7100039627 & 7100039628 | 2850 |
| 3 | Eastern enterprise | 7100039650 | 1200 |
| 4 | Shubhalaxmi Polyester Ltd. (Reliance) | 100030476 | 600 |
| 5 | AYM Syntex Ltd. | 100026485 | 800 |
| 6 | Orilon India Pvt. Ltd |  | 600 |
|  | **Total:** |  | 7750 |

**As per the above data, the Indian Polyester Mother/Mono Manufacturer can produce around 7750 MT/Month. Further as per our recent study the Domestic requirement of Polyester Mother Yarn as below:**

|  |  |  |
| --- | --- | --- |
| **Sr. No.** | **Sector** | **Monthly Consumption [M.T]** |
| 1. | KNITTING | 2370 |
| 2. | WEAVING | 1100 |
|  | **TOTAL:** | **3470** |

**As per the above actual DATA, the Indian Polyester Mother/Mono Yarn manufacturers production capacity ismore than 2 times of monthly domestic consumption.**

Looking to the above fact we again appreciate all of you that the Implementation of BIS for Polyester Mother Yarn [FDY] will not only contribute to the growth of the domestic industry but also reduce the dependence on IMPORT especially from CHINA.

We are ready for any personal meeting as per your convenient time Et place.

Thanking You.

Yours Faithfully,

For, J.KORIN SPINNING PVT. LTD.

(HIMANSHU S. JARIWALA]

Managing Director

Mob.: 9825116161

**ANNEX 10**

**(Item 4.2)**

**COMMENTS RECEIVED ON IS 17262 : 2022**

**1. Comments received from M/s, The Federation of Indian Art Silk Weaving Industry (FIASWI)**

**A. 1 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.

**• 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 suppliers.

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Table 1 | | | | | | | | | | | | | | |
| **Tolerence = T / Vaariation**  **Coefficient - CV%** | **FD/SD/BRT/**  **SBRT/OW** | **Age of**  **Material**  **(Prod**  **Date To**  **Sale Date)** | **Maximum Allowed**  **Broken**  **Filaments In A Bobbin**  **Weight Of**  **5kgs Plus** | **Intermi**  **Ngling**  **Nips** | **Paper Tube And**  **Box/Pallet**  **S Packing**  **of**  **International**  **Standards** |  |  | **Uneve Nness -Uster**  **%** | **Tenacity Gpd** | | **Elongation %** | | **Boiling Water**  **Shrinkage** | |
| **FDY, Cationic Dyeable, Mother**  **Yarn** |  | **Range**  **Denier** | **1%** | **Maxim**  **Um**  **CV%** | **Range/B**  **atch** | **Max**  **Variati**  **On/Bat**  **ch -T** | **Range/Ba**  **tch** | **Max**  **Variation/Ba**  **Tch -T** | **Range** | **Max**  **Variation /Batch**  **-T** |
| **FDY** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| **Dyeing Guaranted Material Supplied For Manufacturing**  **International Grade Of Textile Fabrics And Apparels For Weaving**  **And Knitting Industry, And For International Grade Dyed Yarn(Exported In Big Qty In Turkey)** | **AA Grade Even Packing: Weight and Length are**  **Even** | Less Than 120  Days | 1 Max | 15 Plus | Brand New | 10 - 59  den | +/- 1% | <1% | >=3.8 | +/-0.15 | 28-35 | +/-2 4 | 4-8 | +/-0.75 |
| 60-600  den | < +/-  0.75% |
| **A Grade Uneven**  **Packing: Weight are Uneven.** | 0-180  Days | 1 Max | 15 Plus | Brand New | 10 - 59  den | +/- 1% | <1% | >=3.8 | +/-0.15 | 28-35 | +/-2 4 | 4-8 | +/-0.75 |
| 60-600  den | < +/-  0.75% |
| **Supply Grade For Secondary Use In Mfg. Jari Yarn, Narrow Looms, Vagha Fabric, Decoration Fabric -Not Guaranteed For Dyeing Evenness Etc…** | **B Grade** | 180-360  Days | 5 Max | 10 Plus | Brand  New/Recycl Ed But Non Demaged | 10 - 59  den | +/- 2% | 2% | >=3.25 | +/-0.3 | 25-40 | +/-3 | 4-9 | +/-1 |
| 60-600  den | < +/-  1.5% |
| **Supply Grade For Dori Manufacturing etc…** | **C Grade** | 0-360 Days | 5 Plus | 0 Plus | -NA | 10 - 59  den | +/- 3% | 2%  PLUS | >=3 | +/-0.35 | 20-45 | +/-5 | 4-10 | +/-2 |
| 60-600  den | < +/-  2.5% |
| **CATIONIC DYEABLE** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| **Dyeing Guaranted Material Supplied for Manufacturing**  **International Grade of Textile Fabrics and Apparels For Weaving**  **and Knitting Industry, and for International Grade Dyed Yarn(Exported Big Qty in Turkey)** | **AA Grade Even Packing: Weight and Length are Even** | Less Than  120 Days | 2 Max | 15 Plus | Brand New | 10 - 59  den | +/- 1% | <1% | >=3.25 | +/-0.15 | 25-33 | +/-2 | 6-8 | +/-0.75 |
| 60-600  den | < +/-  0.75% |
| **A Grade Uneven Packing : Weight are Uneven** | 0-180  Days | 2 Max | 15 Plus | Brand New | 10 - 59  den | +/-  1.5% | <1% | >=3.25 | +/-0.15 | 25-33 | +/-2 | 6-8 | +/-0.75 |
| 60-600  den | < +/-  1% |
| **Supply Grade for Secondary Use In Mfg. Jari Yarn, Narrow Looms, Vagha Fabric, Decoration Fabric -Not Guaranteed for Dyeing Evenness** | **B Grade** | 180-360  Days | 6 Max | 10 Plus | Brand  New/Recycl Ed But Non Demaged | 10 - 59  den | +/- 2% | 2% | >=2.75 | +/-0.3 | 20-35 | +/-3 | 6-9 | +/-1 |
| 60-600  den | < +/-  1.5% |
| **Supply Grade for Dori Manufacturing** | **C Grade** | 0-360 Days | 6 Plus | 0 Plus | -NA | 10 - 59  den | +/- 3% | 2% Plus | >=2.0 | +/-0.35 | 20-40 | +/-5 | 6-10 | +/-2 |
| 60-600  den | < +/-  2.5% |
| **MOTHER YARN** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| **Dyeing Guaranted Material Supplied for Manufacturing**  **International Grade of Textile Fabrics and Apparels for Weaving**  **and Knitting Industry, and for International Grade Dyed Yarn(Exported In Big Qty In Turkey)** | **AA Grade Even Packing: Weight and Length are Even** | Less  Than 90 Days | 0 | 0 | Brand New | 200 -  360 den | +/-  1.2% | <1% | >=3.8 | +/-0.15 | 28-35 | +/-2 | 7 | +/-0.75 |
| 360-600  den | < +/-  1% |
| **A Grade Uneven**  **Packing: Weight are Uneven.** | 0-180  Days | 1 Max | 0 | Brand New | 200 -  360 den | +/-  1.2% | <1% | >=3.8 | +/-0.15 | 28-35 | +/-2 | 7 | +/-0.75 |
| 360-600  den | < +/-  1% |
| **Supply Grade for Secondary Use In Mfg. Jari Yarn, Narrow Looms, Vagha Fabric, Decoration Fabric -**  **Not Guaranteed for Dyeing Evenness** | **B Grade** | 180-360  DAYS | 3 Max | 0 | Brand  New/Recycl Ed But Non Demaged | 200 -  360 den | +/- 2% | 2% | >=3.25 | +/-0.3 | 25-40 | +/-3 | 5-9 | +/-1 |
| 360-600  den | < +/-  1.75% |
| **Supply Grade for Dori Manufacturing** | **C Grade** | 0-360  DAYS | 5 Plus | 0 Plus |  | 200 -  360 den | +/- 3% | 2% Plus | >=3 | +/-0.35 | 20-45 | +/-5 | 4-10 | +/-2 |
| 360-600  den | < +/-  2.5% |
| NOTES:  1. AA GRADE PACKED MATERIAL IF CROSSES AGE OF 120DAYS CAN NOT BE SOLD AS AA GRADE AS IT LOOSES SPIN FINISH REQUIRED FOR SMOOTH RUNNING ON HIGH SPEED WARPING MACHINES AND KNITTING MACHINES AND LOOMS.  2. A GRADE MATERIAL CAN NOT BE SOLD AS A GRADE AFTER 180 DAYS OF AGEING AS IT BECOME DIFFICULT TO PRODUCE GOOD QUALITY FABRIC OUT OF THIS AGED DRY YARN.  3. AA GRADE PACKAGE SIZE CAN BE different from supplier to supplier. It can be any weight/bobbin from 5-15KGS, What is important is that It has to be EQUAL IN LENGTH and WEIGHT per bobbin.  4. Purpose of AA GRADE yarn is mainly for EVEN LENGTH AND EVEN WEIGHT OF EACH BOBBIN which is run on WARPING machine, Which are preparatory of all KNITTING and WEAVING LOOMS, It reduces the WASTAGES, It improves quality of BEAMS to the level that Knitting and Weaving Machines can run for more than 95% efficiency. This kind of efficiency produces Fabric without any quality defects. All international apparel brands needs fabric with Dyeing Guarantee and Fabric without faults. So, AA grade materials are must to keep our fabric quality standards high and comparable to International level.  5. Every spinners/Yarn producers have different grading system which confuses all the customers. Whereas world over Internationally all quality grading is done on basis of AA, A, B and C grades. All invoices should show the GRADE of their yarn on their packing list and Invoice.  6. All international apparel brands needs fabric of DYEING GUARANTEED.  7. Generally Denier Variations in AA grade materials can not be more than 0.2% when produced on latest spinning machines with high quality of raw materials.  8. Even a small percentage of variation in DENIER, ELONGATION, TENACITY and BOILING WATER SHRINKAGE can generate Dyeing Variation even though fabric is made on latest imported European WARPING, KNITTING or WEAVING machines. So, BIS standard parameters have to be stringent if the final aim of BIS and OUR PETROLEUM MINISTRY is to improve the quality of fabric produced in our country. | | | | | | | | | | | | | | |

**A. 2 Current Requirement**

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Sl No.** | **Type of**  **Weaving Machines** | **Total**  **installed**  **Qty in NO.s** | **Average**  **Production**  **per Day in**  **Meter per**  **machine** | **Total**  **Production**  **per Year in**  **Meter per**  **machine** | **Average**  **Grammag**  **e of Fabric in gram** | **Total Yarn**  **required per in Kg per machine per year** | **Total Yarn**  **required per year for all machines, in Metric Tons per year** | **75% FDY yarn** | **% of AA**  **grade**  **required** | **Total AA Grade**  **Yarn required**  **in Metric Ton per Year** |
| 1 | Shuttle Looms | 550000 | 60 | 20160 | 60 | 1209.6 | 665280 | 498960 | 25 | 124740 |
| 2 | Water jet Looms | 80000 | 400 | 134400 | 100 | 13440 | 1075200 | 806400 | 100 | 806400 |
| 3 | Rapier Looms | 25000 | 250 | 84000 | 100 | 8400 | 210000 | 157500 | 100 | 157500 |
| 4 | Air Jet Looms | 5000 | 300 | 100800 | 80 | 8064 | 40320 | 30240 | 100 | 30240 |
|  |  |  |  |  |  |  |  |  |  |  |
|  | SUB TOTAL | 660000 | 1010 | 339360 |  |  | 1990800 | 1493100 |  | 1,118,880.00 |
| 5 | WARP KNITTING &  RASCHEL | 3200 |  |  |  | 84000 | 268800 | 225000 | 100 | 225,000.00 |
|  |  |  |  |  |  |  |  |  |  | 1,343,880.00 |
|  | GRAND TOTAL |  |  |  |  |  |  |  |  |  |

13.43 LAKH METRIC

TON OF

AA GRADE YARN IS

REQUIRED

PER YEAR

**PROJECTION IN NEXT FIVE YEARS ANNEXURE II**

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Sl No.** | **Type of**  **Weaving Machines** | **Total**  **installed**  **Qty** | **Average**  **Production**  **per Day in**  **Meter per**  **machine** | **Total**  **Production**  **per Year in**  **Meter per**  **machine** | **Average**  **Grammag**  **e of Fabric in gram** | **Total Yarn**  **required per in Kg per machine per year** | **Total Yarn**  **required per year for all machines, in Metric Tons per year** | **75% FDY yarn** | **% of AA**  **grade**  **required** | **Total AA Grade**  **Yarn required**  **in Metric Ton per Year** |
| 1 | Shuttle Looms | 50000 | 60 | 20160 | 60 | 1209.6 | 60480 | 45360 | 25 | 11340 |
| 2 | Water jet Looms | 75000 | 400 | 134400 | 100 | 13440 | 1008000 | 756000 | 100 | 756000 |
| 3 | Rapier Looms | 40000 | 250 | 84000 | 100 | 8400 | 336000 | 252000 | 100 | 252000 |
| 4 | Air Jet Looms | 4000 | 300 | 100800 | 80 | 8064 | 32256 | 24192 | 100 | 24192 |
|  |  |  |  |  |  |  |  |  |  |  |
|  | SUB TOTAL | 169000 | 1010 | 339360 |  |  | 1436736 | 1077552 |  | 1043532 |
| 5 | WARP KNITTING &  RASCHEL | 1600 |  |  |  | 42000 | 134400 | 90%FDY | 112500 | 112500 |
|  |  |  |  |  |  |  |  |  |  |  |
|  | GRAND TOTAL |  |  |  |  |  |  |  |  | 1156032 |

TOTAL 11.56 LAKH

METRIC TON OF

ADDITIONAL AA

GRADE YARN WILL

BE REQUIRED IN

NEXT 5 YEAR

**A. 4 EXISTING DATA**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Sl No.** | **Type of Weaving Machines** | **Total installed Qty** | **Project Cost of**  **installing per Machine Including Land & Building.** | **Total Project**  **Cost in Crore.** | **Employment per machine** | **Total Employment** |
| 1 | Shuttle Looms | 550000 | 500000 | 27500 | 1 | 550000 |
| 2 | Water jet Looms | 80000 | 1500000 | 12000 | 0.5 | 40000 |
| 3 | Rapier Looms | 25000 | 7500000 | 18750 | 0.5 | 12500 |
| 4 | Air Jet Looms | 5000 | 3000000 | 1500 | 0.5 | 2500 |
| 5 | Warp/ Raschel knit Mc | 3200 | 1000000 | 320 | 2 | 6400 |
|  | Total | **663200** | **13500000** | **60070** |  | **611400** |

**PROJECTED IN NEXT**

**5 YEARS**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Sl No.** | **Type of Weaving Machines** | **Projected**  **Installed Qty in 5 Years.** | **Project Cost of**  **installing each**  **Machine Including Land & Building** | **Total Project**  **Cost in Crore.** | **Employment per machine** | **Total Employment** |
| 1 | Shuttle Looms | 50000 | 500000 | 2500 | 1 | 50000 |
| 2 | Water jet Looms | 75000 | 1500000 | 11250 | 0.5 | 37500 |
| 3 | Rapier Looms | 40000 | 7500000 | 30000 | 0.5 | 20000 |
| 4 | Air Jet Looms | 4000 | 3000000 | 1200 | 0.5 | 2000 |
| 5 | Warp/ Raschel knit Mc | 3200 | 15000000 | 4800 | 2 | 6400 |
|  | Total | **172200** | **27500000** | **49750** |  | **115900** |

**A.5 Financials Figures**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Sr. No | Name of the Company | Sales Turnover (Cr.) | | | Increase of Sales in % terms within 2 years |
|  |  | 20-21 | 21-22 | 22-23 |  |
| 1 | RIL- Hazira |  |  |  |  |
| 2 | RIL-Silvassa |  |  |  |  |
| 3 | RIL- Patalganga |  |  |  |  |
| 4 | Alok (Reliance) |  |  |  |  |
| 5 | JBF (Reliance) |  |  |  |  |
| 6 | Shubhalakshmi (Reliance) |  |  |  |  |
|  |  |  |  |  |  |
| 7 | Welknown Industries Limited | 3,206.00 | 5,396.00 | 6,164.00 | 92.96 |
| 8 | Shree Durga Syntex Pvt. Ltd. | 1,254.00 | 1832.50 | 1,776.00 | 41.63 |
| 9 | Bhilosa Industries Limited | 5,904.00 | 9,126.54 | 12,100.40 | 104.95 |
| 10 | Sanathan Textiles Limited\* | 1,926.90 | 3,192.89 | 3,192.89 | 65.70 |
| 11 | Sumeet Industries Limited | 573.87 | 893.50 | 1,033.12 | 80.03 |
| 12 | Garden Silk Mills Limited | 6,987.00 | 3,463.10 | 3,449.80 | -50.63 |
| 13 | Chiripal Industries Limited\* | 1,266.75 | 1,691.51 |  | -100.00 |
| 14 | Filatex Industries Limited | 2,230.00 | 3,845.00 | 4,306.00 | 93.09 |
| 15 | Indorama Synthetics Limited | 2,043.59 | 3,907.42 | 3,930.79 | 92.35 |
| 16 | Kejriwal Industries Limited\* | 157.00 | 150.00 | 150.00 | -4.46 |
| 17 | Gokulanand (GTX Private Limited) | 346.50 | 591.00 | 600.00 | 73.16 |
|  | Total | 25,895.61 | 34,089.46 | 36,703.00 |  |
|  | | | | | |
| (\*Data Not Available)  (Source: Publicly Available Credit Rating Report of CARE & CRISIL) | | | | | |

**A. 6 Note on request To exempt Polyester Mother Yarn from BIS**

Respected Sir,

Warp knitting is by far the most versatile and a high productive fabric production system in the textile industry.

Since last 10 years, New Investment of about 3000 crores has been made in the Warp knitting industry, resulting in about 600% increase in installed capacity, generating direct/indirect employment for about 57000 persons.

Polyester Mother Yarn, 200/10 is one of the major raw materials used by our industry to make import substitute NET FABRIC (mesh fabric). Earlier there were huge imports of Net Fabric from China. Now after establishing the Warp Knitting Industry in India, import of Net fabric is almost negligible.

In our warp knitting industry only, approx. 350 high speed split warpers are installed in Surat, apart from Surat, in Silvassa, Amritsar, Ludhiana, Panipat, and Delhi the split warpers are also installed. The beaming capacity of one split warper is 20 MTS tons per month, it clearly indicates that our industry has a total installed capacity of 7000 MTS tons per month out of which approx. 2000 MTS Nylon mother yarn consumed by our industry. That means 5000 MTS tons of Polyester Mother Yarn required per month to run the knitting industry. There are many units which do not have the facility of split warper; they are also consuming polyester mother yarn. There are a total 3000 warp knitting machines installed in India having installed capacity of 15000 MTS per month. As per market demand we are consuming a minimum 9000 MTS Nylon & Polyester Mother Yarn put together.

Apart from this, the weaving industry also consumes Poly and Nylon Mother yarn. As per letter received by weavers’ association, they are using 4000 MTS Polyesters mother yarn and 3000 MTS Nylon Mother Yarn per month all over India. Looking at the above scenario, the industry needs 9000 MTS tons of polyester mother yarn per month.

There is a huge shortage between demand and supply of AA Grade Even Polyester Mother Yarn. The quality of domestic polyester mother yarn is also very inferior in quality as compared to imported Mother Yarn. The same was explained during visit of Mr.Mayur and his team to Surat. For making defect less fabric, we require good quality, equal length and without breakage yarn for our high-speed split warper and on high-speed warp knitting machine.

After imposing BIS on poly mother yarn there will be a huge gap between demand and supply, which will result in an artificial price hike of polyester mother yarn in the domestic market. The same thing happened in the past in the month of March 2023 when BIS was supposed to be implemented from 1st April 2023.

If there will be a major price gap between imported and domestic polyester mother yarn then import of NET FABRIC and garment will again start in full swing from China as earlier it happened. Due to fabric import our plant will be shut down which results in the loss of employment and the huge capital investment.

Also, Polyester Mother Yarn, is not a product which falls under the category of mandatory BIS requirement viz. public interest, protection of human, animal or plant health, safety of environment, prevention of unfair trade practices and national security.

Therefore, we request you to please exempt our Polyester Mother Yarn from BIS.

**A. 7 IMPORTANCE OF EVENNESS OF MMF YARN.**

**The BIS standards made vide IS: 17261 and IS: 17262 should have separate specifications for AA Grade, A Grade, B Grade and C grade of Materials** to be used by the user industry, the user industry is extremely fragmented and there exists various end use applications of these yarns and each end use has specific quality requirement, the Industry in conformation with the international practise desires to have standards mentioning separate specifications for each quality of use i.e. for yarns requiring higher end applications needs AA grade Material and for lower end applications needs C grade Material and vice versa , and each grade has to have separate specifications with respect to the Tolerance limits of Denier, Elongation, Tenacity, Ageing, Evenness, Dyeing guarantee etc. like parameters.

The Current standards framed by the BIS authority under IS 17261 and IS 17262 has no such separate specifications considering the grade requirement of the user industry and the tolerance limits on each of the important technical parameters like – Coefficient of Variation limits on Denier of the yarn, Elongation, Tenacity is too large to be considered practical, and totally against the main object of BIS to provide third party assurance of Quality and Reliability of Products to user industry and the same to the disadvantage of the user industry.

BIS has been granted to the overseas plant of Reliance Group and Indo Rama Group. They also adhere to the international practice of the gradation of yarn when they export this yarn to textile manufacturing countries.

We therefore urge you to kindly ensure that the BIS standards under IS 17261 and IS 17262 are designed in such a way that it mentions separate specifications for different gradation of Technical Parameters in line with the expectations of the user Industry copy of required specifications attached as Annexure-I.

As per the decided by TxD 31, team from BIS visited user industry and collected samples of various yarn for testing. Results are expected very soon.

Importance of Evenness in FDY MMF Yarn.

Manmade fibre and yarn is known for the Evenness. The natural fibres are yarn are uneven. MMF Textile contribute 75% of the total textile.

The major properties of are Denier, Tenacity, Elongation and Boiling Water Shrinkage. This property plays a major role in the end use of the fabric and textile.

The MMF textile is widely used in Garments and technical textiles. Knitted fabric is used in the world for both garments and technical textiles.

For producing the world class fabric Evenness of the yarn is very important.

The coefficient of variation (CV), of the above mentioned properties of yarn should be minimum to produce the highest quality of fabric and garments.

In the weaving industry twisted yarn and zero twisted yarn are used to produce fabric, garments and technical textiles.

Zero twisted yarn is used to produce major technical textiles and High end textiles. Whenever zero twisted yarn is used to produce textile the yarn quality has to be at the highest standard.

If the coefficient of variation is not strictly maintained at the lowest level the functionality of

the fabric will not be upto the mark.

Majority of the textile producing countries maintain the highest standard of yarn quality. The

Evenness of the yarn is at the highest level.

As the MMF yarn is produced by very high standards of technology machines the Evenness of

the yarn is easy to maintain.

Therefore we request you to implement the BIS norms for all types of yarn as per international

standard.

Thanking You

**QCO**

Date 30th September 2023

To,

Shri J.K Gupta.

Head BIS Textile

New Delhi email: txd@bis.gov.in

Re: BIS Standard: IS 17261 :2022 for Polyester Continuous Filament Fully Drawn Yarn and IS 17262: 2022 for polyester Partially Oriented yarns, Department of Chemicals, Govt. of India’s Order No. 3193 (E) & SO No. 3194 (E) both dated 17th July, 2023

**Sub: Humble Request**

**1. To extend date of implementation of QCO orders for BIS on various Polyester Yarns which are to be implemented from 3rd Oct, 2023 to further 9 months or till the Ample Availability of the AA grade Polyester FDY yarn in the Local Market & implementation of suggested corrections by user industry.**

**2. To Exempt Polyester Mother Yarn**

**3. To Remove QCO orders for Polyester Yarn from Mandatory Certification.**

**4. To Correct infeasible provisions in current guidelines.**

Dear Sir,

This refers to the captioned subject, we would like to express our request for extension of QCO on various polyester yarns due to be applicable from 3rd October, 2023 for further 9 months based on the issues faced by the user Industry as explained below in bullet Points,

* Domestic Polyester Manufacturers do not have any production capabilities to produce Speciality polyester yarns, this speciality yarns are used to produce export oriented goods as well as special application materials, non-availability of such materials (As imported suppliers are not granted BIS and Domestic manufacturers do not have production capacity) could lead to the closure of all such units. We request you to exempt this yarns from QCO. The List of the speciality yarn and its application is attached as **Annex I**
* Current BIS Specifications under IS 17261: 2022 and IS: 17262:2022 are not in line with the expectations of the User Industry, therefore implementation of compulsory QCO on FDY and POY Polyesters has potential to get exploited by creating cartel by the yarn Manufacturers, leaving the user industry high and dry in such a competitive global market. **Deviations suggested are far more labral as compared to international standards.** Technical requirement for yarn under BIS certification is totally against main object of BIS to provide third party assurance of Quality and Reliability of products to user Industry. Suggested code of quality approval not with compliance to provide required quality of yarn to fabric manufacturer. BIS Standard for QCO IS 17261 and 17260 should be strictly as per **Annex-IA** attached herewith.
* Domestic Polyester Manufacturers do no produce AA Grade Quality of FDY yarn, Domestic Production capacity of AA Grade FDY Yarn is only 1.20 las Tonne, against the Present demand of 13 Lacs Tonne. The production capacity and demand of the domestic industry is attached as **Annex II**.
* Most of the Imports of FDY Yarn in last two calendar years has been that of AA grade yarns only – i.e. in CY 2022, out of total imports of FDY in India nearly 70% of the total imports was that of AA grade and in CY 23, out of total imports of FDY, nearly 78% imports are that of AA Grade. This compulsory implementation of QCO from 3rd October, 2023 will block supply of AA Grade FDY yarns as many of the overseas suppliers are yet not granted BIS Certificate, which could result in under utilization of capacities of Weavers and Knitters. The Import Data is Attached as **Annex III**.

**Summary of Imports of FDY**

|  |  |  |  |
| --- | --- | --- | --- |
| Sr. No | Item Description | Import of FDY Yarn in CY-2022 (in Tonnes) | Import of FDY Yarn in CY-2023 ( upto 31st August) in Tonnes |
| 1 | Total import of FDY Yarn | 167,519.00 | 183,346.00 |
| 2 | Import of AA Grade FDY Yarn | 117,440.00 | 142,749.00 |
| 3 | % of AA Grade FDY Yarn Import out of total Imports of FDY Yarn | 70.11 | 77.86 |

**Source:Volza**

* Across Textile value chain, the User Industry i.e. Weavers and Knitters has made highest investment in the sector in last 10 years, shortage of key raw materials of AA Grade quality could jeopardise the entire investment made in the modern weaving and Knitting industry of India, which has potential to create job losses to the tune of 3 to 5 lacs employment. The investment & Employment Data is attached as Annex IV.

\* We in South Gujarat have ventured into Garment industry and if we consider the index value of Yarn as 100 then we convert this yarn to Garment, the index value of garment at retail level would be between 1500 to 2500. Hence there is a value addition of 15 to 25 times. Also we have a Citizen Group who is the largest Manufacturer of Umbrella & Umbrella fabric in the world. Kusumgar Group is 5th largest technical textile producer the world.

* Slow Pace of Modernization in the Spinning Industry: The spinning Industry has a very slow pace of modernization, which is not in line with the market realities of Today, As Textile entrepreneurs are investing heavily in the modern manufacturing capabilities which requires a high grade material. **The spinning industry were protected for more than 10 years by imposing the Anti-Dumping duty, still they did not modernize their plant as per the international demand. They are habituate of protection by the Government.**
* The hue and cry by the domestic Industry of damage to their business prospects on accounts of Imports is completely false, looking at the sale figures of all major Polyester Yarn Manufacturers, Their Sales Has Doubled in just last 2 Financial Years. If imports had been damaging their industry, then their sales could not have been doubled in just 2 years. The Financial Figures of the Yarn Manufacturers is Attached as **Annex V**
* Polyester Mother Yarn, is one of the major raw materials used by warp knitting industry to make import substitute NET FABRIC (mesh fabric). Earlier there were huge imports of Net Fabric from China. Now after establishing the Warp Knitting Industry in India, import of Net fabric is almost negligible. There is a huge shortage of AA Grade Even quality of mother yarn suitable for high speed warp knitting machine. Detail Note attached as **Annex VI** for your ready reference. Our humble request to exempt polyester mother yarn. Detail note attached herewith.
* To increase the export of T&A we need to secure the Raw material of international standard. There is lot of scope to produce the import substitute textile mainly in Technical textile and high fashion garment. So even for the domestic market we need Raw material of Global standards and Global Competitive Price. The detailed Note on Importance of Evenness of Yarn Is Attached as Annex **VII**
* In the sectional committee meeting of TXD-31 of BIS, the committee has decided to submit samples of imported yarn manufacturers for Testing with NITRA/SITRA/SASMIRA/ Textile Committee Laboratory etc, BIS had visited user industry on 15th September, 2023 and the samples of imported POY and FDY are sent for testing with NITRA/ SASMIRA/ Textile Committee Laboratory. The results of this tests are pending, without this results compulsory implementation of QCO orders of FDY and POY will be based on the existing technical parameters, and therefore are not in line with the consumer’s expectation, therefore extension of QCO is necessitated.
* QCO should not be used as a trade barrier and should not restrict our right to have international quality of yarn at international price. In textile trade barrier should be first imposed on garments, then on fabric, then on yarn and lastly PTA/MEG.

**Based on all above issues, We humbly request you to please:**

**1. extend date of implementation of QCO orders for BIS on various Polyester Yarns which are to be implemented from 3rd Oct, 2023 to further 9 months or till the Ample Availability of the AA grade Polyester FDY yarn in the Local Market & implementation of suggested corrections by user industry.**

**2. exempt Polyester Mother Yarn and other speciality yarn.**

**Please arrange the Visit of the team from ministry of Chemical & fertilizers along with the technical team of textile commissioner office to study yarn consumption in SURAT.**

**4. Correct Technical Specification as per requirement of user industry.**

**5. QCO for Polyester Yarns should not be mandatory.**

**6. Arrange immediate visit to overseas applicant exporters.**

Thanking you,

**Ashish Gujarati,**

**President**

**Pandesara Weavers Co-op Soc. Ltd. Surat**

CC

1) Hon. Minister of Textiles, Govt. of India, Udhyog Bhavan, New Delhi.

2) Hon. Minister of State for Textiles, Govt. of India, Udhyog Bhavan, New Delhi.

3) Trade Advisor, Ministry of Textiles, Govt. of India, Udhyog Bhavan, New Delhi.

4) President, The Southern Gujarat Chamber of Commerce & Industry, Surat.

5) President, Federation of Gujarat Weavers Welfare Association, Surat

6) President, South Gujarat Warp Knitters Association.

7) President, South Gujarat Texturizers Welfare Association.

8) FIASWI Chairman

**2. Comments received form M/s Pandesara Weavers Co. Op. Soc. Ltd.**

Date 30th September 2023

To,

**Shri J.K Gupta .**

Head BIS Textile

New Delhi email: txd@bis.gov.in

**Re : BIS Standard: IS 17261 :2022 for Polyester Continuous Filament Fully Drawn Yarn and IS 17262: 2022 for polyester Partially Oriented yarns, Department of Chemicals, Govt. of India’s Order No. 3193 ( E ) & SO No. 3194 ( E) both dated 17th July, 2023**

**Sub: Humble Request**

**1. To extend date of implementation of QCO orders for BIS on various Polyester Yarns which are to be implemented from 3rd Oct, 2023 to further 9 months or till the Ample Availability of the AA grade Polyester FDY yarn in the Local Market & implementation of suggested corrections by user industry.**

**2. To Exempt Polyester Mother Yarn**

**3. To Remove QCO orders for Polyester Yarn from Mandatory Certification.**

**4. To Correct infeasible provisions in current guidelines.**

Dear Sir,

This refers to the captioned subject, we would like to express our request for extension of QCO on various polyester yarns due to be applicable from 3rd October, 2023 for further 9 months based on the issues faced by the user Industry as explained below in bullet Points,

· Domestic Polyester Manufacturers do not have any production capabilities to produce Speciality polyester yarns, this speciality yarns are used to produce export oriented goods as well as special application materials, non-availability of such materials ( As imported suppliers are not granted BIS and Domestic manufacturers do not have production capacity) could lead to the closure of all such units. We request you to exempt this yarns from QCO. The List of the speciality yarn and its application is attached as **Annex I**

· Current BIS Specifications under IS 17261: 2022 and IS: 17262:2022 are not in line with the expectations of the User Industry, therefore implementation of compulsory QCO on FDY and POY Polyesters has potential to get exploited by creating cartel by the yarn Manufacturers, leaving the user industry high and dry in such a competitive global market. Deviations suggested are far more labral as compared to international standards. Technical requirement for yarn under BIS certification is totally against main object of BIS to provide third party assurance of Quality and Reliability of products to user Industry. Suggested code of quality approval not with compliance to provide required quality of yarn to fabric manufacturer. BIS Standard for QCO IS 17261 and 17260 should be strictly as per **Annex-IA** attached herewith.

· Domestic Polyester Manufacturers do no produce AA Grade Quality of FDY yarn, Domestic Production capacity of AA Grade FDY Yarn is only 1.20 las Tonne, against the Present demand of 13 Lacs Tonne. The production capacity and demand of the domestic industry is attached as **Annex II.**

· Most of the Imports of FDY Yarn in last two calendar years has been that of AA grade yarns only – i.e. in CY 2022, out of total imports of FDY in India nearly 70% of the total imports was that of AA grade and in CY 23, out of total imports of FDY, nearly 78% imports are that of AA Grade. This compulsory implementation of QCO from 3rd October, 2023 will block supply of AA Grade FDY yarns as many of the overseas suppliers are yet not granted BIS Certificate, which could result in underutilization of capacities of Weavers and Knitters. The Import Data is Attached as **Annex III**.

**Summary of Imports of FDY**

|  |  |  |  |
| --- | --- | --- | --- |
| **Sr. No** | **Item Description** | **Import of FDY Yarn in CY-2022 ( in Tonnes** | **Import of FDY Yarn in CY-2023 ( upto 31st August ) in Tonnes** |
| 1 | Total Import of FDY Yarn | 167,519.00 | 183,346.00 |
| 2 | Import of AA Grade FDY Yarn | 117,440.00 | 142,749.00 |
| 3 | % of AA Grade FDY Yarn  Import out of Total Imports  of FDY Yarn | 70.11 | 77.89 |

**Source: Volza**

· Across Textile value chain, the User Industry i.e. Weavers and Knitters has made highest investment in the sector in last 10 years, shortage of key raw materials of AA Grade quality could jeopardise the entire investment made in the modern weaving and Knitting industry of India, which has potential to create job losses to the tune of 3 to 5 lacs employment. The investment & Employment Data is attached as Annex IV.

\* We in South Gujarat have ventured into Garment industry and if we consider the index value of Yarn as 100 then we convert this yarn to Garment, the index value of garment at retail level would be between 1500 to 2500. Hence there is a value addition of 15 to 25 times. Also we have a Citizen Group who is the largest Manufacturer of Umbrella & Umbrella fabric in the world. Kusumgar Group is 5th largest technical textile producer the world.

· Slow Pace of Modernization in the Spinning Industry: The spinning Industry has a very slow pace of modernization, which is not in line with the market realities of Today, As Textile entrepreneurs are investing heavily in the modern manufacturing capabilities which requires a high grade material. **The spinning industry were protected for more than 10 years by imposing the Anti-Dumping duty, still they did not modernize their plant as per the international demand. They are habituate of protection by the Government.**

· The hue and cry by the domestic Industry of damage to their business prospects on accounts of Imports is completely false, looking at the sale figures of all major Polyester Yarn Manufacturers, Their Sales Has Doubled in just last 2 Financial Years. If imports had been damaging their industry, then their sales could not have been doubled in just 2 years. The Financial Figures of the Yarn Manufacturers is Attached as **Annex V**

· Polyester Mother Yarn, is one of the major raw materials used by warp knitting industry to make import substitute NET FABRIC (mesh fabric). Earlier there were huge imports of Net Fabric from China. Now after establishing the Warp Knitting Industry in India, import of Net fabric is almost negligible. There is a huge shortage of AA Grade Even quality of mother yarn suitable for high speed warp knitting machine. Detail Note attached as **Annex VI** for your ready reference. Our humble request to exempt polyester mother yarn. Detail note attached herewith.

· To increase the export of T&A we need to secure the Raw material of international standard. There is lot of scope to produce the import substitute textile mainly in Technical textile and high fashion garment. So even for the domestic market we need Raw material of Global standards and Global Competitive Price. The detailed Note on Importance of Evenness of Yarn Is Attached as **Annex VII**

· In the sectional committee meeting of TXD-31 of BIS, the committee has decided to submit samples of imported yarn manufacturers for Testing with NITRA/SITRA/SASMIRA/ Textile Committee Laboratory etc, BIS had visited user industry on 15th September, 2023 and the samples of imported POY and FDY are sent for testing with NITRA/ SASMIRA/ Textile Committee Laboratory. The results of this tests are pending, without this results compulsory implementation of QCO orders of FDY and POY will be based on the existing technical parameters, and therefore are not in line with the consumer’s expectation, therefore extension of QCO is necessitated.

· QCO should not be used as a trade barrier and should not restrict our right to have international quality of yarn at international price. In textile trade barrier should be first imposed on garments, then on fabric, then on yarn and lastly PTA/MEG.

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**Based on all above issues, We humbly request you to please:**

**1. extend date of implementation of QCO orders for BIS on various Polyester Yarns which are to be implemented from 3rd Oct, 2023 to further 9 months or till the Ample Availability of the AA grade Polyester FDY yarn in the Local Market & implementation of suggested corrections by user industry.**

**2. exempt Polyester Mother Yarn and other speciality yarn.**

**3. Please arrange the Visit of the team from ministry of Chemical & fertilizers along with the technical team of textile commissioner office to study yarn consumption in SURAT.**

**4. Correct Technical Specification as per requirement of user industry.**

**5. QCO for Polyester Yarns should not be mandatory.**

**6. Arrange immediate visit to overseas applicant exporters.**

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Thanks & Regards,

Ashish Gujarati

President

+91 9375590456

Pandesara Weavers Co. Op. Soc. Ltd.

Plot No. 5, Navdiwala Estate, Vadod, GIDC, Pandesara, Surat.

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **DOMESTIC FDY INSTALLED CAPACITY (MT) ANNEXURE II** | | | | | | | | | | | | | |  |
|  |
|  |  | **Comissioning** |  | **FDY Installed** | | | **Actual Production** | | | | | **Actual production** | | **AA Grade Production** |
| **Sr. No** | **Manufacturer** | **year of Plant** | **Plant Make** | **Capacity/Month** | **Captive Consumption** | **Capacity/Day** | **Bright** | **Semi Dull** | **Cataionic** | **Dope Dyed** | **Recocil** | **Total/Day** | **Total/Month** | **Per Month** |
| 1 | RIL - Hazira | 2006 | Barmeg ( Ger) | 1200 |  | 40 | 20 |  | 10 |  | 10 | 40 | 1200 | 240 |
| RIL - Silvassa | 2016 | Barmeg ( Ger) | 9000 |  | 300 | 120 | 180 |  |  |  | 300 | 9000 | 2250 |
| RIL - Patalganga | 1978 | old ( 2nd Hand Plant imported from Dupont USA ) | 3300 |  | 110 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2 | Welknown | 2012 | Barmeg ( Ger) | 10500 |  | 350 | 150 | 180 | 5 | 15 |  | 350 | 10500 | 1050 |
| 3 | Durga Syntex | 2012 | Barmeg ( Ger) recoditioned | 4950 |  | 165 | 45 | 120 |  |  |  | 165 | 4950 | 495 |
|  |  | 2020 | Barmeg ( Ger) recoditioned | 1500 | 1500 | 50 |  |  |  |  |  |  |  |  |
| 4 | Bhilosa | 2015 | Barmeg ( Ger) recoditioned | 10950 | 3000 | 365 | 180 | 170 |  | 15 |  | 365 | 10950 | 2190 |
|  | JBF ( Reliance ) | 1995 | 40 MT Barmeg reconditioned | 4050 |  | 150 | 70 | 50 |  | 15 |  | 135 | 4050 | 405 |
|  |  |  | 110 MT China |  |  |  |  |  |  |  |  |  |  |  |
| 5 | Sanathan | 2015 | Barmeg | 2400 |  | 80 | 45 | 25 | 10 | 10 |  | 90 | 2700 | 270 |
| 6 | Alok ( Reliance ) | 2000 | Barmeg | 3900 |  | 130 | 100 | 20 |  | 8 |  | 128 | 3840 | 384 |
| 7 | Sumeet |  | Chinese | 3000 |  | 100 |  | 140 |  |  |  | 140 | 4200 | 420 |
| 8 | Garden |  | Chinese | 4050 |  | 135 | 60 | 70 |  |  | 5 | 135 | 4050 | 810 |
| 9 | Shubhalakshmi ( Reliance ) | 2017 | Barmeg | 4500 |  | 150 | 35 | 35 |  | 10 |  | 80 | 2400 | 240 |
| 10 | Chiripal | 2000 | Chinese | 1140 |  | 38 | 20 | 10 |  | 8 |  | 38 | 1140 | 114 |
| 11 | Filatex | 1990 | Silvasa Plant-Chinese recoditioned | 1200 |  | 100 | 20 |  |  | 20 |  | 40 | 1200 | 120 |
|  |  | 2017 | Dahej- Barmeg | 6600 |  |  |  |  |  |  |  | 220 | 6600 | 660 |
| 12 | Indorama | 2008 | Barmeg ( 2nd Hand ) | 1200 |  | 40 | 30 |  |  |  |  | 30 | 900 | 180 |
| 13 | Kejriwal | 2017 | Chinese | 1500 |  | 30 |  | 30 |  |  |  | 50 | 900 | 90 |
| 14 | Gokulanand |  | 2nd Hand Chinese | 1500 | 1300 |  |  |  |  |  |  | 50 | 200 |  |
|  | Poineer |  | Bermag reconditioned | 1050 |  |  |  |  |  |  |  |  | 1050 |  |
|  | Raj Rayon |  | Bermag reconditioned | 500 |  |  |  |  |  |  |  |  | 500 |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  | **Total** |  |  | **77990** | **5800** | **2333** | **895** | **1030** | **25** | **101** | **15** | **2356** | **70330** | **9918** |
|  | **YEARLY PRODUCTION** |  |  | **935880** |  |  |  |  |  |  |  |  |  |  |

**3. Comments received from M/s South Gujarat Warp Knitters Association, Surat.**

**Ref No. - KAWI/BIS/002**

**To,**

**Shri Deepak Mishra,**

**Jt. Secretary – Petrochemicals**,

Department of Chemicals, A wing,

Shahstri Bhavan, New Delhi.

Email: jspc-cpc@gov.in

**Re : BIS Standard: IS 17261 :2022 for Polyester Continuous Filament Fully Drawn Yarn and IS 17262: 2022 for polyester Partially Oriented yarns, Department of Chemicals, Govt. of India’s Order No. 3193 ( E ) & SO No. 3194 ( E) both dated 17th July, 2023**

**Sub: Humble Request**

**1. To extend date of implementation of QCO orders for BIS on various Polyester Yarns which are to be implemented from 3rd Oct, 2023 to further 9 months or till the Ample Availability of the AA grade Polyester FDY yarn in the Local Market & implementation of suggested corrections by user industry.**

**2. To Exempt Polyester Mother Yarn**

**3. To Remove QCO orders for Polyester Yarn from Mandatory Certification.**

**4. To correct infeasible provisions in current guidelines.**

**Sir,**

**Submission of views of Textile Weaving and Knitting industry on proposed BIS standards for Polyester Yarn Viz IS: 17261 and IS 17262 for FDY and POY yarns to be effectively being implemented from 3rd October, 2023**

**[A] Shortage of Polyester Yarn of AA Grade, Even Packing in India:**

· After incentive schemes like TUF and other steps taken by our Honourable Prime Minister to boost investment in employment generating textile fabric manufacturing industry, there is a huge gap between demand and supply of good quality Polyester FDY and POY. Artificial control on import of quality raw will disturb fabric manufacturing industry i.e., weaving and knitting.

· Till Today Weaving & Knitting industry have invested huge money under TUF to make them competitive for international market also generated huge employment for skilled and semi-skilled work and have added more than 120000 High Speed Weaving Machines and more than 3000 high speed knitting machines

· Further the huge investment is projected in another 5 years in High speed weaving machines & about 3000 high speed Knitting machines and adding employment of more than 1 lakh people.

· **Import of Yarn by leading spinners, which proves there is a shortage of good quality of polyester yarn with AA Grade even packing.Import data with bill entry number can be produced if required.**

**· Improved Sales performance of Domestic Yarn Manufacturer**. Out of 12 major spinners the majority of the spinners have doubled their sales in just the last 2 Years.

· **Majority of Yarn imported are of AA Grade, even packing**, Out of total import of 167000 MT, 116900 MT (70%) is of AA Grade, even packing material during 01/01/2022 to 31/12/2022.

**[B] Quality Standard Suggested are of very low grade and against the main object of BIS to provide third party assurance of reliable Quality:**

· **Deviations suggested are far more labral as compared to international standards**. Technical requirement for yarn under BIS certification is totally against the main objective of BIS to provide third party assurance of Quality and Reliability of products to user Industry. Suggested code of quality approval not with compliance to provide required quality of yarn to fabric manufacturer. BIS Standard for QCO IS 17261 and 17260 should be strictly as per **annexure-1** attached herewith.

· Absence of important parameters like Dyeing Guarantee, Even Length Packing, Age of material etc...

**[C] QCO orders will block import of more than 16 types of Speciality Polyester FDY Yarns not manufactured in India used for various high end applications and upcoming fashion trends.** Domestic Polyester Manufacturers do not have any production capabilities to produce Speciality polyester yarns, this speciality yarns are used to produce export oriented goods as well as special application materials, non-availability of such materials ( As imported suppliers are not

granted BIS and Domestic manufacturers do not have production capacity) could lead to the closure of all such units.

(1) Mechanical stretch Yarn (2) PBT stretch Yarn (3) T400 and T800 Yarn (4) ITY/BSY Yarn (5)

Low Denier Yarn (6) Low denier high filament (7) Low denier low filament (8) 30 Denier Sparkle

Yarn / Diamond Yarn (9) Imitation Yarn Silk like yarn, Viscose like Yarn, Acetate like Yarn (10)

Functional Yarn (11) Different cross section Yarn (12) Bi- Component Yarn (13) Super Bright Yarn (13) Full Dull Yarn (14) Hollow Yarn (15) Dope dyed black and dyed Yarn (16)Polyester Mother Yarn, SD/TBR/ Dope Dyed.

**Polyester Mother Yarn**, is one of the major raw materials used by the warp knitting industry to

make import substitute NET FABRIC (mesh fabric). Earlier there were huge imports of Net Fabric

from China. Now after establishing the Warp Knitting Industry in India, import of Net fabric is

almost negligible. There is a shortage of quality mother yarn suitable for high speed warp knitting

machines. Our humble request to exempt polyester mother yarn. Detail note attached herewith.

Currently the consumption of each yarn is 60 Metric tons to 9000 metric tons per month and hence this yarns should be exempted. We in South Gujarat have ventured into the Garment industry and if we consider the index value of Yarn as 100 then we convert this yarn to Garment, the index value of garment at retail level would be between 1500 to 2500. Hence there is a value addition of

15 to 25 times.

**[D] Many international Suppliers of Polyester yarn has not been granted BIS Certification**: even after applying months before (eg. Dec-2021) which will then create a shortage of material in the market.

**[E] QCO for Polyester yarn should not be mandatory.** Considering Polyester yarn as an industrial raw material, buyers/ customers are well aware about their requirement for Quality of

yarn they need to manufacture fabric. The BIS Certificate scheme is basically voluntary in nature. It’s nowhere fall under the guide line for mandatory certification. i.e. Public Interest, Protection of human, animal or plant health, Safety of environment Prevention of unfair trade practices. **In fact, due to non-availability of good quality yarn from the international market, it will increase unfair trade practices by domestic yarn manufacturers.**

**It should not be used as a trade barrier and should not restrict our right to have international quality of yarn at an international competitive price. In the textiles value chain, any trade barrier should be first imposed on garments then on fabric, then on yarn.**

**[F] NEGATIVE IMPACT:**

**a. Shortage of raw material: Implementation wef 3rd October, 2023 will create heavy shortage of Polyester yarn to the user industry which will lead to closure of our weaving / knitting unit, unemployment, profiteering by few suppliers having BIS certification. We have heavily invested in modern warp knitting machines, if we are deprived of yarn, our key raw material at international competitive price and international quality we will incur huge losses. Also the few spinners will have a control of all the verticals of the textile industry.**

**b.** Increase in Import of fabric and garments

c. Unavailability of international quality of Raw material i.e. Polyester FDY at international competitive price will lead to Domestic fabric and garment manufacturing uncompetitive in the international market and hence result in reduction in export of Fabric and Garment.

**We humbly request you to please:**

**1. Extend date of implementation of QCO orders for BIS on various Polyester Yarns which are to be implemented from 3rd Oct, 2023 to further 9 months or till the Ample Availability of the AA grade Polyester FDY yarn in the Local Market & implementation of suggested corrections by user industry.**

**2. Exempt Polyester Mother Yarn**

**3. Correct Technical Specification as per requirement of user industry.**

**4. QCO for Polyester Yarns should not be mandatory.**

**5. Arrange immediate visit to overseas applicant exporters.**

We look forward to your positive cooperation.

With Best regards

Brijesh Gondalia

President.

South Gujarat Warp Knitters Association, Surat.

204, Jai Sagar Complex

Nr. Sita Hospital, Khatodara,

B/H J.K. Tower,

off Ring road, Surat

**ANNEX 12**

**(Item 4.3)**

**COMMENTS RECEIVED ON IS 17264 : 2022**

1. **Comments received from Office of Textiles Commissioner**

To,

Shri G K Rajnish,

Under Secretary,

Ministry of Textiles,

Udyog Bhawan,

New Delhi-110011

Email: gk.rajnish@nic.in

Sub: Request made by industry for extension in implementation of Quality Control order on Polyester Industrial Yarn conforming to-IS 17264:2022 under BIS Act, 2016 - reg.

Sir,

This has reference to the Polyester Industrial Yarn (Quality Control) Order, 2022, conforming to IS 17264:2022 under BIS Act, 2016, notified on 31.03.2023 by Ministry of Chemicals & Fertilizers, which came into effect from 03.07.2023 and its subsequent Amendment Order dated 17.07.2023, whereby implementation of Quality Control Order (QCO) for Polyester Industrial Yarn less than 500 deniers was exempted from its purview. Copies of the said QCOs are enclosed as Annexure-I collectively for ready reference.

In this connection, this Office has received representations from the industry, details of which are as under:

1. M/s Pix Transmissions LTD, Nagpur (copy at Annexure-II)

2. M/s Vinko Auto Industries Limited, Jalandhar (copy at Annexure-III)

3. M/s BLSX Limited, Hyderabad (copy at Annexure-IV)

4. M/s. Sanrhea Technical Textiles Limited, Ahmadabad (copy at Annexure-V)

Gists of representations are as under:

* M/s Pix Transmissions LTD, Nagpur is a manufacturers of V Belts and a bulk user of specially designed RFL Dipped Technical Fabrics made with Adhesive Activated Polyester Yarn. The firm is also bulk importers of Specialized RFL Dipped Cords of Polyester and Nylon.
* M/s Vinko Auto Industries Limited is manufacturers of Auto Motive V-Belts REC-Belts and Aggriculture Belts and a bulk user of RFL Dipped Polyester Card Fabrics made with Adhesive Activated Polyester Yarn. The firm has sourcing requirements for 2/ 1000\*Denier, 2/2000 Denier & 2/3000 Denier Cabled Adhesive Activated Polyester Yarn from M/s. Sanrhea Technical Textiles Limited, Ahmedabad.
* M/s BLSX Limited is manufacturers of industrial and Marine hoses and a bulk user of RFL Dipped Polyester Cord Fabrics which are made with Adhesive Activated Polyester Yarn. The firm has sourcing requirements for 2/2000 Denier & 2/3000 Denier Cabled Adhesive Activated Polyester from M/s. Sanrhea Technical Textiles Limited.
* M/s. Sanrhea Technical Textiles Limited, Ahmadabad is a manufacturer of RFL dipped fabric made of High tenacity nylon and polyester twisted yarn. The firm is import dependent of polyester industrial yarn (more than 500 denier) for manufacturing of RFL dipped fabric as there is not a single domestic manufacturer of adhesive activated high tenacity twisted yarn.
* Due to implementation of Quality Control Order, imports of such adhesive activated yarns can be made only from BIS approved suppliers and that currently no Chinese, Vietnamese or Indonesian source from where their suppliers source their requirements from, holds this approval.
* All Polyester Yarns above 1000 Denier, there is no stable, reliable and quality manufacturer/supplieof Adhesive Activated Yarns & Twisted and Cabled Yarns, will only lead to the closure of the manufacturers of very specialized fabrics catering to the Indian Auto- Component, Marine-Inflatable, & Conveyor-Belt Industry.
* In respect of 2000 Denier; local manufacturer claimed for manufacturing although no regular production and supply of the same.
* In respect of 3000 Denier, local manufacturer has only made some internal trials three years back, and has absolutely no established and regular production of the same.
* Therefore, the industry requested following:

a. Remove Adhesive Activate Polyester Yarns from the prerequisite of BIS Standards till local production of the same is established on a quality approved basis and with the full product range being readily and regularly available.

b. Audit and approve the current established suppliers of AA Yarns into India at the earliest.

In addition, M/s. Sanrhea Technical Textiles Limited also requested to immediately ban the imports of all Polyester (EE), Polyester/Nylon (EN & EP) fabrics, which are being freely imported into India with absolutely no BIS Standards restrictions and are predominantly of Second and Non Standard Grade.

Considering the operational & procedural constraints from BIS from the communications made by the industries, extensioin implementation of Quality Control Order for Polyester Industrial Yarn may be considered and suitable recommendation may be made to the Ministry of Chemicals & Fertilizers to prevent any slowdown in the industry.

This issues with the approval of the Textile Commissioner.

Yours faithfully,

(N K Gupta)

Deputy Director

Copy to: Shri J. K. Gupta, Head Textiles, Bureau of Indian Standards, Manak Bhavan 9, Bahadur Shah Zafar Marg, New Delhi-110002. Email: textiles. bis@gmail.com;

jkgupta@bis.gov.in;

**A. 2 M/s Pix Transmissions LTD, Nagpur**

Ms. Roop Rashi,

Textile Commissioner,

OFFICE OF THE TEXTILE COMMISSIONER Nishta Bhavan, New CGO Bldg.

48, New Marine Lines, Mumbai - 400 020, Tel. No. 22001050,

DT:04/09/2023

SUB: RAW MATERIAL SOURCING PROBLEMS ON ACCOUNT OF BIS NORMS IMPOSED ON IMPORTS Dear Ma'am,

We, Pix Transmissions LID, Nagpur are manufacturers of V Belts and a bulk user of specially designed RFL Dipped Technical Fabrics which are made with Adhesive Activated Polyester Yarn. We are also regular and bulk importers of Specialised RFL Dipped Cords of Polyester and Nylon. Our belts are supplied to reputed customers like Mahindra & Mahindra, CNH, Sandvik, TATA Motors Etc. and are exported to almost 60 countries of the world.

We with much cooperation and effort have now developed these fabrics and are sourcing our requirements from a local manufacturer of Industrial RFL Dipped Fabrics. Erstwhile we were importing most of our specialised fabrics which were made from Rayon. Thanks to the support we got from a local engineered textile manufacturer, we have been able to develop and establish our requirement from India itself. And the highlight is that we have been able to develop the fabrics from Adhesive Activated Industrial Polyester, which has given us much cost saving and price advantage. Thanks to the same we see ourselves expanding our reach not only within India but also in the global markets.

It has been brought to our notice that henceforth, the imports of such Adhesive Activated Yarns can be made only from BIS approved suppliers and that currently no Chinese, Vietnamese or Indonesian source from where our suppliers source their requirements from, holds this approval. Further, we have been informed by them that there is also no established and quality reliable manufacturer or 2000Den & 3000D AA Polyester Yarn in India, which our supplier can source from. On account of this they see an incumbrancer in the continuity of supplies to us. This would not only lead us into a major production problem, but would hamper and expansion all our growth prospects, and export commitments.

We would like to highlight the following:

A. That with the support from local manufacturers from the MSME sector, we are able to source our requirements locally.

B. The fabrics required by us are made from High Tenacity Polyester Yarn (Adhesive Activated Grade).

C. Local sourcing allows us to source our requirements on "Just in Time" basis and we need not keep large inventories of this DIPPED POLYESTER FABRIC which has a limited shelf life.

D. The whole drive of Make in India is being contradicted by this arbitrary ban on imports of specialized polyester industrial yarns by implementation of BIS.

E. We shall be forced to make imports of Dipped Polyester/Rayon Fabric in BULK (container load basis), the cost of such imports would be much higher than cost of imports of yarn.

F. We understand that Adhesive Activated Polyester Yarns are not available locally both in quality as well as Denier range and hence our production activities shall be severely affected. In light of above, we request that implementation of BIS order be kept in abeyance till such time a number of Yarn suppliers get approvals and/or local suppliers are in a position to offer yarn in line with our requirement.

G. Alternatively, Adhesive Activated Polyester Yarn and Specialised Dipped Cords should not be excluded from the purview of the BIS Norms put on imports

Thanking You

Mr Ninad Darvekar

Pix Transmissions Limited

(General Manager Materials)

**A.3 M/s Vinko Auto Industries Limited, Jalandhar**

Ms. Roop Rashi Madam,

Textile Commissioner,

OFFICE OF THE TEXTILE COMMISSIONER

Nishta Bhavan, New CGO Bldg.

48, New Marine Lines, Mumbai - 400 020, Tel. No. 22001050,

SUB: BIS norms on import of ADHESIVE ACTIVATED INDUSTRIAL POLYESTER YARNS

Dear Sir,

We, M/s Vinko Auto Industries Limited are manufacturers of Auto Motive V-Belts, REC-Belts and Aggriculture Belts and a bulk user of RFL Dipped Polyester Cord Fabrics which are made with Adhesive Activated Polyester Yarn. Our products are sold to all over India and are also exported to all over the World.

We are sourcing our requirements from Sanrhea Technical Textiles Limited, Kalol, a MSME who has developed these fabrics specially for us from 2/1000Den, 2/2000Den & 2/3000Den Cabled Adhesive Activated Polyester Yarn. Earlier we had to source our Fabric from the foreign markets or use seconds and short lengths, as available from local Tyre-Cord manufacturers. This greatly restricted our growth prospects. Having a local source now has been a blessing in disguise and has strengthened our scope of growth and effectively participate in the India Growth Story.

It has been brought to our notice that henceforth, the imports of such adhesive activated yarns can be made only from BIS approved suppliers and that currently no Chinese, Vietnamese or Indonesian source from where our suppliers source their requirements from, holds this approval. Further, as informed, the yarns so required for our particular product is not being made are not being made by any local manufacturer of Industrial Polyester on an established quality and a regular production basis. As Sanrhea informs us the local manufacturer hasn't ever made 3000Den Adhesive Activated yarn on a commercial basis. This situation leads to position where Sanrhea will be unable to supply us our fabrics in future and onwards we shall be in major problems with our new expansion and foreign association.

Sir, we request you to please look into the dept of the policy and its effects on the entire industry. Sir, we too are a Small and Medium Scale manufacturer, striving and contributing to the "Make in India" drive so proudly advocated by our Hon. Prime Minister, and we stand at a junction of having established ourselves as a well established foreign exchange earner for the country. At this stage a policy decision of arbitrarily imposing restrictions on a critical product category like AA Grade Polyester Yarns, even without assessing the alternate availability of the same in India and considering the fallout of such a decision on the local manufacturers is very shocking and disturbing.

SIR, IT IS OUR ERNEST REQUEST TO URGENTLY RELOOK INTO THE MATTER AND REMOVE THE IMPOSITION OF BIS STANDARDS ON CRITICAL RAW MATERIALS LIKE ADHESIVE ACTIVATED POLYESTER INDUSTRIAL YARNS THAT ARE CURRENTLY NOT FREELY MANUFACTURED AND AVAILABLE IN INDIA. IF AN URGENT DECISION IS NOT TAKEN ON THIS MATTER, A LOT OF SMALL MANUFACTURERS IN THE COUNTRY WILL BE ADVERSELY EFFECTED.

Sir, I trust you will look into the matter urgently and with a positive and realistic stance, in the interest of the local industry.

Thanking you and best wishes,

**A.4 M/s BLSX Limited, Hyderabad**

TO,

Ms. RoopRashi Madam,

Textile Commissioner,

OFFICE OF THE TEXTILE COMMISSIONER

Nishta Bhavan, New CGO Bldg.

48, New Marine Lines, Mumbai - 400 020, Tel. No. 22001050,

SUB: BIS norms on import of ADHESIVE ACTIVATED INDUSTRIAL POLYESTER YARNS

Dear Sir,

We, M/s BSLX Limited are manufacturers of Industrial and Marine hoses and a bulk user of RFL Dipped Polyester Cord Fabrics which are made with Adhesive Activated Polyester Yarn. Our products are Exported to Dubai,Saudi arabiya and Bangladesh. In last 3 year we have even entered into a (joint venture ? tie-up ?) with Flexiflo in UAEand are envisaging a huge growth in our exports. This will effectively four-fold our requirement of specialised fabrics.

We are sourcing our requirements from Sanrhea Technical Textiles Limited ,Kalol, a MSME who has developed these fabrics specially for us from 2/2000 & 2/3000 Cabled Adhesive Activated Polyester Yarn.

It has been brought to our notice that henceforth, the imports of such adhesive activated yarns can be made only from BIS approved suppliers and that currently no Chinese, Vietnamese or Indonesian source from where our suppliers source their requirements from, holds this approval. Further, as informed, the yarns so required for our particular product is not being made are not being made by any local manufacturer of Industrial Polyester on an established quality and a regular production basis. As Sanrhea informs us the local manufacturer hasn't ever made 3000Den Adhesive Activated yarn on a commercial basis. This situation leads to position where Sanrhea will be unable to supply us our fabrics in future and onwards we shall be in major problems with our new expansion and foreign association.

Sir, we request you to please look into the dept of the policy and its effects on the entire industry. Sir, we too are a Small and Medium Scale manufacturer, striving and contributing to the "Make in India" drive so proudly advocated by our Hon. Prime Minister, and we stand at a junction of having established ourselves as a well established foreign exchange earner for the country. At this stage a policy decision of arbitrarily imposing restrictions on a critical product category like AA Grade Polyester Yarns, even without assessing the alternate availability of the same in India and considering the fallout of such a decision on the local manufacturers is very shocking and disturbing. **Is the Government and the Ministry there to promote the industry or to kill it ??**

**SIR, IT IS OUR ERNEST REQUEST TO URGENTLY RELOOK INTO THE MATTER AND REMOVE THE IMPOSITION OF BIS STANDARDS ON CRITICAL RAW MATERIALS LIKE ADHESIVE ACTIVATED POLYESTER INDUSTRIAL YARNS THAT ARE CURRENTLY NOT FREELY MANUFACTURED AND AVAILABLE IN INDIA. IF AN URGENT DECISION IS NOT TAKEN ON THIS MATTER, A LOT OF SMALL MANUFACTURERS IN THE COUNTRY WILL BE ADVERSELY EFFECTED.**

Sir, I trust you will look into the matter urgently and with a positive and realistic stance, in the interest of the local industry.

**A.5 M/s. Sanrhea Technical Textiles Limited, Ahmadabad**

Ms Roop Rashi

Textile Commissioner

Office of Textile Commissioner Nishta Bhavan, New CGO Bldg., 48 Marine Lines

MUM BAI - 400020

Dear Rashi Ji

This is in continuation to our meeting as regard to the BIS Standards imposed as a prerequisite

on all imports of Industrial Grade Polyester Yarns into India, 1000Den and above.

Ma'am, I had briefly discussed with you the difficulty we, the local manufacturers and consumers of the above yarn are facing on account of the effective stoppage of all imports of the said yarns. Our office had subsequently also sent you supporting data and correspondence in view of our contention. However, the gravity of the problem needs to be shared in detail with you, so that the department and the ministry is clear of the actual scenario and problem and can look into the policy decision with a realistic and industry supportive stance.

Ma'am, as you are aware BIS Standards have been put as a prerequisite for imports of all Polyester Industrial Yarns above 1000Den — Across the Board! However, the Ministry and the department is not initiated on the fact that Adhesive Activated Yarn (AA Polyester Yarn), which is absolutely a prerequisite for all fabrics that need to bond with natural rubber for the making of a range of Auto-Components and Marine Inflatables is not made in India by the local manufacturers in an established quality as required, nor in the entire denier range as required by the industry. **The imposition of 615 Standards on imports of Polyester AA Yarn before auditing and approving the current established suppliers, and with no established local supplier will lead the local fabric producers (most of which are MSME’s) to shut down for dearth of raw material.**

Ma'am, in my earlier representation, I have informed you that in India there are only two recognized manufacturers of Industrial Polyester. However:

• Both are not having quality established and guaranteed AA Yarn. Adhesive Activation is such a critical parameter that without this natural rubber will just not bond with the fabric. And this can be attested only while making the final rubberized product. So any failure of AA, can lead to a tremendous loss across the production chain!!

• The only AA Yarn that they can offer is 1000Den. The do not make 2000Den, 3000Den, 4000Den and above yarns on a regular basis.

• In fact as you would see from our earlier supportive correspondence, as far as 3000Den is concerned the local manufacturer has only made some internal trials three years back, and has absolutely no established and regular production of the same.

Likewise, though claimed that they can make 2000Den, this too there is no regular production and supply of the same.

• Effectively, the little bit of AA yarn made in India is that of 1000Den only and that too on an order based production, and with no committed and dependable delivery schedule. As against this the requirement of the fabric manufacturer is Order Driven, and would require different Deniers each month. And this is not predictable. Effectively, the industry needs a yarn source that is able to supply the entire range of AA Yarns regularly and with an assured quality!

• The presence of the local Industrial Polyester manufacturers is only established in making yarns for non-critical applications like Fish Net Twines, Awnings, Coated Fabrics for hoods and covers and Tarpaulins.

Sir, companies like us who are MSEMs have put in years of hard work and have truly contributed to the Make in India Drive as well as are the few players who have contributed to the development of industrial textiles in India. Fabrics we make have not only saved valuable foreign exchange for the country but have helped bolster the growth of the end product manufacturers in the Rubber industry. Fabrics we make out of AA Poly Yarns go in the making of critical rubber components like Transmission Belts, Air Springs, Hose Pipes, Marine Inflatables and Water Reservoirs. These fabrics are supplied to companies of repute like Pix Transmission, Gibraltar Air Springs, Parker Heninfin, TVS Sundaram Ind, Zenith Rubber Products etc. AA Polyester Yarn is further used for making Polyester and Polyester Nylon Conveyor Belting Fabrics that make the Fabric Conveyor Belts used by Coal India, SAIL, Power & Mining Boards & Cement Industry. Disruption in raw material supplies or failure in quality from local manufacturers will lead to not only disruption in our production but also the end product manufacturer.

**Ma'am, I would like to request you to please take a relook into the matter and :**

**• Remove ADHESIVE ACTIVATE POLYESTER YARNS from the prerequisite of BIS Standards till local production of the same is established on a quality approved basis and with the full product range being readily and regularly available.**

**• Audit and approve the current established suppliers of AA Yarns into India at the earliest.**

**• Immediately ban the imports of all Polyester (EE), Polyester/Nylon (EN & EP), which are being freely imported into India with absolutely no BIS Standards restrictions and are predominantly of Second and Non Standard Grade.**

**Ma'am, an arbitrary & across the board policy covering All Polyester Yarns above 1000Den, when there is no stable, reliable and quality manufacturer/supplier of ADHESIVE ACTIVATED YARNS & TWISTED AND CABLED YARNS, will only lead to the closure and death of the manufacturers of very specialized fabrics catering to the Indian Auto-Component: Marine-Inflatable, & Conveyor-Belt Industry.**

**Further, with Free & Unrestricted Imports of Fabrics of all the above grades, (ASTONISHINGLY, WHERE NO BIS NORMS HAVE BEEN PRE-REQUISITED) the Government shall absolutely finish a very large segment of the Technical Textile Industry!!**

Ma'am, for the sustenance of the very specialized segment of the Technical Textile Industry that strongly contributes to the Make in India drive, it is imperative that a serious look is made into the policy of imposing BIS Standards on AA Polyester Industrial Yarns as well as Cabled & Twisted Yarns, imported into the country, and effectively restricting or blocking the supply of this raw material to the industry.

I do trust you would look into this with a realistic and practical stance and amend the policy appropriately.

Thanking you and best regards,

Tushar Patel

Managing Director

**2. Comments received from M/s Sanreha Technical Textiles Ltd. Ahmedabad**

To,

The Joint Secretary,

Prime Minister's Office,

South Block,

New Delhi-110011

011-23386447

SUBJECT: BIS NORMS ON IMPORT OF POLYESTER YARN

Respected Sir,

We would like to introduce our company as a Gujarat based, well established ISO 9001/14001 registered manufacturer of RFL Dipped Fabrics catering to the Indian Rubber Product Industry — whether it be Tyres, Conveyor Belts, Marine Inflatables, or Auto Components,

We are manufacturing RFL Dipped fabrics. from High Tenacity Nylon and polyester twisted yarn. As in India, there is not a single manufacturer that supplies Adhesive activated high tenacity twisted yarn, we have to import the yarn.

From 15-4-2021, the Government of India and The Ministry of Chemicals and Fertilizers in India have come up with the latest regulation on Polyester Yarn under scheme I of Schedule II. There are 6 types of Polyester Yarn products, including IS: 17264: 2022, a polyester Industrial yarn, that are regulated as per the document. The Government of India has strictly ordered it to bear the Standard Mark under a licence from the Bureau of Indian Standards for the Polyester Yarn. As informed, this step is taken by the Government of India and the Bureau of Indian Standards to improve the quality of Polyester Yarn, to reduce the defects of polyester yarn and to protect the health of Indian Consumers,

Sir, in Jan-23, the implementation of Quality Control Order (QCO) was extended to 3-7-2023. In 1st week of July, a representation was made by the weavers to the Union Minister at New Delhi about the negative effects of BIS and it was heard that the Ministry has extended the implementation date by further 6 months.

By the order dated 17-7-23, GOI, Ministry of Chemicals and Fertilizers, has extended the implementation of 3 Items out of 6 items related to Polyester yarn till 4-10-23 **but there is no confirmation on implementation of COQ. for 15 17264: 2022, a polyester Industrial yarn**, 1000 Den and above. Due to uncertainty, Supplier stopped supplying yarn in the last 5 months. Chinese suppliers informed that their plants are still not inspected by GOI and so they will not be able to supply polyester yarn 111111111

**In the interest ofthe RFL Died Fabric Manufacturing industry I appeal to the Ministry to:**

* **Remove ADHESIVE ACTIVATE POLYESTER YARNS from the prerequisite of BIS Standards till local production of the same is established on a quality approved basis and with the full product range being readilyand regularly available.**
* **Audit and approve the current established suppliers of AA Yarns into India at the earliest.**
* **Immediately ban the imports of all Polyester (EE), Polyester/Nylon (EN & EP) which are being freely imported into India with absolutely no BIS Standards restrictions and are predominantly of Second and Non Standard Grade.**

**EXPLANATORY NOTE ON ADHESIVE ACTIVATED POLYESTER YARNS**

Sir, as you are aware BIS Standards have been put as a prerequisite for imports of all Polyester Industrial Yarns above 1000 Den — Across the Board! However, the Ministry and the department is not initiated on the fact that Adhesive Activated Yarn (AA Polyester Yarn), which is absolutely a prerequisite for all fabrics that need to bond with natural rubber for the making of a range of Auto-Components and Marine Inflatables is not made in India by the local manufacturers in an established quality as required, nor in the entire denier range as required by the industry. **The imposition of BLS Standards on imports of Polyester AA Yarn before auditing and approving the current established overseas suppliers, and with no established local supplier will lead the local. fabric producers (most of which are MSME’s) to shut down for dearth of raw material.**

Sir, in India there are only two recognized manufacturers of Industrial Polyester. However

* Both are not having quality established and guaranteed AA Yarn. Adhesive Activation is such a critical parameter that without. This natural rubber will just not bond with the fabric, and this can be attested only while making the final rubberized product. **So any failure of AA, can lead to a tremendous loss across the production chain!!**
* The only AA Yarn that they can offer is 1000Den. They do not make 2000Den, 3000Den., 4000Den and above yarns on a regular basis.
* In fact asyou would see from our earlier supportive correspondence, as far as 3000Den is concerned the local manufacturer has only made some internal trials three years back, and has absolutely no established and regular production of the same. Likewise, for 2000Den, this too there is no regular production and supply of the same.
* Effectively, the little bit of AA yarn made in India is that of 1000Den only and that too on an order based production, and with no committed and dependable delivery schedule. As against this the requirement of the fabric manufacturer is Order Driven, and would require different Deniers each month. And this is not predictable. Effectively, the industry needs a yarn source that is able to supply the entire range of AA Yarns regularly and with an assured quality!
* The presence of the local Industrial Polyester manufacturers is only established in making yarns for non-critical applications like FishNet Twines, Awnings, Coated Fabrics for hoods and covers and Tarpaulins.

**Sir, an arbitrary across the board policy covering All Polyester Yarns above 1000Den when there is no stable, reliable and quality manufacturer/supplier of ADHESIVE ACTIVATED YARNS & TWISTED AND CABLED YARNS, will only lead to the closure and death of the manufacturers of very specialized fabrics catering to the Indian Auto-Component, Marine-Inflatable, & Conveyor-Belt Industry,**

I do trust the ministry will be convinced with the above facts and amend the policy appropriately

Thanking you and best regards,

**ANNEX 13**

**(Item 4.4)**

**COMMENTS RECEIVED ON IS 17265 : 2022**

1. **Comments received from Manak Manthan, Chandigarh branch office**

**(CHANDIGARH BRANCH OFFICE)**

Our Ref:- CHBO/Manak Manthan/IS 17265 Date-26-12-2023

**Sub:- Manak Manthan on IS 17265:2023 (100% Polyester Spun Grey and White Yarn) and IS 17263:2022(Polyester Staple Fibre)**

Chandigarh Branch Office organized a Manak Manthan on revised Indian Standard IS 17265:2023, 100% Polyester Spun Grey and White Yarn at MSME Centre, Ludhiana. 26 Participants from Polyester Staple Fibre and Polyester Spun Yarn Industry attended this activity. Amendment -4, 5, 6 to IS 17263:2022 and revised Indian Standard IS 17265:2023 was discussed. Sh. Varinder Sharma, HoD, MSME Ludhiana, presided over the program and discussed the feasibility of opening a laboratory in MSME premises for the support of MSME manufacturers in the area of Yarn Testing as Ludhiana is an Industrial hub for the yarn manufacturers. Mr. Wazir Singh, Asst Director, MSME, apprised the participants about various schemes MSME is running for the benefits of the manufacturers of MSME Category. During the activity various features of Manak Portal, BIS Website, BIS Care App, downloading of standards from BIS website and Mandatory Certification QCOs were also discussed with participants present. Comments received from the manufacturer's with regard to Indian Standard and SIT are tabulated below.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Clause No. | Type of Comments | Comment/Suggestions along with justifications | Proposed Change/Modified  Wordings | Remarks |
| **Comments on Indian Standard IS 17265:2023** | | | | |
| 6.1, 6.2 & 6.4, Table-5, Column 2, S.No. (1) | Editorial | To align with table no. 3 | Up to 16 Ne | To align with the table no. 3 |
| Table 7, Column 3, Heading | Editorial | Removal of word "Optically White (OW)" | Removal of word "Optically White (OW)" | As optically white is not a dope dyed yam. Raw material for PSY is Polyester Staple Fibre ([S 17263) and there is no requirement of Colour Fastness for Optically White Fibre in IS 17263 |
| 1 Scope of Indian Standard | Technical | Scope and title of the standard only mentions 100% Spun Grey and White Yarn. The scope covers the dope dyed yarn or not as standard covers the colour fastness properties for Dope Dyed yarns in Table 7, however, scope only mentions  grey and white yarns. |  | TXD may clarify this as CHBO have been receiving queries and applications also in this regard from the manufacturers again and again. |
| **Comments on SIT (IS 17265:2023** | | | | |
| 4.1 4.2 Cross-section, 5.2 Identification and Description, Table 1 | Technical | Frequency — each  Consignment or  each control unit | Test Certificate  with each consignment to be obtained | The raw material is ISI marked as per IS 17263. In manufacturing PSY from PSF, the properties of the fibre cross- section, and chemical properties of PSY do not change as the manufacturing operation only involves sorting, carding, drawing and spinning. |
| Isophthalic Acid Content, and Water Soluble Matter, 6.1 Table 4 | Technical | Frequency-Once in three months | Frequency-Once in three months | As PSF (as per IS 17263) is already  under mandatory certification, and the chemical properties of the fibre do not changes during the PSY manufacturing and test certificate supplied by the PSF manufacturer already supplies with this information. |

1. **Proposal from Suryalakshmi Cotton Mills Limited, Amanagallu**

**NOTE:**

**In Table -5 unevenness U% and IPI of poly yarn the following proposals are initiated as it seems to be very wide range.**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **SL.NO** | **COUNT RANGE** | **U%** | **THIN** | **THICK** | **NEPS** | **TOTAL** |
| **01** | **16s-32s** | **11.0** | **10** | **32** | **42** | **84** |
| **02** | **32s-40s** | **11.8** | **26** | **47** | **59** | **132** |
| **03** | **41s-45s** | **12.3** | **35** | **63** | **82** | **180** |
| **04** | **45s-50s** | **13.0** | **70** | **70** | **90** | **230** |
| **05** | **50s-75s** | **14.5** | **80** | **90** | **110** | **280** |
| **06** | **Above 75s** | **15.0** | **85** | **100** | **125** | **310** |

We are working majority of fancy polyester yarn like Slub/ Neps / Lycra core spun/ Siro / Trilobal of different combination where fabric finish plays major role but not imperfection. They have to be identified as fancy yarn.

RIL is dispatching substandard fibre with rejected stamping and it will not came under BIS. Suppose from any manufacture there may be some rejections in the process and it will be sell as seconds. Now what is the procedure.

**ANNEX 14**

**(Item 4.5)**

**COMMENTS RECEIVED ON IS 17266 : 2019**

1. **Comments received from Wool & Woollens Export Promotion Council**

**Sub: Import of Lenzing Lyocell Fiber (from Europe) against Advance** **Authorisation**

Dear Sir,

The member-exporters have represented the Council regarding the BIS-fixed staple length of 1/+2mm for Lyocell fibre. The members have highlighted the issue of worsted spinning, which by its very nature requires variable cut long staple ranging from 76mm to 127mm or even longer. In the case of wool fiber, the length can range from 25mm to 150mm. However, as per BIS IS 17266:2019 the staple length of -1/+2mm for Lyocell fibre has been declared, which cannot be used in worsted spinning.

This fixed staple length is unrealistic and impractical, and it is preventing Indian worsted spinners from using Lyocell fibre. Lyocell fibre is a sustainable and high-performance fiber that offers several advantages over traditional fibers such as cotton and polyester, including breathability, moisture-wicking, heat regulation, and a natural drape and luster. These advantages make it a highly desirable fiber for worsted spinning.

We request your good self to kindly look in the matter for reconsideration of the staple length requirement for Lyocell fibre, with the goal of making it more realistic and practical for Indian worsted spinners.

Thank you for your kind consideration.

With kind regards,

SURESH THAKUR

EXECUTIVE DIRECTOR

Mobile: +91-9899812635

Wool & Woollens Export Promotion Council

Mr. Santosh Kumar Sarangi,

Additional Secretary & Director General Foreign Trade,

Vanijya Bhawan,

New Delhi.

Ms. Shubhra,

Trade Advisor, Ministry of Textiles,

Udyog Bhawan,

New Delhi

Dear Sir & Ma'am,

This is in continuation of my meeting with you (Mr. Sarangi 16th Nov and Ms. Shubhra 1st Dec) on behalf of WWEPC and on our own behalf. While thanking you for your time; request for kind intervention in issuing clarifications reg BIS (QCO) standards applicable on import of Lyocell Fiber from Lenzing, UK & Austria – meant for exports of spun yarn.

We (Ganga Acrowools) are a semi worsted spinning mill located in District Ludhiana, Punjab and are a recognized Three Star Export House and are accredited with AEO-T2 status. We have always been driven by the inspiring **Make in India vision of our Hon'ble Prime Minister** and during the 5 years to March 2023, we have invested approx. Rs. 250 cr. at our factory near Ludhiana. We are currently investing an additional amount of Rs. 300 cr, thus generating additional employment for approx. 1100 persons.

**Financial Highlights:**

Rs in Cr

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Particulars** | **8 months to Nov-23** | **20222-23** | **2021-22** | **2020-21** | **2019-20** | **2018-19** |
| Total Sales | 508.48 | 663.77 | 631.28 | 475.38 | 387.8 | 380.93 |
| Exports | 389.24 | 460.87 | 448.38 | 337.42 | 178.35 | 155.43 |
| Corporate Tax | 26.50\* | 20.05 | 25.30 | 29.06 | 8.23 | 11.76 |

\*includes Corporate Tax instalment of 15th Dec

As one of India's leading exporters of high quality worsted and semi-worsted yarns, we have consistently sought to blend international excellence with domestic production. Amongst various other inputs, we use a small quantity of Lyocell Fiber specifically from Lenzing UK & Austria. This particular fiber is crucial to production of exclusive types of export yarns: being supplied internationally to USA and other countries.

Due to recent regulatory ambiguities, two of our import consignments from Lenzing UK & Austria- 3Dtex 98 mm Bias Cut Bright Tencel Raw White Fiber (3585 Kgs for US$ 21037) and 6.7Dtex 100 mm Bright Raw White Tencel Fiber (2059 Kgs for US$ 7130) - face diversions to Colombo. This situation not only impacts our production schedules but also affects our commitment to delivering high-quality products to our customers. In our bouquet of export products, our specialization is the versatility and variety of our yarns. Even though Lyocell is a very small part of our yarn inputs, this situation is causing us to refuse export orders for Lyocell and Lyocell blended yarns thereby risking the loss of the entire export business with these customers.

We recognize the possibility of sourcing similar fibers domestically. However, our customers specifically request products made with LENZING brand fibers, known for their unmatched quality. Hence, we earnestly seek your intervention to facilitate the import of these fibers under Advance Authorization. This will ensure our continued adherence to both quality and export commitments.

Your support in this matter is vital for us to maintain our production standards and fulfill our export obligations. We are ready to provide any further information or clarification that may be required.

Thank you for considering our request. We look forward to a positive resolution and are eager to continue contributing to India's vibrant textile industry.

Wishing you a Merry Christmas & a Happy, healthy, prosperous 2024!

Dr. Ravinder Verma

Managing Director

**Ganga Acrowools Limited**

Mobile: +919316928263

1. **Comments received from M/s Ganga Acrowools Limited**

We are a semi worsted spinning mill located in District Ludhiana, Punjab, employing more than 4000 persons and are a recognized Three Star Export House and are accredited with AEO-T2 status.

We have always been driven by the inspiring **Make in India vision of our Hon’ble Prime Minister** and over the last 5 years, we have invested approx. Rs. 250 cr. at our factory near Ludhiana. We are now investing an additional amount of Rs. 300 cr, thus generating additional employment for approx. 1100 persons.

**Financial Highlights:**

**A table with numbers and numbers

Description automatically generated**

This is to request for your intervention on the following issues:

1. **BIS Standards for staple length of Lyocell staple fiber:** As one of India's

leading exporters of high quality worsted and semi-worsted yarns, we have consistently sought to blend international excellence with domestic production. Amongst various other inputs, we use a small quantity of Lyocell Fiber specifically from Lenzing UK & Austria. This particular fiber is crucial to production of exclusive types of export yarns: being supplied internationally to USA and other countries.

Whereas there is an ambiguity reg BIS Standards for staple length of Lyocell staple fiber (Declared -1/+2 mm ) . Worsted Spinning – by its very nature -used variable cut long staple ranging from 70 mm to 130 mm (or may be more). In case of wool fibre length ranging from 50 mm to 140 mm. Request for staple length to be as per “Declared” for all manufacturers and do away with 1/+2 mm so that worsted spinning is able to source staple fiber from approved suppliers.

In this regard – we have already made our presentation - on 17th Oct, 2023 to Additional Secretary Textiles, Mr. Rohit Kansal, Ms. Rachna Shah, Textiles Secretary and Mr. Sunil Barthwal, Commerce Secretary and Mr.Santosh Sarangi, DGFT 16th Nov and Ms. Shubhra, Trade Advisor, Ministry of Textules, 1st Dec - on behalf of WWEPC and on our own behalf.

2. **Viscose Tow HSN Code 55021010:**

We also seek to import Viscose Tow from Europe and seek clarification reg BIS standards if any. Both raw materials as above are meant for manufacturing of yarns for exports. Thanking you and wishing you a Happy, healthy, prosperous 2024!

Dr. Ravinder Verma

Managing Director  
**Ganga Acrowools Limited**

**ANNEX 15**

**(Item 4.6)**

**COMMENTS RECEIVED FROM M/S NITMA, CHANDIGARH ON IS 3566**

**1. Comments received from M/s NITMA, Chandigarh on IS 3566 : 2023**

**Table 1 Requirement of 100 percent Viscose vortex / Air jet yarn**

**(Clause 5.1)**

IS: 3566:2023

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Sl No. | Characteristic | Count of Yarn, Tex(Ne) | | | | | | | | Method of Test, Ref to |
| >29.5 tex( Ne <20) | >29.5 tex( Ne <20) | >19.6 to 29.5 tex (Ne 20s -<30) | >19.6 to 29.5 tex (Ne 20s -<30) | >14.7 to 19.6 tex(Ne 30-<40) | >14.7 to 19.6 tex(Ne 30-<40) | </-14.7 tex(>/- Ne 40s | </-14.7 tex(>/- Ne 40s |
| 1 | 2 | 3 - Vortex (MVS) | Airjet (MJS) | 4 - Vortex (MVS) | Airjet (MJS) | 5 - Vortex (MVS) | Airjet (MJS) | 6 - Vortex (MVS) | Airjet (MJS) | 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 | 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 | 2048 | 1700 | 1995 | 1700 | 1959 | 1650 | 1931 | 1650 | IS 1671 |
| iv) | Lea breaking load CV, Percent,Max | 5.2 | 5.5 | 5.2 | 5.5 | 5.5 | 6 | 5.7 | 6 | IS 1671 |
| v) | Yarn tenacity, cN/tex,Min | 13.7 | 11.5 | 13.3 | 11.5 | 13.1 | 11 | 12.9 | 11 | IS 1670 |
| vi) | Yarn tenacity CV , percent, Max | 8.3 | 9.5 | 9.7 | 10.5 | 10.9 | 11 | 11.9 | 11.5 | IS 1670 |
| vii) | Breaking elongation,percent,Min | 12.0 | 11.0 | 10.0 | 9.5 | 8.0 | 9.0 | 7.0 | 9.0 | IS 1670 |
| viii) | Unevenness,percent,Max | 10.2 |  | 11.3 |  | 12.1 |  | 12.9 |  | IS 16576 |
| ix) | Unevenness V,percent,Max | 11.8 |  | 13.7 |  | 15.2 |  |  | 16.1 | IS 16576 |
| x) | Hairiness index,Max | 5.2 | 6.2 | 4.5 | 5 | 4 | 4.5 | 3.8 | 4 | Annex C |
| xi) | Imperfections/km,Max  Thin(-50%)  Thick(+50%)  Neps(+200%)  TOTAL IPI | 6  20  23  49 |  | 17  44  40  101 |  | 35  76  59  170 |  | 61  116  80  257 |  | IS 16576 |

Note – The requirement for Hairiness index shall be applicable for doubled yarn also.

**ANNEX 16**

**(Item 4.7)**

**COMMENTS RECEIVED FROM CMD-II, BIS ON IS 187**

**From :** Central Marks Department II

**Subject :** All India First application for Textiles - Cotton Long Cloth as per IS 187 : 1978

Sir

This has reference to the above All India First application for Textiles - Cotton Long Cloth as per IS 187 : 1978 received at GZBO.

Reference is also invited to the scope of the standard: This standard prescribes constructional details and other particulars of two varieties of cotton long cloth, bleached or dyed. If agreed, man-made fibres may be blended with cotton.

Although the standard allows blending of manmade fibres with cotton, the maximum allowable percentage of blending is not specified. This may lead to manufacturers producing blends which are primarily composed of non-cotton fibres under this standard.

TXD is therefore requested to please clarify the maximum allowable percentage of blending with non-cotton fibres as per this standard, so that the application can be processed accordingly.

This may be accorded due priority, being an All India First case.

सादर/Regards

Aditya Das

Scientist D, Jt. Director,

Central Marks Department-2,

Bureau of Indian Standards

**ANNEX 18**

**(Item 4.8)**

1. **DRAFT REVISION OF IS 7056**

**FOREWORD**

(*Formal clause to be added later*)

This standard was first published in the year 1973. It was first revised in the year 1979 to specify the requirements of towels in a single specification amalgamating IS 7057 : 1973 'Specification for cotton turkish towels'. This standard is being revised again to incorporate the following:

1. Requirements of an additional variety of cotton towel of different GSM which is extensively used in Indian Railways.
2. Incorporating the requirements for identification of material, whiteness index and colour fastness to hypochlorite

For the purpose of deciding whether a particular requirement of this standard is complied with, the final value, observed or calculated, expressing the result of a test or analysis, shall be rounded off in accordance with IS 2 : 2022 ‘Rules for rounding off numerical values (*second revision*)’. The number of significant places retained in the rounded off value should be the same as that of the specified value in this standard.

**1 SCOPE**

**1.1** This standard prescribes constructional and performance requirements of cotton terry (turkish) and huck-a-back towelling and towels; bleached, dyed, printed or striped.

**1.2** The standard does not specify design, general appearance, feel, finish or shade, etc (*see* also **5.1**).

**2 REFERENCES**

**2.1** The standards listed in Annex A contain provisions which, through reference in this text, constitute provisions of this standard. At the time of publication, the editions indicated were valid. All standards are subject to revision, and parties to agreements based on this standard are encouraged to investigate the possibility of applying the most recent editions of the standards indicated in Annex A.

**3 REQUIREMENTS**

**3.1 Fabric Constructional requirements**

Terry towelling shall meet the construction particulars given in Table 1, huck-a-back fabric shall conform to the construction particulars given in Table 2. The cotton yarn used shall be evenly spun (*see* IS 171). The count of warp and weft are given for guidance only.

**3.2 Fabric performance requirements**

**3.2.1** The fabric shall conform to the performance requirements given in Table 3.

Note — Dyed yarn used in stripes, dyed fabric or printed fabric shall conform to the colour fastness ratings given in Table 3.

**3.2.1** In case of undyed or white towels, the whiteness index shall not be less than 140 when tested as per the method prescribed in Annex J of IS 17263.

**3.2 Freedom from Defects**

The fabric when visually examined shall be free from spinning, weaving and processing defects (*see* IS 14466). The bleached fabric shall have a full bleach finish and shall be free from blueing or optical whitening agents, if required by the buyer. In case of dyed fabric the fabric shall be thoroughly scoured prior to dyeing so that the maximum absorbency is obtained. The dyeing shall be uniform without stains, streaks, patches, etc. and shall match the required shade.

**3.4 Sizes**

Dimensions of towels shall be as given in Table 4.

**3.5 Heading**

The maximum depth of plain heading at each end of the towel shall be as specified in Table 4.

**3.6 Sewing Thread**

Cotton sewing thread of 60s/6 cotton count (Ne) (9.8 tex × 6) conforming to IS 1720 shall be used. In case of dyed towels the thread shall be of similar shade.

**3.7 Transverse Ends or End Hems**

Each transverse end of towel shall have a 13 mm hem with a full turn-in at each end.

**3.8 Side Edges**

The side edges shall be either selvedges which shall be firm and straight or shall have a 13 mm hem with a full turn-in.

**3.9 Stitching**

The stitching shall be of even tension and the loose ends shall be finished securely and neatly. The number of stitches shall not be less than 4 per centimetre.

**4 SEALED SAMPLE**

**4.1** If, in order to illustrate indeterminable characteristics such as general appearance, lustre, feel and shade, a sample has been agreed upon and sealed, the supply shall be in conformity with the sample in such respects.

**4.1.1** The custody of the sealed sample shall be a matter of prior agreement between the buyer and the seller.

**Table 1 Construction Particulars of Terry Towelling**

(*Clause* 3.1)

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Sl No.** | **Varity No.** | **Count of Yarn, Ne**  **(Approx)( For guidance only)** | | | **Threads per dm,**  ***Min*** | | | **Mass**  ***Min***  **g/m2** | **Terry**  **Ratio**  ***Min*** |
| **Warp**  **Ground** | **Pile** | **Weft** | **Warp**  **Ground** | **Pile** | **Weft** |
| (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) |
| i) | 1 | l6s/2 | 16s | 14s | 100 | 100 | 200 | 390 | 6:1 |
| iii) | 2 | 20/2s | 20/2s | 12s | 145 | 145 | 170 | 550 | 4.5:1 |
| iv) | Method of  Test | - | | | IS 1963 | | | IS 1964 | Annex B |

**Table 2 Construction Particulars of Huck-a-Back Towelling**

(*Clause* 3.1)

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Sl No.** |  | **Count of Yarn, Ne**  **(Approx), (*see* Note), For guidance only** | | **Threads per dm**  ***Min*** | | **Mass,**  ***Min***  **g/m2** |
| **Warp** | **Weft** | **Ends** | **Picks** |
| (1) | (2) | (3) | (4) | (5) | (6) | (7) |
| i) |  | 14s (42 tex) (*see* Note) | 6s (98 tex) | 360 | 135 | 290 |
| ii) | Method of  Test | — | | IS 1963 | | IS 1964 |
| Note — Two warp threads work as one in the loom. | | | | | | |

**Table 3 Performance Requirement for Fabric**

(*Clauses* 3.2.1)

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Sl No.** | **Characteristics** | **Requirements** | | | **Method of Test** |
| **Terry (Variety 1)** | **Terry (Variety 2)** | **Huck-a-Back** |
| (1) | (2) | (3) | (4) | (5) | (6) |
| i) | Identification of material (*see* Note 2) | 100% cotton | 100% cotton | 100% cotton | IS 667 |
| ii) | Breaking load on 5.0 × 20 cm  strips (ravelled strip method),  *Min*   1. Warpway 2. Weftway | 310 N (32 kgf)  340 N (35 kgf) | 345 N (35 Kgf)  295 N (30 Kgf) | 590 N (60 kgf)  330 N (34 kgf) | IS 1969 (Part 1) |
| iii) | Scouring loss, percent, *Max* | 2.0 | 2.0 | 2.0 | IS 1383  (Mild method) |
| iv) | Shrinkage or elongation, percent, *Max* | 3.0 | 3.0 | 3.0 | IS 2977 |
| v) | *p*H value | 6.0 to 8.5 | 6.0 to 8.0 | 6.0 to 8.5 | IS 1390 |
| vi) | Wettability, *Max* | 10 s | 10 s | 10 s | IS 2349 |
| vii) | Minimum colour fastness rating to:  a) Light (*see* Note 1)  b) Washing: Test 4  Change in colour  Staining of adjacent fabric  c) Hypochlorite  Change in colour | 5  4  4  4 | —  5  4  4  4 | 5  4  4  4 | IS/ISO 105-B02  IS/ISO 105-Cl0  IS/ISO 105-N01 |
| NOTE  **1** In case of 'sulphur dyes', the minimum colour fastness rating to light shall be 4.  **2** Impurities of less than 0.2 percent shall be permitted. | | | | | |

**Table 4 Dimensions of Towels**

(*Clauses* 3.4 and 3.5)

|  |  |  |  |
| --- | --- | --- | --- |
| **Sl No.** | **Minimum Dimensions** | | **Maximum Heading**  **Depth**  **cm** |
| **Width**  **cm** | **Length**  **cm** |
| (1) | (2) | (3) | (4) |
| i) | 40 | 60 | 6.5 |
| ii) | 50 | 100 | 6.5 |
| iii) | 61 | 122 | 6.5 |
| iv) | 66 | 112 | 6.5 |
| v) | 75 | 150 | 6.5 |
| vi) | 80 | 155 | 6.5 |

**5 MARKING**

**5.1** The towelling or towels shall be marked with the following particulars:

a) Length and width;

b) Manufacturer's name, initials or trademark, if any.

c) Month and year of manufacture; and

d) Any other information as required by the buyer or the law in force.

**5.1.1** ***BIS Certification Marking***

The product(s) conforming to the requirements of this standard may be certified as per the conformity assessment schemes under the provisions of the Bureau of Indian Standards Act, 2016 and the Rules and Regulations framed thereunder, and the product(s) may be marked with the Standard Mark.

**6 PACKING**

**6.1** Unless otherwise agreed upon by the buyer and the seller*,* the towelling or towels shall be packed in bales or cases in conformity with the procedure laid down in IS 1347 or in IS 293 as required.

**7 SAMPLING**

**7.1** The scale of sampling and criteria for conformity as given in IS 3919 shall be followed in respect of physical characteristics, namely, ends and picks, width, length, mass and breaking load.

**7.2** The scale of sampling and criteria for conformity as given in IS 5463 shall be followed in respect of the chemical characteristics, namely, identification of material , wettability, scouring loss, *p*H value and colour fastness.

**ANNEX A**

(*Clause* 2.1)

**LIST OF REFERRED STANDARDS**

|  |  |
| --- | --- |
| IS No. | Title |
| IS 171 : 1985 | Cotton and cotton regenerated cellulosic fibre blended grey yarn (*third revision*) |
| IS 293 : 1980 | Code for seaworthy packaging of cotton yarn and cloth (*third revision*) |
| IS 686 : 1985 | Colour fastness of textile materials to daylight (*first revision*) |
| IS 765 : 1979 | Colour fastness of textile materials to washing: Test 4 (*second revision*) |
| IS 1347 : 1972 | Inland packaging of cotton cloth and yarn (*first revision*) |
| IS 1383 : 1977 | Scouring loss in grey and finished cotton textile materials (*first revision*) |
| IS 1390 : 1983 | *p*H value of aqueous extract of textile materials (*first revision*) |
| IS 1720 : 1978 | Cotton sewing threads (*second revision*) |
| IS 1963 : 1981 | Threads per unit length in woven fabrics (*second revision*) |
| IS 1964 : 1970 | Weight per square metre and weight per linear metre of fabrics (*first revision*) |
| IS 1969 : 1985 | Breaking load and elongation of woven textile fabrics (*second revision*) |
| IS 2349 : 1963 | Wettability of cotton fabrics |
| IS 2454 : 1985 | Colour fastness of textile materials to artificial light (xenon lamp) (*first revision*) |
| IS 2977 : 1964 | Dimensional changes in woven fabrics (other than wool) on soaking in water |
| IS 3919 : 1966 | Methods for sampling cotton fabrics for determination of physical characteristics |
| IS 3442 : 2023 | Textiles — Method for Determination of Crimp and Linear Density of Yarn Removed from Fabric (*second revision*) |
| IS 5463 : 1969 | Method for sampling cotton fabric for chemical tests |

**ANNEX B**

(*Table* 1)

**DETERMINATION OF TERRY RATIO**

**B-1** Cut out a 10 cm × 10 cm specimen from the fabric and condition the specimen in the standard atmosphere for testing. Remove warp threads from the specimen so as to provide 10 threads each from the specimen of ground warp and of terry warp. Determine the mean straightened length of each group of 10 threads.

Express the terry ratio as the ratio of the mean straightened length of the terry warp threads to the mean straightened length of the ground warp threads.

1. **Draft revision of IS 175 : 1989**

**FOREWORD**

*(Formal foreword shall be added later)*

This standard was originally published in 1951 and revised in 1965, 1979, and 1989. This standard is being revised again to incorporate the following changes:

1. An additional variety of fabric is added for bedsheet and pillow cover used specifically in Indian Railways.
2. An additional variety of fabric is added for blanket covers used specifically in Indian Railways.
3. The optional requirements for soil release efficiency and Antibacterial activity has also been incorporated.
4. Amendment has been incorporated.

For the purpose of deciding whether a particular requirement of this standard is complied with, the final value, observed or calculated, expressing the result of a test or analysis, shall be rounded off in accordance with IS 2 : 2022 ‘Rules for rounding off numerical values (*second revision*)’. The number of significant places retained in the rounded off value should be the same as that of the specified value in this standard.

**1 SCOPE**

**1.1** This standard prescribes constructional details and other particulars of sheeting, ticking, bedsheets, pillow covers and blanket covers scoured, bleached, dyed or printed.

**1.2** The standard does not specify general appearance, feel shade, etc. (*see* also **5.1**).

**2 REFERENCES**

**2.1** The standards listed in Annex A contain provisions which, through reference in this text, constitute provisions of this standard. At the time of publication, the editions indicated were valid. All standards are subject to revision, and parties to agreements based on this standard are encouraged to investigate the possibility of applying the most recent editions of the standards indicated in Annex A.

**3 FABRICS**

**3.1 Fabric Content**

**3.1.1** The sheet shall be manufactured from 100 percent cotton or 48 percent polyester and 52 percent cotton blend or 65 percent cotton and 35 percent polyester. Fibre blend shall be intimately mixed.

**3.1.2** If agreed to between the buyer and the seller, cotton, and viscose blend for variety 1 to 4 or polyester and viscose/cotton blend for variety no. 5 (*see* Table 1) may be used. However, the percentage of different fibres shall be declared by the manufacturer and a tolerance of ± 3 on the fibre constituent shall be permissible on declared percentage of the major fibre component when tested as per IS 11195. Such fabrics shall also meet the performance requirements specified in Table 2 and Table 3.

**3.2 Yarn**

The yarn shall be evenly spun (*see* IS 171 and IS 7866).

**3.3 Fabric Construction**

The fabric shall meet the construction particulars given in Table 1. The count of warp and weft are given for guidance only.

**3.4 Freedom from Defects**

The fabric when visually examined shall be free from spinning, weaving and processing defects (*see* Annex B). The selvedges shall be firm and straight. The bleached fabric shall have a full bleach finish and shall be free from blueing or optical whitening agents, if required by the buyer.

**3.5 Fabric Properties**

The fabric shall conform to the requirements given in Table 2 and Table 3. Colour fastness rating of dyed and printed fabric or dyed yarn used for stripes, in the fabric for ticking, bedsheets, pillow covers and blanket covers shall conform to those given in Table 3.

**4 BEDSHEETS, PILLOW COVER, AND BLANKET COVERS**

**4.1 Fabric**

Bedsheets, pillow covers and blanket covers shall be made from fabric conforming to requirements laid in 3.

**4.2 Sewing Thread**

Cotton sewing thread of 60 s/3 cotton count (100 dtex × 3) conforming IS 1720 shall be used. In case of dyed sheets, the thread shall be of a similar shade.

**4.3 Hems**

Each transverse end of sheet shall have a 2 cm hem. Minimum of 0.5 cm of the raw edge shall be turned in.

**4.4 Side Edges**

The sheets shall have selvedge on the two sides.

**4.5 Sewing**

The sewing shall be of even tension and the loose ends shall be finished securely and neatly. The number of stitches shall not be less than 4 per cm.

**4.6 Dimensions**

The finished dimensions of bedsheets shall be as specified in Table 4 subject to a tolerance of ± 1 cm and +2/-0 cm on width and length respectively. If agreed to between the buyer and the seller bedsheets, pillow cover and blanket covers of any other dimensions may also manufactured subject to the tolerance of ± 1 cm and +2/-0 cm on width and length respectively.

**4.7 Soil release efficiency**

For Variety No. 6 and 7, the soil release efficiency after 50 washes shall be Grade 3, *Min* when tested as per method prescribed in Annex C.

**4.8 Antimicrobial Activity**

If agreed to between the buyer and the seller, the suiting shall have anti-bacterial activity value (initially and after 30 washes) greater than 1 when tested by the absorption method prescribed in ISO 20743. The fabric shall be washed as per the procedure specified in **C-5.1.**

**Table 1 Construction Particulars**

(*Clause* 3.1.2 *and* 3.3)

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Sl No.** | **Variety No.** | **Fibre Content, *Min*** | **Count of Yarn Cotton Count (Tex)** | | **Weave** | **Ends/ cm** | **Picks/ cm** | **Mass g/m2, *Min*** (*see* Note 2) | **width cm *Min*** | **Remarks** |
| **Warp** | **Weft** |
| (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) | (11) |
| i) | 1 | 100 %  cotton | 12s (50  tex) | 10s (60  tex) | 2/1 warp faced twill | 29 | 17 | 240 | 91 or as agreed | Used for  ticking  only  (*see* Note 1) |
| ii) | 2 | 100 %  cotton | 16s (36  tex) | 16s (36  tex) | Plain | 24 | 21 | 170 | as agreed | - |
| iii) | 3 | 100 %  cotton | 148 (42  tex) | 18s (32  tex) | 2/1 or 3/1 twill | 27 | 21 | 185 | 91 or as agreed | Used for  ticking  only  (*see* Note 1) |
| iv) | 4 | 100 %  cotton | 20s (30  tex) | 20s (30  tex) | Plain | 26 | 23 | 145 | as agreed | - |
| v) | 5 | 48 %  polyester and  52 % cotton | 20s (30  tex) | 20s (30  tex) | Plain | 28 | 25 | 155 | as agreed | - |
| vi) | 6 | 65 % cotton and 35 % polyester | 63s (9.37 tex) | 72 D (8 tex) | 4/1 Sateen alternate | 75 | 44 | 142 | as agreed | Used for Blankets and pillow covers |
| vii) | 7 | 65 % cotton and 35 % polyester | 63s (9.37 tex) | 144 D  (16 tex) | 1/1 plain | 67 | 32 | 120 | as agreed | Used for blanket cover |
| viii) | Tolerance, Percent | ± 2 | ± 5 | ± 5 | - | ± 5 | ± 5 | - | - | - |
| ix) | Method of Test | IS 667 and IS 3416 | IS 3442 | IS 3442 | Visual  method | IS 1963 | IS 1963 | IS 1964 | IS 1954 | - |
| NOTES  1 The fabric may be woven with coloured stripes as agreed to between the buyer and the seller.  2 The average mass shall meet the requirements as indicated in the table however, it is permissible for applying a tolerance of 2.5 percent on individual values when tested. | | | | | | | | | | |

**Table 2 Performance Requirements for Fabrics**

(*Clauses* 3.1.2 *and* 3.5)

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Sl No.** | **Variety No.** | **Breaking Load on 5 × 20 cm Strip (Ravelled Strip Method), *Min*** | | **Dimensional Change (Shrinkage or Elongation), Percent, *Max*** | | **Scouring**  **Loss,**  **Percent,**  **Max** | ***pH* Value** | **Resistance**  **to Pilling, For 1000 cycles,**  ***Min*** |
| **Warpway** | **Weftway** | **Warpway** | **Weftway** |
| (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) |
|  | | N (kgf) | N (kgf) |  | | | | |
| i) | 1 | 660 (68) | 550 (56) | 2.5 | 2.5 | 2.0 | 6.0 to 8.5 | — |
| ii) | 2 | 470 (48) | 390 (40) | 2.5 | 2.5 | 2.0 | 6.0 to 8.5 | — |
| iii) | 3 | 470 (48) | 270 (28) | 2.5 | 2.5 | 2.0 | 6.0 to 8.5 | — |
| iv) | 4 | 440 (45) | 390 (40) | 2.5 | 2.5 | 2.0 | 6.0 to 8.5 | — |
| v) | 5 | 650 (66) | 600 (61) | 1.5 | 1.5 | 2.0 | 6.0 to 8.0 | 4 |
| vi) | 6 | 294(30) | 392(40) | 2.0 | 2.0 | 2.0 | 6.0 to 8.0 | 3 |
| vii) | 7 | 343(35) | 392(40) | 2.0 | 2.0 | 2.0 | 6.0 to 8.0 | 3 |
| viii) | Method  of Test | IS 1969 (Part 1) | | IS 2977 | | IS 1383 | IS 1390 | IS 10971 |
| NOTE — One newton (N) is approximately equal to 0.102 kgf. | | | | | | | | |

**Table 3 Colour Fastness Requirement**

(*Clauses* 3.1.2 *and* 3.5)

|  |  |  |  |
| --- | --- | --- | --- |
| **Sl No.** | **Agency** | **Minimum Rating** | **Method of Test** |
| (1) | (2) | (3) | (4) |
| i) | Light  a) Warp direction  b) Weft direction | 4 or better  3 or better | IS/ISO 105-B02 |
| ii) | Washing  a) Change in colour  b) Staining of adjacent fabrics | 4 or better  3 or better | IS/ISO 105- C10 |
| iii) | Bleaching: Hypochlorite | 4 or better | IS/ISO 105-N01 |
| iv) | Rubbing:  a) Dry  b) Wet | 4 or better  3 or better | IS/ISO 105-X12 |
| v) | Perspiration, acidic and alkaline  a) Change in colour  b) Staining of adjacent fabrics | 4 or better  4 or better | IS/ISO 105-E04 |

**Table 4 Dimensions of Bedsheets**

(*Clause* 4.6)

|  |  |  |  |
| --- | --- | --- | --- |
| **Sl No.** | **Size** | **Width, cm** | **Length, cm** |
| (1) | (2) | (3) | (4) |
| i) | 1 | 135 | 215 |
| ii) | 2 | 135 | 230/240 |
| iii) | 3 | 150 | 215 |
| iv) | 4 | 150 | 230/240 |
| v) | 5 | 175 | 255 |
| vi) | 6 | 230 | 230 |
| vii) | 7 | 230 | 275 |
| viii) | 8 | 275 | 275 |
| ix) | Method of test | IS 1954 | IS 1954 |

**5 SEALED SAMPLE**

**5.1** If, in order to illustrate indeterminable characteristics such as general appearance, lustre, feel and shade, a sample has been agreed upon and sealed, the supply shall be it conformity with the sample in such respects.

**5.1.1** The custody of the sealed sample shall be a matter of prior agreement between the buyer and the seller.

**6 MARKING**

**6.1** The sheeting, ticking, bedsheets, pillow covers and blanket covers shall be marked with the following:

a) Name of material;

b) Variety number;

c) Fibre blend composition;

d) Length (m) and width (cm);

e) Indication of the source of manufacture; and

f) Other information required as per law in force.

**6.1.1** The sheeting, ticking, bedsheets, pillow covers and blanket covers may also be marked with the Standard Mark.

**6.2 BIS Certification Marking**

The product(s) conforming to the requirements of this standard may be certified as per the conformity assessment schemes under the provisions of the *Bureau of Indian Standards Act*, 2016 and the Rules and Regulations framed thereunder, and the product(s) may be marked with the Standard Mark.

**7 PACKING**

Unless otherwise agreed upon by the buyer and seller, the sheeting, ticking, bedsheets, pillow covers and blanket covers shall preferably be packed in bales or cases in conformity with the procedure laid down in IS 1347 or in IS 293 as required.

**8 SAMPLING**

**8.1 Lot**

The quantity of the sheeting, ticking, bedsheets, pillow cover and blanket covers delivered to the buyer against one dispatch note shall constitute a lot.

**8.2** The conformity of the lot to the various requirements specified in the standard shall be determined on the basis of tests carried out on the sample selected from the lot.

**8.3** Unless otherwise agreed, the number of pieces selected at random for inspection shall be in accordance with Table 5.

**8.3.1** For selection of samples at random from the lot, procedure given in IS 4905 may be followed.

**Table 5 Sample Size and Permissible Number of Non-conforming product(s)**

(*Clauses* 8.3 *and* 8.3.1)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Sl No.** | **Lot Size Sample** | **Sample Size** | **Permissible Number of Non-Conforming bedsheets and pillow cover** | **Sub-sample Size** |
| (1) | (2) | (3) | (4) | (5) |
| i) | Up to 90 | 5 | 0 | 3 |
| ii) | 91 to 150 | 8 | 0 | 3 |
| iii) | 151 to 500 | 13 | 1 | 5 |
| iv) | 501 to 1 200 | 20 | 1 | 5 |
| v) | 1 201 to 10 000 | 32 | 2 | 8 |
| vi) | 10 001 to 35 000 | 50 | 3 | 8 |
| vii) | 35 001 to 5 00 000 | 80 | 5 | 13 |
| viii) | 5 00 001 and above | 125 | 7 | 13 |

**8.4 Number of Samples and Criteria for Conformity**

It shall be as follows:

|  |  |  |  |
| --- | --- | --- | --- |
| *Sl No.* | *Characteristics* | *Number of Samples* | *Criteria for conformity* |
| (1) | (2) | (3) | (4) |
| i) | Ends, picks, length, width and freedom from defects, count | According to col (2) of  Table 5 | Number of non-conforming pieces shall not exceed the corresponding number given in col (3) of Table 5 |
| ii) | Mass, dimensional change, *p*H value, colour fastness, blend composition, fibre content, scouring loss, pilling  resistance, breaking load, hemming, sewing and fire resistant (optional) | According to col (4) of  Table 5 | All the test pieces shall meet the  requirement |

**ANNEX A**

(*Clause* 2)

**LIST OF REFERRED STANDARDS**

|  |  |
| --- | --- |
| IS No. | Title |
| IS 171 : 1993 | Textiles **—** Ring spun grey cotton yarn for weaving **—** Specification (*fourth* *revision*) |
| IS 293 : 1980 | Code of seaworthy packaging of cotton yarn and cloth (*third revision*) |
| IS 667 : 1981 | Methods for identification of textile fibres (*first* *revision*) |
| IS 1347 : 1972 | Specification for inland packaging of cotton cloth and yarn (*first revision*) |
| IS 1383 : 1977 | Methods for determination of scouring loss in grey and finished cotton textile materials (*first revision*) |
| IS 1390 : 2022 | Textiles **—** Determination of *p*H of aqueous extract (*third revision*) |
| IS 1720 : 1978 | Specification for cotton sewing threads (*first* *revision*) |
| IS 1954 : 1990 | Determination of length and width of woven fabrics **—** Methods (*second revision*) |
| IS 1963 : 1981 | Methods for determination of threads per unit length in woven fabrics (*second* *revision*) |
| IS 1964 : 2001 | Textiles **—** Methods for determination of mass per unit length and mass per unit area of fabrics (*second* *revision*) |
| IS 1969 (Part 1) :  2018 | Textiles **—** Tensile properties of fabrics: Part 1 Determination of maximum force and elongation at maximum force using the strip method (*fourth revision*) |
| IS 2977 : 1989 | Fabrics (other than wool) **—** Method for determination of dimensional changes on soaking in water (*first* *revision*) |
| IS 3442 : 2023 | Method for determination of crimp and linear density of yarn removed from fabrics (*second revision*) |
| IS 3919 : 1966 | Methods for sampling cotton fabrics for determination of physical characteristics |
| IS 5463 : 2022 | Methods for sampling of cotton fabrics for chemical tests (*first revision*) |
| IS 7866 : 1993 | Textiles **—** Ring spun polyester blended grey yarn **—** Specification (*first*  *revision*) |
| IS 10971 (Part 1) : 2022 | Textiles **—** Determination of fabric propensity to surface fuzzing and to  pilling: Part 1 Pilling box method (*second revision*) |
| IS 11195 : 1985 | Specification for blend compositions of textiles |
| IS/ISO 105-B01 : 2014 | Textiles **—** Tests for colour fastness: Part B01 Colour fastness to light:  Daylight |
| IS/ISO 105-N01 : 1993 | Textiles **—** Tests for colour fastness: Part N01 Colour fastness to  bleaching: Hypochlorite |
| IS/ISO 105-C10 : 2006 | Textiles **—** Tests for colour fastness: Part C10 Colour fastness to washing  with soap or soap and soda |
| IS/ISO 105-X12 : 2016 | Textiles **—** Tests for colour fastness: Part X12 Colour fastness to rubbing  (*first revision*) |
| IS/ISO 105-E04 : 2008 | Textiles **—** Tests for colour fastness: Part E04 Colour fastness to  perspiration |
| IS/ISO 105-B02 : 2014 | Textiles **—** Tests for colour fastness: Part B02 Colour fastness to artificial  light: Xenon arc fading lamp test |

**ANNEX B**

(*Clause* 3.4)

**LIST OF MAJOR FLAWS**

a) One or more ends missing in the body of the material throughout its length, more than three ends missing at a place and running over 60 cm, or prominently noticeable double ends running throughout the piece;

b) Undressed snarls noticeable over a length exceeding 5 percent of the length of the piece;

c) Smash definitely rupturing the texture of the fabric;

d) Hole, cut or tear;

e) Read marks prominently noticeable over a length exceeding 5 percent of the piece;

f) Defective or damaged selvedge noticeable over a length exceeding 5 percent of the length of the piece;

g) Skewing of weft;

h) Weft crack or two or more missing picks across the width of the fabric;

j) Warp or weft bar due to difference in raw material, count, twist, lustre, colour, shade or spacing of adjacent groups of yarns (starting mark);

k) More than two adjacent ends running parallel, broken or missing and extending beyond 10 cm;

m) Noticeable warp or weft float in the body of the fabric;

n) Noticeable oil or other stain in the fabric;

p) Oily weft in the fabric;

q) Prominently noticeable slub;

r) Conspicuous broken pattern;

s) Gout due to foreign matter, usually lint or waste, woven into the fabric;

t) Prominent selvedge defect;

u) Significant shading or listing having a gradual change in tone or depth of shade (excluding in selvedge);

v) Coloured flecks;

w) Blurred or dark patch;

y) Patchy, streaky or uneven dyeing;

z) Dye bar; and

aa) Fuzzy appearance.

**Annex C**

(*Clause* 4.7 *and* 4.8)

**METHOD OF TEST FOR SOIL RELEASE: OILY STAIN RELEASE METHOD**

**C-1 PRINCIPLE**

A stain is applied to a test specimen. An amount of the staining substance is forced into the fabric by using a specified weight. The stained fabric is then laundered in a prescribed manner and the residual stain rated on a scale from 5 to 1 by comparison with a stain release replica showing a graduated series of stains.

**C-2 APPARATUS AND MATERIALS**

**C-2.1** White Blotting Paper

**C-2.2** Corn oil (*See* IS 4055)

**C-2.3** Glassine Paper or Equivalent

**C-2.4** Timer

**C-2.5** Weight, cylinder 6.4 cm diameter, 2.268 ± 0.045 kg (stainless is preferable).

**C-2.6** Amber bottle, with medicine dropper.

**C-2.7** Washer, automatic as specified in IS 15370.

**C-2.8** Dryer, automatic as specified in IS 15370.

**C-2.9** Granular commercial detergent, home wash as specified in IS 15370.

**C-2.10** Ballast of (92 × 92) ± 3 cm hemmed pieces of bleached cotton sheeting (Ballast wash load Type 1) or 50 / 50 polyester / cotton bleached mercerized plain weave (Ballast wash load Type 3).

**C-2.11** Lighting and Evaluation Area

**C-2.12** Table with non-glare black top 61 × 92 cm and 89 ± 3 cm high

**C-2.13** Stain Release Replica

**C-2.14** Thermometer, 0 to 100°C, Least count - 1°C.

**C-2.15** Balance or scale appropriate for the weights required having a least count of 0.01 g.

**C-3 TEST SPECIMENS**

Use two test specimens (38 x 38) ± 1 cm for each determination. Condition the test specimens for a minimum of 4 h at 27 ± 2°C and 65 ± 5 percent RH prior to application of stains.

**C-4 STAINING PROCEDURE**

**C-4.1** Place the unstained specimen flat on a single thickness of white textile blotting paper on a smooth, horizontal surface.

**C-4.2** Using the medicine dropper, place 5 drops (approximately 0.2 ml) of corn oil in the approximate centre of the test specimen.

**C-4.3** Place a 7.6 × 7.6 cm of glassine paper over the stained area.

**C-4.4** Place the weight (*see* C-2.5) on the glassine paper over the stained area.

**C-4.5** Allow weight to sit undisturbed for 60 ± 5 s. Then removed the weight and discard the glassine sheet.

**C-4.6** Do not allow stained test specimens to contact each other in a manner which would transfer stains. Wash within 20 ± 5 min after staining.

**C-5 WASHING PROCEDURE**

**C-5.1** Subject the specimens to washing as per procedure 5A and reference detergent specified in 4.1.2 of IS 15370 and followed by drying as per 8.5 of IS 15370.

**C-5.2** Remove specimens from dryer immediately on completion of the cycle and lay flat to prevent formation of wrinkles or creases which can affect the stain release rating. Rate residual stains within 4 h after drying.

**C-6 EVALUATION**

**C-6.1** Mount the stain release replica on the mounting board, with the centre of the standard 114 ± 3 cm from the floor.

**C-6.2** Place the test specimen flat with face up in the center of the non-glare black topped table with one edge of the table touching the mounting board. The fabric shall be rotated to be viewed from the direction which produces the lowest rating.

**C-6.3** Viewing distance shall be 76 ± 3cm from the back mounting board, with the eye at 157 ± 15 cm from the floor. The rater should stand directly in front of the specimen. Varying the viewing angle either horizontally or vertically can affect grades obtained on the same fabrics.

**C-6.4** Each rater shall independently compare the residual stain on the test specimen with the stains on the stain release replica and rate each test specimen to the nearest 0.5 grade as follows:

Grade 5 — Stain equivalent to Standard Stain 5

Grade 4 — Stain equivalent to Standard Stain 4

Grade 3 — Stain equivalent to Standard Stain 3

Grade 2 — Stain equivalent to Standard Stain 2

Grade 1 — Stain equivalent to Standard Stain 1

NOTE — Grade 5 represents the best stain removal and Grade 1 the poorest stain removal.

**C-7 Report**

**C-7.1** Calculate the average of 4 grades for each fabric (2 judgments on each of 2 specimens), to nearest 0.1. This is the unit of measure for this test method.

**C-7.2** Report whether the stain release replica or the 3 M stain release rating scale was used.

**C-7.3** Report water hardness of the washing procedure in terms of parts per million (ppm).

**C-7.4** Report the type ballast material used.

**ANNEX 19**

**(Item 5.1)**

**DRAFT REVISION OF IS 7867 : 2022**

For BIS Use Only

*Draft Indian Standard*

**Textiles - Continuous Filament Polyamide (Nylon) Yarns - Specification**

*(Second Revision of* IS 7867*)*

Not to be Reproduced or used as Standard without the permission of BIS

FOREWORD

(*Formal foreword to be added later*)

This Indian Standard was originally published in 1975 and was first revised in 2022. This Indian Standard is again being revised to incorporate the following changes:

1. The requirements for Partially oriented yarn and high tenacity yarn has been incorporated in the standard.
2. The packing, marking and sampling clause has been modified to cover latest industry’s practices;
3. The requirements for identification of yarn, interlace per meter, water soluble matter, moisture regain, colour fastness properties, colour strength, colour difference, lustre/brightness, etc. have been incorporated to make the standard more realistic and end use oriented;
4. The clause for Terms and Definitions’ have been incorporated in the standard.
5. References to Indian Standards have been updated.

Nylon is a generic term used for the long chain synthetic polyamides. Nylon Filament Yarn is produced as multi-filament yarn or mono filaments in a wide range of deniers. It has excellent orientation and crystalline characteristics which imparts it with good mechanical properties. It is suitable for uses like hosiery, swimwear, upholstery, parachute cloth, sportswear, umbrella cloth, etc. It is also used for many industrial applications like tyre cords, fish-nets, ropes, seat belts etc. due to its high flexural strength and tenacity.

The composition of the Committee responsible for the formulation of this standard is given in Annex B.

For the purpose of deciding whether a particular requirement of this standard is complied with, the final value, observed or calculated, expressing the result of a test or analysis shall be rounded off in accordance with IS 2 : 2022 ‘Rules for rounding off numerical values (*second revision*)’. The number of significant places retained in the rounded off value should be the same as that of the specified value in this standard.

**1. SCOPE**

**1.1** This standard specifies requirements for all types of nylon continuous single multifilament or monofilament flat yarn for various end usages. This standard covers the requirements for both dyed and undyed nylon continuous filament yarn.

**1.2** This standard does not specify requirements for parallel, tow and top, doubled or plied nylon yarns.

**1.3** This standard is not applicable to bio-degradable nylon yarns.

**2. REFERENCES**

The standards listed in Annex A contain provisions, which through reference in this text, constitute provisions of this standard. At the time of publication, the editions indicated were valid. All standards are subject to revision and parties to agreements based on this standard are encouraged to investigate the possibility of applying the most recent editions of the standards indicated in Annex A.

**3. TERMS AND DEFINITIONS**

**3.1 Commercial Allowance** — A defined percentage to be added to the oven-dry mass of the material for the calculation of commercial mass and certain other properties. This allowance includes the moisture content and the content of the substances which can be removed during analysis, for example, spin finish, oligomers etc.

NOTE — The commercial allowance for nylon continuous filament yarn shall be 6.50 percent.

**3.2 Commercial Mass** — The mass obtained by adding to the oven-dry mass, the mass corresponding to the commercial allowance.

**3.3 Cross Section** — The shape of a fibre when viewed perpendicular to its axis.

NOTE — The shape of man-made fibres can be influenced by the spinning process and subsequent processing and treatments, such as texturizing.

**3.4 Flat Yarn** — Man-made continuous filaments that have not been twisted or textured.

**3.5 High Tenacity Yarn** — A yarn with a significantly higher breaking tenacity than others of the same generic category, generally used because of that main characteristic.

NOTE — Currently the minimum limit used for high tenacity Nylon filament yarns is 7.20 gpd (64cN/Tex).

**3.6 Industrial Filament Yarn** — Yarn intended for use in products other than non-protective clothing, household, furnishing, and floor coverings selected principally but not exclusively for their performance and properties as opposed to their aesthetic or decorative characteristics.

**3.7 Intermingled Yarn** — A multifilament yarn in which cohesion is imparted to the constituent filaments usually by passing the yarn through a turbulent air without causing entwining of the filaments and the formation of randomly distributed interlacing points (knots).

NOTE — The knots are not actually the knots tied when two threads are broken but they are the tangle knots created by opening up of filaments and mingling under the influence of air pressure. This creates compact sections in the yarn imparting cohesiveness.

**3.8 Mono Yarn** — It is continuous strand of twist less single or two filament yarn.

**3.9 Mother Yarn** — It is a continuous drawn multifilament yarn without entanglement, where its individual filament can be separated continuously at subsequent downstream process.

**3.10 Shrinkage** — The decrease in length of a test specimen caused by a specified treatment, expressed as a percentage of the length of the untreated test specimen. The lengths are measured before and during or after treatment under specified tensions.

**3.10.1 Boiling Water Shrinkage** — The decrease in length of a test specimen caused by a treatment in boiling water for specified time, expressed as a percentage of the length of the untreated test specimen. The lengths are measured before and after treatment under a specified pretension.

**3.10.2 Hot Water Shrinkage** — The decrease in length of a test specimen caused by a treatment in hot water under as specified conditions of temperature and time, expressed as a percentage of the length of the untreated test specimen. The lengths are measured before and after treatment under a specified pretension. The water temperature to be applied is specified between buyer and seller.

**3.10.3 Hot Air Shrinkage, After Treatment** - The decrease in length of a test specimen caused by a treatment in hot air under specified conditions of temperature and time, expressed as a percentage of the length of the untreated test specimen. The lengths are measured before and after treatment under a specified pretension.

**3.10.4 Hot Air Shrinkage, During Treatment** - The decrease in length of a test specimen caused by a treatment in hot air under specified temperature and time, expressed as a percentage of the length of the untreated test specimen. The lengths are measured before (under a specified pretension) and during treatment (under a specified measuring tension).

**3.11 Oven-dry Mass -** The mass obtained by drying the filament yarn usually after removal of added products such as finish oil, moisture & extractable matters.

**4. IDENTIFICATION AND NOTATION OF POLYAMIDE (NYLON) FILAMENT YARNS**

**4.1 Identification and Notation of Polyamide (Nylon) Yarns –** The Polyamide (Nylon) filament yarns shall be identified by microscopic and dissolution test given in IS 667 and melting point of 219 °C, *Min* when tested as per method specified in Annex B. The yarn may be denoted by the notations given in Table 1.

**TABLE 1 Examples of Notation of Polyamide (Nylon) Filament Yarns**

(*Clause* 4.1)

|  |  |  |
| --- | --- | --- |
| **Sl No.** | **Factors to Identify** | **Examples** |
| **(1)** | **(2)** | **(3)** |
|  | Mono or multifilament, Denier / Filament | 20/1, 30/24, 240/12, 360/12 |
|  | Fibre Cross Section | Circular, Trilobal, Triangular, Slit, Octa lobal etc. |
|  | Filament Count | 30/24 – Filament count is 24 |
|  | Denier per filament | 30/24 DPF – 1.25 |
|  | Overall, Denier | 30/24 - 30 |
|  | Lustre | Full dull (FD), Semi dull (SD)/ Semi dull optically bright (SDOB), Optically bright (OBRT)/Bright (BRT) |
|  | Surface Characteristics | Flat |
|  | UV Resistant | UV |
|  | Fire Retardant | FR |
|  | Anti-microbial | AM |
|  | Dope Dyed | DD (Optical, Black, Navy, Brown etc.) |
|  | Mother Yarn | MNFY |
|  | Mono Yarn | MY |
|  | High Tenacity Yarn | HT |
|  | Highly Oriented Yarn | HOY |
|  | Draw Winder Yarn | DW |

**5. REQUIREMENTS**

**5.1** The Nylon filament yarn (NFY) shall conform to the requirements specified in **Table 2, Table 3 and Table 4** in addition to requirements specified in **4.1**, **5.2, 5.3 and 5.4** (optional).

**Table 2 Requirements for Polyamide (Nylon) Fully Drawn Yarn**

(*Clause* 5.1)

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Sl No.** | **Characteristic** | **Requirements** | | | | | | **Method of Test** | |
| **Mono Filament** | | | **Multifilament** | | |
| **Range** | **Tolerance** | **CV Percent, *Max*** | **Range** | **Tolerance** | **CV Percent, *Max*** |
| **(1)** | **(2)** | **(3)** | **(4)** | **(5)** | **(6)** | **(7)** | **(8)** | **(9)** | |
|  | Cross section, Circular, Triangular, Trilobal, Slit, Hollow, Hexagonal etc. (*see* Fig 1) | As Declared | - | - | As Declared | - | - | Microscope with magnification of minimum 100 X | |
|  | Linear Density (Denier) (*see* Note 1) | As Declared | ± 2 Percent | 1.50 | As Declared | ± 2 Percent | 1.50 | IS 7703 (Part 1) | |
|  | No. of Filaments (As Declared) (*see* Note 2) | Single | - | - | ≤ 60  > 60 | ± 1  ± 2 | - | Visual inspection under microscope | |
|  | Tenacity, gpd, (As declared) | 3.0– <7.2 | ± 0.3 | 5.0 | 3.5 – <7.2 | ± 0.3 | 5.0 | 7703 (Part 2)-Dry Method | |
|  | Elongation at break, Percent, (As Declared) | 45 - 65 | ± 5 Percent | 5.0 | 40 - 65 | ± 5 Percent | 5.0 | IS 7703 (Part 2) – Dry Method | |
|  | Boiling Water Shrinkage, Percent (As Declared) | 9.0 - 13.0 | ± 1 Percent | - | 8.0 - 13.0 | ± 1 Percent |  | Annex G of IS 17261 | |
|  | Spin Finish Oil pick-up, Percent, (As declared) | 0.60 – 2.0 | ± 0.2 | - | 0.60 – 2.0 | ± 0.2 | - | Annex C of IS 17261 | |
|  | Unevenness of Linear Density (Normal), Percent, *Max* (*see* Note 3) | 2.0 | - | - | 2.0 | - | - | IS 7703 (Part 5) | |
|  | Lustre, Titanium Dioxide Content, Percent,(as Declared) |  | | | | | | Annex F of  IS 17261 | |
| Full dull (FD) | Above 1.5 | - | - | Above 1.5 | - | - |
| Semi dull (SD)/SDOB | Above 0.16 and up to 1.5 | - | - | Above 0.16 and up to 1.5 | - | - |
| Bright (BRT)/OBRT | Up to 0.16 | - | - | Up to 0.16 | - | - |
|  | Moisture Regain, Percent, *Max* | 4.50 | - | - | 4.50 | - | - | Annex B of  IS 17261 | |
|  | Water Soluble Matter, Percent, *Max* | 2.5 | - | - | 2.5 | - | - | IS 3456 |  |
|  | Limiting Oxygen Index, *Min* (For fire retardant yarns only) | 30 | - | - | 30 | - | - | IS 13501 |  |
|  | Ultraviolet resistance, UV-B Lamp, 144 h, Percent retained strength, *Min* (For UV resistant yarn only) | 70 | - | - | 70 | - | - | Annex F  IS 16481 |  |
|  | Anti-microbial activity value, *Min* (For anti-microbial yarn only) | 2.0 | - | - | 2.0 | - | - | IS/ISO 20743 |  |
|  | Colour strength with reference to standard yarn, percent (For dope dyed yarns only) (*see* NOTE 4) | 100 | - | ±5 | 100 | - | ±5 | Annex E of IS 17261 |  |
|  | Colour difference with reference to standard yarn, measured as ΔE, *Max* (for dope dyed yarns only) (*see* NOTE 4) | 1.5 | - | - | 1.5 | - | - | Annex E of IS 17261 |  |
|  | Colour Fastness to Light (for Dope Dyed Yarns only), *Min* | 5 | - | - | 5 | - | - | IS/ISO 105-B01 Or IS/ISO 105-B02 |  |
| NOTES   1. For mono yarns made from mother yarn, the tolerance on linear density shall be ± 3 Percent. 2. For mother yarn, the tolerance for the requirement of number of filaments shall be 0. 3. For mono yarns made from mother yarn, the unevenness shall be 4.0 percent, *max.* The requirement of unevenness shall not be applicable for the mono yarn less than 20 Denier. 4. Either of the requirements indicated at xv) and xvi) needs to be complied with. 5. Interlace in nips per meter shall be 10-30 with a tolerance of ± 5 on the declared value when tested by the method prescribed in Annex B of IS 17262, except for mother yarn where interlace can be up to zero. The requirement for Interlace in nips per meter shall not be applicable for mono yarn. | | | | | | | | |  |

**Table 3 Requirements for Polyamide (Nylon) High Tenacity Yarn**

(*Clause* 5.1)

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **SlNo.** | **Characteristic** | **Requirements** | | | | | | **Method of Test** | |
| **Mono Filament** | | | **Multifilament** | | |
| **Range** | **Tolerance** | **CV Percent, *Max*** | **Range** | **Tolerance** | **CV Percent, *Max*** |
| (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | |
|  | Cross section, Circular, Triangular, Trilobal, Slit, Hollow, Hexagonal etc. (*see* Fig 1) | As Declared | - | - | As Declared | - | - | Microscope with magnification of minimum 100 X | |
|  | Linear Density (Denier) (*see* Note 1) | As Declared | ± 2 Percent | 1.50 | As Declared | ± 2 Percent | 1.50 | IS 7703 (Part 1) | |
|  | No. of Filaments (as Declared) (*see* Note 2) | Single | - | - | ≤ 60  > 60 | ± 1  ± 2 | - | Visual inspection under microscope | |
|  | Tenacity, gpd, *Min*, (As declared) | ≥7.2 | ± 0.3 | 5.0 | ≥7.2 | ± 0.3 | 5.0 | 7703 (Part 2)-Dry Method | |
|  | Elongation at break, Percent, (as Declared) | 25 - 35 | ± 5 Percent | 5.0 | 25 - 35 | ± 5 Percent | 5.0 | IS 7703 (Part 2) – Dry Method | |
|  | Hot Air Shrinkage, Percent (as Declared) | 6.0 - 9.0 | ± 2 Percent | - | 6.0 - 9.0 | ± 2 Percent |  | Annex F of IS 17264 | |
|  | Spin Finish Oil pick-up, Percent, (As declared) | 0.60 – 1.5 | ± 0.2 | - | 0.60 – 1.5 | ± 0.2 | - | Annex C of IS 17261 | |
|  | Unevenness of Linear Density (Normal), Percent, *Max* (*see* Note 3) | 2.0 | - | - | 2.0 | - | - | IS 7703 (Part 5) | |
|  | Lustre, Titanium Dioxide Content, Percent,(as Declared) |  | | | | | | Annex F of  IS 17261 | |
| Full dull (FD) | Above 1.5 |  |  | Above 1.5 |  |  |
| Semi dull (SD)/SDOB | Above 0.16 and up to 1.5 |  |  | Above 0.16 and up to 1.5 |  |  |
| Bright (BRT)/OBRT | Up to 0.16 |  |  | Up to 0.16 |  |  |
|  | Moisture Regain, Percent, *Max* | 4.50 | - | - | 4.50 | - | - | Annex B of  IS 17261 | |
|  | Water Soluble Matter, Percent, *Max* | 2.5 | - | - | 2.5 | - | - | IS 3456 |  |
|  | Limiting Oxygen Index, *Min* (For fire retardant yarns only) | 30 | - | - | 30 | - | - | IS 13501 |  |
|  | Ultraviolet resistance, UV-B Lamp, 144 h, Percent retained strength, *Min* (For UV resistant yarn only) | 70 | - | - | 70 | - | - | Annex F  IS 16481 |  |
|  | Anti-microbial activity value, *Min* (For anti-microbial yarn only) | 2.0 | - | - | 2.0 | - | - | IS/ISO 20743 |  |
|  | Colour strength with reference to standard yarn, percent (For dope dyed yarns only) (*see* NOTE 4) | 100 | - | +5 | 100 | - | +5 | Annex E of IS 17261 |  |
|  | Colour difference with reference to standard yarn, measured as ΔE, *Max* (for dope dyed yarns only) (*see* NOTE 4) | 1.5 | - | - | 1.5 | - | - | Annex E of IS 17261 |  |
|  | Colour Fastness to Light (for Dope Dyed Yarns only), *Min* | 6 | - | - | 6 | - | - | IS/ISO 105-B01 Or IS/ISO 105-B02 |  |
| NOTES   1. For mono yarns made from mother yarn, the tolerance on linear density shall be ± 3 Percent. 2. For mother yarn, the tolerance for the requirement of number of filaments shall be 0. 3. For mono yarns made from mother yarn, the unevenness shall be 4.0 percent, *max.* The requirement of unevenness shall not be applicable for the mono yarn less than 20 Denier. 4. Either of the requirements indicated at xv) and xvi) needs to be complied with. | | | | | | | | |  |

**Table 4 Requirements for Polyamide (Nylon) Partially Oriented Yarn**

(*Clause* 5.1)

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Sl No.** | **Characteristic** | **Requirements** | | | | | | **Method of Test, Ref to** | |
| **Mono Filament** | | | **Multifilament** | | |
| **Range** | **Tolerance** | **CV Percent, *Max*** | **Range** | **Tolerance** | **CV Percent, *Max*** |
| **(1)** | **(2)** | **(3)** | **(4)** | **(5)** | **(6)** | **(7)** | **(8)** | **(9)** | |
|  | Cross section, Circular, Triangular, Trilobal, Slit, Hollow, Hexagonal etc. (*see* Fig 1) | As Declared | - | - | As Declared | - | - | Microscope with magnification of minimum 100 X | |
|  | Linear Density, (Denier) | As Declared | ± 2 Percent | 1.50 | As Declared | ± 2 Percent | 1.50 | IS 7703 (Part 1) | |
|  | No. of Filaments as Declared | Single | - | - | ≤ 60  > 60 | ± 1  ± 2 | - | Visual inspection under microscope | |
|  | Tenacity, gpd, (As declared) | 3.5 – 6 | ± 0.3 | 5.0 | 3.5 – 6 | ± 0.3 | 5.0 | 7703 (Part 2)-Dry Method | |
|  | Elongation at break, Percent, (as Declared) (*see* Note 1) | 45 - 65 | ± 5 Percent | 6.0 | 50 - 70 | ± 5 Percent | 6.0 | IS 7703 (Part 2) – Dry Method | |
|  | Boiling Water Shrinkage, Percent, (as Declared) | 8 - 12.0 | ± 1 percent | - | 8.0 - 12.0 | ± 1 percent |  | Annex G of IS 17261 | |
|  | Spin Finish Oil pick-up, Percent | 0.50 - 1.50 | - | - | 0.60 – 1.5 | - | - | Annex C of IS 17261 | |
|  | Unevenness of Linear Density (Normal), Percent, *Max* | 4.0 | - | - | 2.0 | - | - | IS 7703 (Part 5) | |
|  | Lustre, Titanium Dioxide Content, Percent,(as Declared) |  | | | | | | Annex F of  IS 17261 | |
| Full dull (FD) | Above 1.5 | - | - | Above 1.5 | - | - |
| Semi dull (SD)/SDOB | Above 0.16 and up to 1.5 | - | - | Above 0.16 and up to 1.5 | - | - |
| Bright (BRT)/OBRT | Up to 0.16 | - | - | Up to 0.16 | - | - |
|  | Moisture Regain, Percent, *Max* | 4.50 | - | - | 4.50 | - | - | Annex B of  IS 17261 | |
|  | Water Soluble Matter, Percent, *Max* | 2.5 | - | - | 2.5 | - | - | IS 3456 |  |
|  | Limiting Oxygen Index, *Min* (For fire retardant yarns only) | 30 | - | - | 30 | - | - | IS 13501 |  |
|  | Ultraviolet resistance, UV-B Lamp, 144 h, Percent retained strength, *Min* (For UV resistant yarn only) | 70 | - | - | 70 | - | - | Annex F  IS 16481 |  |
|  | Anti-microbial activity value, *Min* (For anti-microbial yarn only) | 2.0 | - | - | 2.0 | - | - | IS/ISO 20743 |  |
|  | Colour strength with reference to standard yarn, percent (For dope dyed yarns only) (*see* NOTE 2) | 100 | - | +5 | 100 | - | +5 | Annex E of IS 17261 |  |
|  | Colour difference with reference to standard yarn, measured as ΔE, *Max* (for dope dyed yarns only) (*see* NOTE 2) | 1.5 | - | - | 1.5 | - | - | Annex E of IS 17261 |  |
|  | Colour Fastness to Light (for Dope Dyed Yarns only), *Min* | 6 | - | - | 6 | - | - | IS/ISO 105-B01 Or IS/ISO 105-B02 |  |
| NOTES   1. For draw winder POY, elongation shall be 35 – 50 percent with a tolerance of ± 5 percent on the declared value when tested by the method prescribed in IS 7703 (Part 2) – Dry Method. 2. Either of the requirements indicated at xv) and xvi) needs to be complied with. 3. Interlace in nips per meter shall be 5-30 with a tolerance of ± 5 on the declared value when tested by the method prescribed in Annex B of IS 17262, except for mother yarn where interlace can be up to zero. The requirement for Interlace in nips per meter shall not be applicable for mono yarn. For Draw winder yarn, interlace in nips per meter shall be 5-70 with a tolerance of ± 5 on the declared value when tested by the method prescribed in Annex B of IS 17262. | | | | | | | | | |

A white and black cat

Description automatically generated**A group of round objects

Description automatically generated with medium confidence**

**Circular Trilobal**

A white triangle shapes on a black background

Description automatically generated

**Triangle Hollow**

**A group of orange objects on a blue background

Description automatically generated**

**Slit cross section**

FIG 1: CROSSECTIONAL VIEW OF NYLON FILAMENT YARN

**5.2 Freedom from Yarn Defects** — The NFY shall be free from the following major defects:

**5.2.1 Dirt/Grease** — No soiling or grease spots shall be allowed. It is acceptable, if the spots can be cleaned off. Air strip yarn to remove dirt on the outside surface, for dirt on the ends, clean with sprayer. If dirt does not come off, reject to off grade.

**5.2.2 Wound in Waste** — None shall be allowed. Strip to correct or reject to rewind.

**5.2.3 Damaged/Bumped** — None shall be allowed. Strip to correct or reject to rewind.

**5.2.4 Finish Oil Contamination** — Dry or regular oil yarn shall not be contaminated with finish oil when viewed under a packing table UV light, unless very slight (not immediately visible). Strip to clean if possible. Otherwise reject to off-grade.

**5.2.5 Broken Filaments** — None shall be allowed.

**5.2.6 Texture Colour/Appearance** — No overly shiny or dull yarn shall be allowed.

**5.2.7 Fluorescent Oil** — If applicable, the package shall have even coverage under UV light.

**5.2.8 Crossed Ends** — Nose end crosses can be allowed unless they appear matted or too numerous to count. Up to 25 mm crosses on the tail end shall be allowed or crosses <6 mm from the tube shall be allowed.

**5.2.9** **Slubs/Loops/Kinks** — None shall be allowed.

**5.2.10 - Proper Wind** — No patterns or bands, no high or falling off edges and no excessive

hard/soft packages shall be allowed.

**5.2.11** **Ridges/Grooves** — No ridges or grooves greater than3 mm high or deep shall be allowed.

**5.2.12 Twist** — For single ply yarns only, Z twist shall rotate clockwise when allowed to relax and S twist Will rotate counter- clockwise.

**5.2.13 Proper Ply** — Count the number of ends if the yarn is three ply or more. Air strip the yarn to correct if possible. Also check the tail.

**5.2.14 Latching** — Plies that separate when winding off package shall not be allowed.

**5.2.15 Tail** — Only one tail package per layer shall be permitted. The minimum tail length shall be one wrap around the tube.

**5.3 Commercial Mass**

The commercial mass shall be obtained by adding mass corresponding to commercial allowance of 6.50 percent to the oven dry mass of the consignment when tested by the methods prescribed in IS 7703 (Part 3) and it shall not be less than the declared commercial mass of the consignment.

**5.4 Additional Requirements for Ecomark (Optional)**

For Ecomark, the product shall also comply with the additional requirements as given in Table 5.

**Table 5 Additional Requirements for ECO-Mark (Optional)**

(*Clause* 5.4)

|  |  |  |  |
| --- | --- | --- | --- |
| **Sl. No.** | **Characteristic** | **Requirement** | **Method of Test** |
| (1) | (2) | (3) | (4) |
|  | Total Free and releasable formaldehyde, mg/kg (ppm), *Max* | 20 | IS 14563 (Parts 1 and 2) |
|  | |  | | --- | | Extractable heavy metals by artificial Acidic sweat/saliva, ppm, *Max*   1. Mercury 2. Chromium III 3. Chromium VI 4. Lead 5. Cadmium 6. Copper 7. Antimony | |  | | 0.1  0.1  Not Detected  0.2  0.1  25  30 | Annex A of IS 15651 |
|  | Pentachlorophenol, ppm, *Max* | 0.5 | Annex B of IS 15651 |
|  | Pesticides, (sum parameter), ppm, *Max* | 1.0 | Annex D of IS 15651 |
|  | Banned Pesticides, ppm, *Max* | Not Detected | Annex D of IS 15651 |
|  | Banned Azo Colourants (arylamines), ppm, *Max* (For dyed yarns only) (sum parameters) | 20 | IS 15570 |

**6 PACKING**

**6.1** The continuous filament nylon yarn (NFY) shall be wound over bobbins in any mass up to 15 kg of yarn per bobbin. All such packages shall be packed in pallets or cartons, properly strapped using polypropylene/ PET straps. Packing materials should be roadworthy/airworthy/sea worthy as agreed to between the buyer and the seller.

**6.2** All wooden pallets used for packing are to be heat treated. All wooden/paper packing should be free from infestation/fungal growth.

NOTE — Container fumigation for domestic supply shall be optional.

**7 MARKING**

**7.1** Each carton/pallet of NFY shall be marked with indelible ink, the following information:

a) Name and description of the material (*see* **4.1**);

b) Commercial mass of each carton/Pallet;

c) Manufacturer’s name, address and trade-mark (if available);

d) Lot/batch/merge number;

e) Month and year of manufacture; and

f) Any other information required by the law in force.

**7.2 BIS Certification Marking**

The product(s) conforming to the requirements of this standard may be certified as per the conformity assessment schemes under the provisions of the *Bureau of Indian Standards Act, 2016* and the Rules and Regulations framed thereunder, and the product(s) may be marked with the Standard Mark.

**7.3** The declared parameters as per Table 2, Table 3 and Table 4 shall be provided in the form of a technical data sheet by either pasting on the package or provided separately linking it with lot/batch/merge no. on request for domestic supplies.

**7.4** Instructions for transportation and handling of the material shall also be provided by the manufacturer for proper care of the product.

**8 SAMPLING AND CRITERIA FOR CONFORMITY**

**8.1 Lot** — The number of packages in all cartons/pellets of NFY and of the same description delivered to a buyer against one dispatch note shall constitute a lot.

**8.2** The number of packages to be selected at random from a lot shall be according to column 3 of Table 6. The packages shall be selected at random from different cartons/pallets to constitute the sample size. To ensure the randomness of selection, IS 4905 may be followed.

**8.3 Number of Tests and Criteria for Conformity**

**8.3.1** The number of packages to be selected for manufacturing defects shall be in accordance with column 5 of Table 6. These packages may be selected from the packages selected for non-destructive tests.

**8.3.2** All the packages selected from the lot shall be visually examined for yarn defects as specified in **5.2**. Four such defects will be considered as one major defect. A package shall be considered defective if it contains any major defect. All the packages selected for destructive tests shall be tested for the requirements as specified in **5.1**, **5.2, 5.3** and **5.4** as applicable.

**8.3.3** The lot shall be declared conforming to the requirements of this standard if the total number of defective packages does not exceed the value given in column 4 of Table 6 for yarn defects or column 6 of Table 6 for other requirements.

**Table 6 Number of Packages of Yarn to be selected**

( *Clauses* 8.2, 8.3.1 *and 8*.3.3 )

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| S. No | Lot Size | Non Destructive Testing | | Destructive Testing | |
| No. of Packages  to be Selected | Acceptance  Number | No. of Packages  to be Selected | Acceptance  Number |
| (1) | (2) | (3) | (4) | (5) | (6) |
|  | Up to 280 | 131 | 1 | 8 | 0 |
|  | 281-500 | 20 | 2 | 8 | 0 |
|  | 501-1200 | 32 | 3 | 13 | 0 |
|  | 1201-3200 | 50 | 5 | 13 | 0 |
|  | 3201-10000 | 80 | 7 | 20 | 1 |
| 1 or lot size when less than 13 | | | | | |

**ANNEX A**

( *Clause* 2 )

**LIST OF REFERRED INDIAN STANDARDS**

|  |  |
| --- | --- |
| *IS No.* | *Title* |
| 667 : 1981 | Methods for identification of textile fibres (*first revision*) (with supplement) |
| 3456 : 1966 | Method for determination of water soluble matter of textile materials |
| 4905 : 2015 | Random sampling and randomization procedures (*first revision*) |
| 6359 : 1971 | Method for conditioning of textiles |
| 7703 | Methods of test for continuous filament polyester and polyamide flat yarn |
| (Part 1) : 1990 | Linear density (*first revision*) |
| (Part 2) : 1990 | Dry and wet tenacity and elongation (*first revision*) |
| (Part 3) : 1991 | Commercial mass (*first revision*) |
| (Part 5) : 1990 | Unevenness percentage |
| 14563 | Textiles — Determination of formaldehyde |
| (Part 1) : 2021 | Free and hydrolysed formaldehyde water extraction method (*first revision*) |
| (Part 2) : 2021  13501 : 1992 | Released formaldehyde vapour absorption method (*first revision*)  Textiles - Determination of flammability by oxygen index |
| 15570 : 2005 | Textiles — Method of test — Detection of banned azo colourants in coloured textiles |
| 15651 : 2006 | Textiles — Requirements for environmental labelling — Specification |
| 16481 : 2016 | Textiles — Synthetic micro-fibres for use in cement based matrix — Specification |
| 17261 : 2022 | Textiles – Polyester Continuous Filament Fully Drawn Flat Yarn *(First Revision*) |
| 17262 : 2022  17264:2022 | Textiles — Polyester partially oriented yarn (POY) — Specification (*first revision*)  Textiles — Polyester Industrial Yarns — Specification *( First Revision )* |
| IS/ISO 105-B01 : 2014 | Textiles — Tests for colour fastness: Part B01 Colour fastness to light: Daylight |
| IS/ISO 105-B02 : 2014 | Textiles — Tests for colour fastness: Part B02 Colour fastness to artificial light: Xenon arc fading lamp test |
| IS/ISO 20743 : 2013 | Textiles — Determination of antibacterial activity of textile product |

**ANNEX B**

**(***Clause* 4.1**)**

**DETERMINATION OF MELTING AND GLASS TRANSITION TEMPERATURES**

**B-1 GENERAL**

This test method covers determination of melting temperatures of nylon polymers by Differential Scanning Calorimetric (DSC). It is applicable to polymers in granular form or to any fabricated shape from which it is possible to cut appropriate specimens. The normal operating temperature range is from the cryogenic region to 600°C. Certain equipment allows the temperature range to be extended.

NOTE **–**This method does not purport to address all the safety concerns, associated with its use. It is the responsibility of the user of this standard to establish appro­priate safety and health practices and determine the applicability of regulatory limitations prior to use.

**B-2 PRINCIPLE**

The test material is heated or cooled at a controlled rate under a specified purge gas at a controlled flow rate and continuously monitoring with a suitable sensing device the difference in heat input between a reference material and a test material due to energy changes in the material. A transition is marked by absorption or release of energy by the specimen resulting in a corresponding endothermic or exothermic peak or baseline shift in the heating or cooling curve.

**NOTES**

**1** Differences in heating or cooling rate as well as the final heating and cooling temperature have an effect on the mea­sured results. Therefore, departure from conditions specified for a given polymer is not permitted.

**2** The presence of impurities is known to affect the transition temperature, particularly if an impurity tends to form solid solutions or to be miscible in the melt phase.

**3** Uncertain radiation losses at temperatures higher than 400 °C have been known to affect the accuracy of results at time.

**4** Since particle size has an effect upon detected transition temperatures, the specimens to be compared shall be approxi­mately the same particle size.

**5** In cases that specimens react with air during the temperature cycle, provision shall be made for running the test under an inert gas blanket to avoid any incorrect measurement. Since some materials degrade near the melting region. care must be used to distinguish between degradation and transition.

**6** Since very small quantities of specimen are used. it is essential to ensure that specimen are homogeneous and representative.

**7** It is possible that toxic or corrosive effluents are released when heating the material which may be harmful to the personnel or to the apparatus.

**B-3 APPARATUS**

**B-3.1 Differential Scanning Colorimeter (DSC)**

**B-3.1.1 DSC Test Chamber** - composed of the following:

**B-3.1.1.1 Furnaces** to provide uniform controlled heating (cooling) of a specimen and reference to a constant temperature or at a constant rate within the applicable cryogenic to 600oC temperature.

**B-3.1.1.2 Temperature Sensor** to provide specimen temperature to an accuracy of ± 0.01°C.

**B-3.1.1.3 Differential Sensor** to detect heat flow difference between the specimen and reference equivalent to I mW

**B-3.1.1.4 Means of sustaining a Test Chamber Environment** - of purge gas; at a purge flow rate of 10 to 50 ± 5 ml/min

NOTE **–** Typically, 99+ percent pure nitrogen, argon or helium arc em­ployed when oxidation in air is a concern. Unless effects of moisture are to be studied, use of dry purge gas is recommended and is essential for operation at sub-ambient temperatures.

**B-3.1.2 Temperature Controller**, ca­pable of executing a specific temperature program by operating the furnace between selected temperature limits at a rate of temperature change of 0.5°C to 20°C/min constant to ± 0.1°C/ min or at an isothermal temperature constant to ± 0.1°C.

**B-3.1.3 Recording Device**, capable of recording and display­ing any fraction of the heat flow signal (DSC curve) including the signal noise as a function of temperature.

**B-3.1.4 Software,** for integrating areas under endothermic valleys or exothermic peaks, or both.

**B-3.1.5 Containers** (pans, crucibles and so forth) that are inert to the specimen and reference materials, and which are of suitable structural shape and integrity to contain the specimen and reference in accordance with the specific requirements of this method.

**B-3.1.6** Cooling capability to hasten cool down from elevated temperatures, to provide constant cooling rates of 0.5°C – 20°C/min to obtain repeatable crystallization temperature to achieve sub-ambient operation or to sustain an isothermal sub-ambient temperature or combination thereof.

**B-3.2 Balance** capable of weighing to ± 10 µg.

**B-4 TEST SPECIMENS**

**B-4.1** Powdered or Granular Specimens-Avoid grinding if the preliminary thermal cycle as outlined in **J-6.1.3** is not performed. Grinding or similar techniques for size reduction often introduce thermal effects because of friction or orienta­tion or both, and thereby change the thermal history of the specimen.

**B-4.2 Molded or Pelleted Specimens** - Cut the specimens with a microtome, razor blade, hypodermic punch, paper punch, or cork borer (size No.2 or 3) or other appropriate means to appropriate size, in thickness or diameter and length that will best fit the specimen container, as in **B-3.1.5** and will approxi­mately meet the desired weight in the subsequent procedure.

**B-4.3 Film or Sheet Specimens** – For films thicker than 40 µm see **B-4.2**. Fur thinner films, cut slivers to fit in the specimen capsules or punch disks, if the circular specimen capsules are used.

**B-4.4** Use any shape or form listed in **B-4.1** to **B-4.3** except when conducting referee tests that shall be performed on films as specified in **B-4.3**.

**B-5 CALIBRATION**

**B-5.1** The purge gas sha11 be used during calibration.

**B-5.2** Calibrate the DSC temperature signal using a heating rate of 10°C/min.

**B-5.3** Calibrate the DSC heat flow signal using heating rate of 10°C/min.

**B-5.4** Some instruments allow for the temperature and heat flow calibration to be performed simultaneously. In such cases, use the same heating rate for this method (10°C/min) and follow the manufacturer's instruction.

**B-6 PROCEDURE**

**B-6.1 Melting Temperature**

**B-6.1.1** The purge gas shall be used during testing. The flow rate of the gas shall be the same as used in the calibration (10°C/min).

**B-6.1.2** Use a specimen mass appropriate for the material to be tested, In most cases, a 5 mg specimen mass is satisfactory. Avoid overloading. Weigh the specimen to an accuracy of

± 10µg.

**B-6.1.2.1** Intimate thermal contact between the pan and specimen is essential for reproducible results. Crimp a metal Cover against the pan with the sample sandwiched in between to ensure good heat transfer. Take care to ensure flat pan bottoms.

**B-6.1.3** Perform and record a preliminary thermal cycle by heating the sample at a rate of 10°C/min. from at least 50°C below to 30°C above the melting temperature to erase previous thermal history.

NOTE – In some cases it is possible that the preliminary thermal cycle will interfere with the transition of interest, causing an incorrect transition or eliminating a transition. Where it has been shown that this effect is present, omit the preliminary thermal cycle.

**B-6.1.4** Hold the temperature for 5 min **(B-6.1.3)**

**B-6.1.5** Cool to at least 50°C below the peak crystallization temperature at a rate of 10°C/min and record the cooling curve.

**B-6.1.6** Hold the temperature for 5 min.

**B-6.1.7** Repeat the heating at a rate of 10°C/min and record the heating curve.

**B-6.1.8** Measure the melting temperatures on the curve (that is melting extrapolated onset temperature, melting extrapolated end temperature and melting peak temperature.

**B-6.2 Glass Transition Temperature**

**B-6.2.1** The purge gas shall be used during testing. The flow rate of the gas shall be the same as used in the calibration.

**B-6.2.2** Use a specimen mass appropriate for the material to be tested. In most cases, a 10 to 20 mg specimen mass is satisfactory. Weigh the specimen to an accuracy of ± 10 µg.

**B-6.2.3** Perform and record a preliminary thermal cycle by heating the sample at a rate of 20°C/min from at least 50°C below to 30°C above the melting temperature to erase previous thermal history.

**B-6.2.4** Hold the temperature for 5 min.

**B-6.2.5** Quench cool to at least 50°C below the transition temperature of interest.

**B-6.2.6** Hold the temperature for 5 min.

**B-6.2.7** Repeat heating at a rate of 20°C/min and record the heating curve until all desired transitions have been completed.

**B-6.2.8** The glass transition is more pronounced at faster heating rates. A heating rate of 20°C/min is used for Tg measurements. The instrument shall be calibrated at this heating rate. If both first and second-order transition (Tm and Tg respectively) arc to be determined in the same run, use procedure **B-6.1** and determine results from the second heating step (**B-6.1.7**).

**B-6.2.9** Measure Tg (extrapolated onset temperature, midpoint temperature and extrapolated end temperature)

**Annex 20**

**(Item 6.1)**

**DRAFT FOR ELASTOMERIC YARN**

DRAFT FOR COMMENTS ONLY Doc: TXD 31 (23953) WC

भारतीयमानक मसौदा

**वस्त्रादि** — **इलास्टोमेरिक धागा** — **दवदिदि**

**BUREAU OF INDIAN STANDARDS**

Draft *Indian Standard*

**TEXTILES** — **ELASTOMERIC YARN — SPECIFICATION**

**ICS 59.080.20**

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BIS or used as Standard 24 December 2023

Man-made Fibres, Cotton and their Products Sectional Committee, TXD 31

**FOREWORD**

(*Formal foreword to be added later*)

Elastomeric yarn refers to a type of textile yarn that is made from elastic materials, typically synthetic polymers like polyurethane. These yarns are designed to have a high degree of elasticity and stretchability. It can be stretched to several times its original length and will return to its original shape when released. This unique property makes it an essential component in the production of stretchable and form-fitting clothing, including sportswear, swimwear, active wear, and lingerie. Elastomeric yarn is often blended with other fibers like cotton, polyester, or nylon to enhance the flexibility and comfort of fabrics while maintaining their shape and durability.

For the purpose of deciding whether a particular requirement of this standard is complied with, the final value, observed or calculated, expressing the result of a test or analysis, shall be rounded off in accordance with IS 2 : 2022 ‘Rules for rounding off numerical values (*revised*)’. The number of significant places retained in the rounded off value should be the same as that of the specified value in this standard.

**1 SCOPE**

This standard prescribes the constructional and performance requirements for elastomeric yarn used for making flexible and comfortable clothing like sportswear, compression garments, and orthopedic braces.

**2 REFERENCES**

The standards listed in Annex A contain provisions which, through reference in this text, constitute provisions of this standard. At the time of publication, the editions indicated were valid. All standards are subject to revision, and parties to agreements based on this standard are encouraged to investigate the possibility of applying the most recent editions of the standards indicated in Annex A.

**3 TERMS AND DEFINITIONS**

For the purposes of this Indian Standard, the following definitions apply.

**3.1 High Elongation Yarn**

A yarn with elasticity more than 400 percent, typically used for its main characteristic.

**3.2 Oven-Dry Mass**

Oven dry mass refers to the weight of a yarn after it has been completely dried in an oven under specific conditions. It is a measure of the solid content or mass of a sample without any moisture or volatile components present.

Note — Major volatile components present in yarn are moisture regain, spin finish oil, oligomers etc.

**3.3 Commercial Allowance**

Commercial Allowance (commercial weight allowance or commercial tolerance) refers to the permissible variation or deviation in weight added to the oven-dry mass of the material for calculating commercial mass.

**3.4 Commercial Mass**

The mass obtained by adding the mass corresponding to the commercial allowance to the ovendry mass.

Note — Oven dry mass + Commercial allowance = Commercial mass.

**3.5 Cross Section**

A cross section of yarn refers to the shape and structure of the yarn when cut perpendicular to its length. It provides information about the yarn's physical characteristics, such as its size, shape, and composition.

Note — The cross section of yarn can vary significantly depending on the type of fiber used, the spinning method employed, and the intended application of the yarn. Common cross-sectional shapes include:

When observed under a magnifying microscope with appropriate power, the following figures depict the most prevalent cross-sectional views.

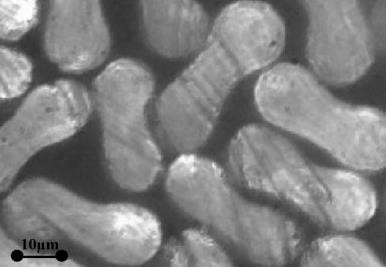
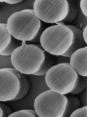
 

FIG 1. DOG BONE/CAPSULE/OVAL FIG 2. CIRCULAR

**3.7 Denier**

Denier is a unit of linear density primarily used for synthetic fibers. It represents the mass in grams per 9000 meters of length. Higher denier values indicate thicker or heavier fibers.

**3.8 Yarn Tenacity**

Yarn tenacity refers to the measurement of the strength and durability of a yarn. It is a physical property that determines the yarn's ability to withstand tension or pulling withoutbreaking or losing its integrity. Tenacity is typically expressed in terms of force per unit linear density, such as grams per denier (g/d) or grams per tex (g/tex) or centi Newton per tex (cN/dtex).

**3.9 Yarn Elongation**

Yarn elongation refers to the ability of a yarn to stretch or extend under tensile (pulling) force before reaching its breaking point.

**3.10 Moisture Regain**

Yarn moisture regain refers to the ability of a yarn to absorb and retain moisture from its surroundings. It is a measure of the yarn's capacity to attract and hold moisture, typically expressed as a percentage.

**4. REQUIREMENTS FOR ELASTOMERIC YARN**

**4.1 Physical Requirements**

The elastomeric yarn shall meet the physical requirements as specified in Table 1. Number of filaments in the elastomeric yarn shall be declared by the manufacturer, and it shall not be less than the declared value, when viewed under 100× microscope.

**4.2 Chemical Requirements**

The elastomeric yarn shall meet the chemical requirement as specified in Table 2.

**4.3 Colour Fastness Requirements**

The dyed elastomeric yarns shall meet the color fastness requirements specified in Table 3.

**Table 1 Physical Requirements of Elastomeric Yarn**

(*Clause* 4.1)

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Sl. No.** | **Linear Density, Denier (As declared)** | | **Elongation,**  **percent,**  ***Min*** | **Tenacity,**  **g/den,**  ***Min*** | **Elastic**  **Recovery,**  **Percent,**  ***Min*** | **Modulus at 300% elongations (As declared), gram-force** | | **Boiling**  **Water**  **Shrinkage,**  **Percent** |
|  | **Range** | **Tolerance** |  |  |  | **Range** | **Tolerance** | **Range** |
| **(1)** | **(2)** | **(3)** | **(4)** | **(5)** | **(6)** | **(7)** | **(8)** | **(9)** |
| i) | ≤30 | ± 1.4 | 400 | 1.0 | 92 | 5.5 -14 | ± 2.5 | 5 - 9 |
| ii) | > 30 - 70 | ± 2.0 | 450 | 1.0 | 92 | 9.0 - 24 | ± 3.0 | 5 - 9 |
| iii) | > 70- 140 | ± 5.0 | 450 | 0.9 | 92 | 14 - 44 | ± 5.0 | 5 - 9 |
| iv) | > 140 - 210 | ± 6.0 | 500 | 0.60 | 92 | 35 - 55 | ± 7.0 | 5 - 9 |
| v) | > 210 - 280 | ± 10.0 | 500 | 0.60 | 92 | 46 - 60 | ± 10.0 | 2.5 - 6.5 |
| vi) | > 280 - 420 | ± 15.0 | 500 | 0.60 | 92 | 50 -85 | ± 15.0 | 2.5 - 6.5 |
| vii) | > 420- 620 | ± 25.0 | 500 | 0.60 | 92 | 70 -115 | ± 20.0 | 2 - 6 |
| viii) | > 620 - 840 | ± 40.0 | 550 | 0.60 | 92 | 90 -140 | ± 25.0 | 2 - 6 |
| ix) | > 840 - 1120 | ± 40.0 | 550 | 0.60 | 92 | 110 -165 | ± 25.0 | 2 - 6 |
| x) | >1120 | ± 40.0 | 550 | 0.60 | 92 | > 135 | ± 25.0 | 2 - 6 |
| Method of Test | Annex B | | Annex C | Annex C | Annex C | IS 16388 | | Annex F |

**Table 2 Chemical Requirements of Elastomeric Yarn**

(*Clause* 4.2)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Sl No.** | **Characteristic** | **Requirement(s)** | **Tolerance** | **Method of**  **test** |
| (1) | (2) | (3) | (4) | (5) |
| i) | Moisture Regain, Percent, *Max* | 1.3 | – | Annex D |
| ii) | Water soluble matter, Percent, *Max* | 2.5 | – | IS 3456 |
| iii) | Antimicrobial activity value, *Min* (Antimicrobial Yarn Only) | 2.0 | – | IS/ISO 20743 |
| iv) | Ultraviolet resistance, Percent retained strength, *Min* (UV Resistance Yarn Only) | 85 | – | IS 13162  (Part 2) |
| v) | Prosperous content, Percent, *Min* (For fire retardant yarns only) | 0.65 | – | Annex D of IS 17261 |
| vi) | Colour strength with reference to standard yarn, Percent (For dope dyed yarns only) | 100 | ± 4 | Annex H |
| vii) | Colour difference with reference to standard yarn, Percent, Measured as Δ E, *Max* (For dope dyed yarns only) | 1.5 | – | Annex H |
| viii) | Yarn Dissolution, Percent | 97 – 100 | – | Annex G |
| ix) | Finish oil pick up – Percent (As declared) ( *see note* )     1. Up to 30 D 2. 30 – 70 D 3. 70 – 140 D 4. 140 – 210 D 5. 210 – 280 D 6. 280 – 420 D 7. 420 – 620 D 8. 620 – 840 D 9. 840 – 1120 D 10. >1120 D | 3.0 – 5.5  2.5 – 5.0  2.5 – 4.5  2.0 – 4.0  2.0 – 4.0  1– 3.5  1– 3.5  1– 3.5  1– 3.5  1– 3.5 | ± 1.0  ± 1.0  ± 1.0  ± 1.0  ± 0.6  ± 0.6  ± 0.6  ± 0.6  ± 0.6  ± 0.6 | Annex E |
| NOTE – The requirement of finish oil pick up shall be applicable only when finish oil application is declared by the manufacturer. | | | | |

**Table 3 Colour fastness Requirements of Elastomeric Yarn**

(*Clause* 4.3)

|  |  |  |  |
| --- | --- | --- | --- |
| **Sl No.** | **Colour Fastness Rating** | **Requirement** | **Method of test** |
| (1) | (2) | (3) | (4) |
| i) | Light Change in Colour | 4 or better | IS/ISO 105-B01 |
| ii) | Washing, Test 2     1. Change in colour. 2. Staining | 4 or better  4 or better | IS/ISO 105-C10 |
| iii) | Rubbing   1. Dry 2. Wet | 4 or better  4 or better | IS/ISO 105-X12 |
| iv) | Perspiration (Acid and Alkaline)     1. Change in colour 2. Staining | 4 or better  4 or better | IS/ISO 105-E04 |
| v) | Chlorinated water | 4 or better | IS/ISO 105-E03 |
| vi) | Sea water | 4 or better | IS/ISO 105-E02 |

**4.4 Freedom from Defects**

The yarn packages must be free from the following defects.

**4.4.1** *Broken Filaments*

There shall not be more than one broken filament per 100 kg of yarn.

**4.4.2** *Crossed Ends*

Occasional nose end crosses shall be allowed unless they appear tangled or too numerous to count. Up to two crosses of 25 mm on the tail end shall be allowed, or crosses < 6 mm from the tube may be permitted (Only applicable for diaper application).

**4.4.3** *Damaged/Bumped*

Only slight impressions up to a depth of 5 mm shall be allowed.

**4.4.4** *Dirt/Grease*

No staining or grease spots shall be permitted. Defects with slight grey/yellow stains shall not exceed 5 per 100 kg.

**4.4.5** *Improper Wind*

Patterns or bands, uneven or falling-off edges, and excessively hard or soft packages shall not be allowed.

**4.4.6** *Inadequate Tube Clearance*

For two rolls when placed adjacent to each other, the elastomeric yarn shall not touch each other.

**4.4.7** *Indistinct Tail*

The tail end coils shall be distinguishable, and the minimum length of the tail shall be one wrap around the tube (It is applicable for diaper application only). Missing, bunched, or multiple tails shall not be considered off-grade.

**4.4.8** *Oversize or Small Packages*

Suspect packages shall be checked using an appropriate gauge, scale, diameter tape, or balance. All bobbins of equal length for respective products shall be graded and packed separately.

Unequal length bobbins shall be graded based on their weights and packed accordingly. Bobbins with different sizes in terms of length and weight shall not be packed together. The permissible weight range is ± 15 gram for package size up to 600 grams and ± 30 grams for package size up to 1 kgs and ± 90 grams for package size up to 3 kgs.

**4.4.9** *Tube Defects*

Crushed, nicked, or cut tubes, especially at the nose end, shall not be permitted.

**4.4.10** *Uneven Fluorescent Oil*

If applicable, packages with uneven coverage under UV light shall not be allowed.

**4.4.11** *Wound in Waste*

If possible, yarn wound in waste shall be accepted and corrected by stripping.

**4.4.12** *Ultra Violet light illumination*

The elastomeric yarn coated with optical brightener, as agreed to between the buyer and the seller, every package shall illuminate under UV light.

**4.5 Commercial Mass**

The commercial mass is determined by adding a mass corresponding to a commercial allowance of to the oven-dry mass of the consignment, as tested by the methods prescribed in IS 7703 (Part 3). The commercial mass shall not be less than the declared commercial mass of the consignment.

**4.6 Additional requirements for Ecomark (Optional)**

For Ecomark, the product shall also comply with the requirements given in Table 4.

**Table 4 Requirements for Ecomark**

(*Clause* 4.6)

|  |  |  |  |
| --- | --- | --- | --- |
| **Sl No.** | **Characteristic** | **Requirement** | **Method of**  **test** |
| (1) | (2) | (3) | (4) |
| i) | Free and Releasable Formaldehyde, mg / Kg (ppm), *Max* | 20 | IS 14563 (Part 1) |
| ii) | Extractable heavy metals, ppm, *Max* a) Antimony ( Sb )   1. Arsenic (As ) 2. Lead ( Pb) 3. Cadmium ( Cd ) 4. Mercury ( Hg ) 5. Chromium Total 6. Cobalt (Co) 7. Copper (Cu) 8. Nickel (Ni) | 5  0.2  0.2  0.1  0.02  0.1  1  25  1 | Annex A of IS  15651 |
| iii) | Pentachlorophenol (PCP), ppm, *Max* | 0.05 | Annex B of IS 15651 |
| vii) | Pesticides (sum parameter), ppm, *Max* | 0.5 | Annex D of IS 15651 |
| viii) | Banned pesticides, ppm, *Max* | Nil | Annex D of IS 15651 |
| ix) | *p*H of aqueous extract, *Max* | 4.0-7.5 | IS 1390 |
| x) | Banned arylamines azo dyes, mg/kg, *Max* | 20 | IS 15570 |

**5. PACKING**

**5.1** The elastomeric yarn shall be wound over bobbins in any mass up to 5 kg per bobbin. Every package shall have compulsory visible knot for easy end finding. All such packages shall be packed in cartons and properly strapped using polypropylene/PET/ Nylon straps.

**5.2** Packing materials shall be roadworthy/airworthy/sea worthy as agreed to between the buyer and the seller.

**5.3** Paper packaging shall be devoid of infestation and fungal growth.

**6 MARKING**

**6.1** Each carton/pallet of elastomeric yarn must be marked with indelible ink, containing the following information:

i) Name and description of the material;

ii) Net Weight / Gross weight of each carton/pallet;

iii) Manufacturer's name, address, and trademark (if available);

iv) Lot/batch/merge number;

v) Month and year of manufacture; and

vi) Any other information required by the applicable law.

**6.1.1** *BIS Certification Marking*

The product(s) conforming to the requirements of this standard may be certified as per the conformity assessment schemes under the provisions of the *Bureau of Indian Standards Act*, 2016, and the Rules and Regulations framed thereunder. The product(s) may be marked with the Standard Mark.

**6.2** Instructions for transportation and handling of the material shall also be provided by the manufacturer to ensure proper care of the product.

**7 SAMPLING**

**7.1 Lot**

The number of packages in all cartons/pallets of elastomeric yarn of the same description delivered to a buyer against one dispatch note shall constitute a lot.

**7.2** **Sample Size**

Sample size refers to the number of individual units, selected from a lot for the purpose of conducting analysis.

**7.3** The number of packages to be selected randomly from a lot shall be according to Table 5. The packages should be selected randomly from different cartons/pallets to constitute the sample size. To ensure the randomness of selection, IS 4905 may be followed.

**Table 5 Number of packages of yarn to be selected**

(*Clause* 7.3 and 8.2)

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Sl No.** | **Lot size** | **Non - Destructive Testing** | | **Destructive Testing** | |
| **Number of Packages to be selected** | **Acceptance Number** | **Number of Packages to be selected** | **Acceptance Number** |
| i) | Up to 280  (*see* *Note* 1) | 13 | 1 | 8 | 0 |
| ii) | 281-500 | 20 | 2 | 8 | 0 |
| iii) | 501-1200 | 32 | 3 | 13 | 0 |
| iv) | 1201-3200 | 50 | 5 | 13 | 0 |
| v) | 3201-10000 | 80 | 7 | 20 | 1 |
| Note   1. Number of sample packets selected is 1 if lot size is less than 13. 2. Acceptance number is the maximum number of defects permissible per sample size. | | | |  | |

**8 CRITERIA FOR CONFORMITY**

**8.1** All the packages selected from the lot must be visually examined for yarn defects as specified in 4.4 (Defects in filament yarn). Four such defects will be considered as one major defect. A package shall be considered defective if it contains any major defect. All the packages selected for destructive tests shall be tested for the requirements given in Table 1, Table 2, Table 3 and Table 4 as applicable.

**8.2** The lot shall be declared conforming to the requirements of this standard if the total number of defective packages does not exceed the acceptance value given in Table 5.

Note — Acceptance number is the maximum number of defects permissible per sample size.

**ANNEX A**

(*Clause* 2)

**LIST OF REFERRED INDIAN STANDARDS**

|  |  |
| --- | --- |
| *IS No.* | *Tittle* |
| 1390 : 2022 | Textiles — Determination of pH of aqueous extract (third revision) |
| 3456 : 1966 | Method for determination of water-soluble matter of textile materials |
| 4905: 2015 | Random sampling and randomization procedures (first revision) |
| 13162 (Part 2) : 1991 | Geotextiles — Methods of test Part 2 Determination of resistance to exposure of ultraviolet light and water (Xenon-arc type apparatus) |
| 14563 (Part 1) : 2021 | Textiles — Determination of formaldehyde: Part 1 Free and hydrolysed formaldehyde water extraction method (first revision) |
| 15570 : 2005 | Method of test of banned azo colorants in colored textiles. |
| 15651 : 2006 | Textiles — Requirements for environmental labelling —  Specification |
| 16388 : 2023 | Conveyor Belts — Determination of Elastic and Permanent Elongation and Calculation of Elastic Modulus |
| 17261 : 2022 | Textiles — Polyester continuous filament fully drawn yarns — Specification (first revision) |
| IS/ISO 20743 : 2021 | Textiles — Determination of Antibacterial Activity of Textile Products (first revision) |
| IS/ISO 105-B01 : 2014 | Textiles — Tests for colour fastness: Part B01 Colour fastness to light: Daylight |
| IS/ISO 105-C10 : 2006 | Textiles — Tests for colour fastness: Part C10 Colour fastness to washing with soap or soap and soda |
| IS/ISO 105-E02 : 2013 | Textile — Tests for colour fastness: Part E02 Colour fastness to sea water |
| IS/ISO 105-E03 : 2013 | Textile — Tests for colour fastness: Part E03 Colour fastness to chlorinated water (Swimming-pool water) |
| IS/ISO 105-E04 : 2013 | Textiles — Tests for Colour Fastness: Part E04 Colour Fastness to Perspiration |
| IS/ISO 105-X12 : 2013 | Textiles — Tests for colour fastness: Part X12 Colour fastness to rubbing (first revision) |

**ANNEX B**

*(Table 1)*

**DETERMINATION OF THE LINEAR DENSITY**

**B-1 PRINCIPLE**

The linear density of the yarn is estimated by weighing a known length of yarn, in its relaxed state. A measured, pe-tensioned defined length of conditioned fiber is weighed.

**B-2 APPARATUS**

**B-2.1 Calibrated Ruler of length 1 m**

**B-2.2 Pan Balance with an accuracy of 0.1 mg (Weigh Scale)**

**B-2.4 2 m Measuring Tape**

**B-2.5 Pre-Tension Weights depending on the expected denier.**

**B-2.6 Scissors/cutting device**

**B-3 PROCEDURE**

**B-3.1** Yarn possibly subject to damage shall first be removed by winding off the outer layers of the packages.

Note — The samples shall be unwound from each package under the lowest possible tension, care shall be taken to avoid any external conditions which might stretch the yarn (friction, draughts, etc.).

**B-3.2** 5 Samples of about 1300 mm length shall be cut with scissors at irregular intervals of 2 m at least from the yarn packages.

**B-3.3** These 5 samples shall be laid out for relaxation, without any stress, in the standard atmosphere for a minimum of 4 hours. The samples shall be conditioned to moisture equilibrium in standard atmosphere of 65 ± 2 percent relative humidity and 27 ± 2°C temperature.

**B-3.4** A specimen of length 1000 mm ± 1 mm shall be cut using the cutting device from each of the 5 samples, as shown in figue 3.4.1 whilst the yarn is held under a pretension of (0.01 ± 0.001) cN/tex. The choice of the pretension to be agreed by the parties.

**B-3.5** Weigh the 5 specimen using the pan balance and record the mass in grams.

**B-4 CALCULATION**

For each test specimen collect the length and the mass.

Linear density (Denier) = M × 9

M = the mass of the conditioned test specimen (in grams)

1000

mm



Pre Tension load = Denier in Mgs

Yarn

Holder

Mark line 1

Mark line 2

*Figure No 3.4.1*

**ANNEX C**

(*Table* 1)

**METHOD FOR TENACITY AND ELONGATION**

**C-1 PRINCIPLE**

A test specimen of yarn is mounted in the clamps or in special specimen holders of a tensile testing machine and stretched at a constant rate of extension until rupture.

**C-2 APPARATUS**

**C-2.1 Tensile Testing machine**

**C-2.1.1** The instrument used shall be a constant rate of extension dynamometer (CRE Type: Machine)

**C-2.1.2** The instrument shall be equipped with:

1. An electronic force-measuring device,
2. An autographic recorder giving the force-elongation curve, or a data collecting system,
3. Specimen holder or clamps suitable for elastane yarns as described in C-2.2,
4. A dynamometric device permitting the choice of gauge lengths and the rate of elongations as specified in the procedure.

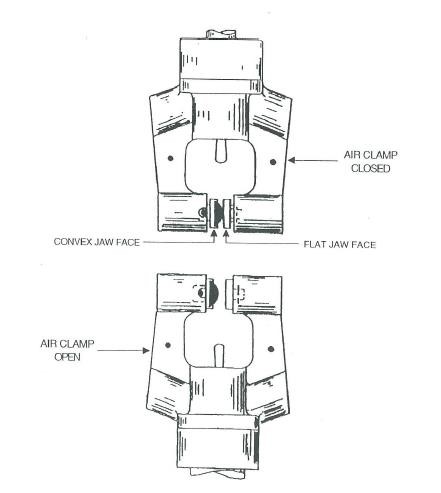
**C-2.1.3** The instrument shall meet the following requirements of accuracy and repeatability:

1. The maximum difference allowed between the actual force and the recorded force shall be less than 1 percent of the actual force,
2. The maximum difference allowed between the actual extension and recorded extension shall be less than 1.0 mm,
3. The maximum difference allowed due to the variable return of the moving clamp to its start position during successive tests shall be 0.25 mm.
4. The constant rate of displacement of the moving clamp shall have a variation of less than 4 percent.
5. The data acquisition rate of the data collecting system shall be sufficiently high to meet the specified requirement:
6. When a recording mechanism is used, full-scale pen response time shall be less than 2 s in either direction.

**C-2.2 Specimen holder or clamps.**

**C-2.2.1** Clamping assembly, pneumatically operated clamps with one jaw having a flat chrome or steel face nominally 25 × 12.5 mm and an opposite jaw having a convex (approximately 7.1 mm radius) acrylic face by 12.5 mm in width.

**C-2.2.2** Clamping assembly, pneumatically operated clamps with one jaw having a flat acrylic face nominally 25 mm × 12.5 mm and an opposite jaw having a convex (approximately 7.1 mm radius) steel or chrome face by 12.5 mm in width.



**C-2.3 Ordinary measuring ruler.**

**C-2.4 Laboratory tweezers**.

**C-2.5 Scissors.**

**C-2.6** **Velvet board.**

**C-3 TEST PROCEDURE**

**C-3.1 Operating conditions.**

**C-3.1.1** *Pretension*

Use a pretension of (0.01 ± 0.001) cN/tex. The choice of the pretension to be agreed by the parties.

**C-3.1.2** *Gauge length*

Use a gauge length of (50 ± 1.0) mm.

**C-3.1.3** *Force scale*

If a force scale has to be chosen, it shall be selected so that the breaking force shall fall in the range from 20 % to 90 % of the full scale.

**C-3.1.4** *Elongation scale*

If an elongation scale has to be chosen, it should be selected so that the breaking elongation shall fall in the range from 20 % to 90 % of the full scale.

**C-3.1.5** *Jaw alignment*

Before clamping the test specimen check that the jaws are correctly aligned and parallel, so that the force applied causes no angular deviation.

**C-3.1.6** *Testing speed*

Testing speed shall be 500 mm/min.

**C-4 PROCEDURE**

**C-4.1** The samples of sufficient individual lengths shall be unwound from each package under the lowest possible tension, care being taken to avoid any external conditions which might stretch the yarn (friction, draughts, etc). Take the specimen of bare elastane yarn ends of approximately 100 mm length.

**C-4.2** The samples shall be laid out for relaxation without any stress and conditioned in the standard atmosphere for testing for a minimum of 4 hours. The samples shall be conditioned to moisture equilibrium in standard atmosphere of 65 ± 2 percent relative humidity and 27 ± 2°C temperature.

Note — The conditioning may also be done at 20 ± 2°C temperature and 65 ± 2 percent relative humidity if agreed between the buyer and the seller

**C-4.3** Place the yarn ends on a velvet board. The individual test specimens are selected at random from the board.

**C-4.4** Thread one end of the test specimen between the jaws of the upper clamp and close it. Place the end of the test specimen through the jaws of the lower clamp and fix a specified pretension mass to the unclamped end. Close the lower clamp.

**C-4.5** Start the tensile testing machine and operate it under the specified conditions.

Note – The operator must ascertain during the test that the clamped yarn length is not spuriously increased by slippage of the bare elastane yarn in the clamps.

**C-5 DATA TO BE COLLECTED**

**C-5.1** According to the requirements, collect the data of Breaking force (cN or gf) per elastane yarn end and Elongation (%) at break.

**C-6 CALCULATION OF TEST RESULTS.**

For all measured parameters calculate the mean value of the 5 specimens from each package. Minimum 6 packages to be considered.

**C-6.1 Breaking Load**

Calculate the mean breaking load in newtons from all the observed values expressing it to three significant figures.

**C-6.2 Elongation at Break**

Calculate the mean elongation at break in percent from all the observed values expressing it to two significant figures.

**C-6.3 Tenacity**

Calculate the tenacity by the following formula:

Tenacity in cN/tex = Mean breaking load in centinewtons

Mean linear density in tex

Tenacity in gf / Denier = Mean breaking load in gram force

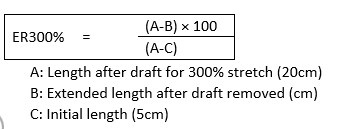
Mean linear density in deneir

**C**

**-**

**6.4**

**Elastic recovery**



**ANNEX D**

*(Table 2)*

**METHOD FOR DETERMINATION OF MOISTURE REGAIN**

**D-1 PRINCIPLE**

The specimen is conditioned in the standard atmosphere, weighed, oven dried, weighed again and the moisture content is calculated. From this, the moisture regain is calculated and expressed as a percentage.

**D-2 APPARATUS**

**D-2.1 Precision Balance**

**D-2.2 Stainless Steel Vessels**

**D-2.3 Forceps**

**D-2.4 Hot Air Oven — Capable of maintaining at 110 ± 5°C.**

**D-2.5 Wrap Reel**

**D-3 CONDITIONING OF SAMPLES**

The samples shall be allowed to condition at temperature of 27 ± 2°C and a relative humidity of 65 ± 2 percent before carrying out the tests. All tests shall also be performed under standard conditions (*see* IS 6359).

Note — The conditioning may also be done at 20 ± 2°C temperature and 65 ± 2 percent relative humidity if agreed between the buyer and the seller.

**D-4 PROCEDURE**

Weigh the yarn skein before the test (W1) and dry in the oven at a temperature of 110 ± 5°C. After thirty minutes weigh the sample and record its mass. Subsequently carry out the weighing every twenty minutes until a constant mass (W2) is obtained. Calculate the moisture content using the relations:

W = W1 – W2  ………………………………………. (1)

Moisture content, percent = 100 × *W*

*W1*

**D-5 CALCULATION**

Calculate the moisture regain by the following formula:

Moisture regain, percent = Moisture content, (percent) × 100

100 – Moisture content, (percent)

**ANNEX E**

*(Table 2)*

**METHOD OF DETERMINATION OF FINISH OIL PICK UP**

**E-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.

**E-2 APPARATUS**

**E-2.1 Precision Balance**

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

**E-2.3 Forceps, Tongs**

**E-2.4 Drying Oven**

**E-2.5 Plastic Tray/Bowls**

**E-3 PROCEDURE**

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

**E-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 minutes.

**E-3.3** After 15 minutes 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 minutes for evaporation of excess petroleum ether.

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

**E-3.5** Keep the yarns for cooling at room temperature for 10 to 15 minutes.

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

**E-4 CALCULATION**

Calculate the percent oil extraction by the formula:

Percent oil extraction = *A* – B ×100

*A*

NOTE — For quick and direct comparative estimation of finish oil pick up, Nuclear Magnetic Resonance (NMR) apparatus may be used. Therefore, spin finish can be observed and quantitatively analyzed by routine TD-NMR method.

**ANNEX F**

*(Table 1)*

**METHOD OF BOILING WATER SHRINKGE TEST**

**F-1 PRINCIPLE**

The hot water shrinkage test is commonly used to evaluate the thermal stability and shrinkage properties of textile yarns. It provides important information about how a yarn will behave when exposed to elevated temperatures, which is particularly important in applications where heat resistance is essential.

**F-2 EQUIPMENT AND MATERIALS**

**F-2.1** 30cm Steel Scale

**F-2.2** Measuring board

**F-2.3** Pretension load

**F-2.4** Heating plate

**F-2.5** Marker

**F-2.6** Beaker

**F-2.7** Cotton Cloth

**F-3 PROCEDURE**

**F-3.1** Remove the doff band in case of fresh spool from the surface of the bobbin, and take out yarn around 30 cm from the bobbin.

**F-3.2** Fix one end of the yarn on measuring board with Adhesive tape.

**F-3.3** Select pretension load equal to denier in mgs. And hang with free end of yarn.

For Example, 70 D pretension weight is 70 x 1 / 1000 = 70 Mgs.

|  |  |
| --- | --- |
| theoretical testing denier × 1 | Mg |
| 1000 |

.

**F-3.4** Mark two points at a distance of 26cm (A) on the experimental yarn

**F-3.5** Take out the yarn and wrap it in cotton cloth piece according to given pictorial form.

26

cm



Pre Tension load = Denier in Mgs

Clamp Holder

Mark line 1

Mark line 2

**F-3.6** Fix a clamp to the cloth and soak it in the boiling water for 30min.

**F-3.7** After 30 min, take the cloth out from boiling water and fix the spandex yarn on board with help of adhesive tape and leave for 10 min to dry.

**F-3.8** Add similar pretension load again to the free end of yarn, and measure the distance between the two marks (B) of yarn accurate to 0.1mm.

**F-4** **CALCUALTION**

|  |  |
| --- | --- |
| Shrinkage % = | (A - B) × 100 |
| A |

A: length of the experimental yarn before boiling (cm)

B: length of the experimental yarn after boiling (cm)

**ANNEX G**

(*Table* 2)

**METHOD OF YARN DISSOLUTION TEST**

**G-1 PRINCIPLE**

The yarn dissolution test principle involves assessing the ability of a yarn material to dissolve or disintegrate when exposed to a specific solvent. This test is particularly relevant for assessing the solubility or disintegration behaviour of yarns in various applications such as textiles, medical devices, and other industrial products

**G-2 EQUIPMENT AND MATERIALS**

**G-2.1** Elastomer fibers/ yarn.

**G-2.2** N,N-Dimethyl acetamide (DMAc) – Solvent

**G-2.3** Stirring equipment (magnetic stirrer or mechanical mixer)

**G-2.4** Safety equipment (gloves, lab coat, safety goggles)

**G-2.5** Weighing scale

**G-2.6** Graduated cylinder or pipette

**G-3 PROCEDURE**

**G-3.1** Weigh 2 gm of yarn using a calibrated weighing scale with an accuracy of 1mg.

**G-3.2** Ensure that the vessel is clean and dry. Measure 100 g of DMAc using a graduated cylinder or pipette.

**G-3.3** Add the weighed yarn into the vessel containing DMAc. Start stirring using a magnetic stirrer or a mechanical mixer at a low to moderate speed.

**G-3.4** Ensure that the temperature of the solution is at 40 °C. Monitor the temperature closely to prevent overheating and ensure the DMAc remains within its safe handling temperature range.

**G-3.5** Continue stirring the mixture for a predetermined period of 4 Hrs.

Note – Periodically check the mixture for any signs of incomplete dissolution, such as visible clumps or undissolved particles.

**G-3.6** Allow the solution to cool down if it was heated during the process. Filter the solution to remove any undissolved particles or impurities and weigh the residue.

**G-4 CALCULATION**

Calculate the percentage of yarn dissolution using the formula:

Percent Dissolution = (Initial Weight of YarnWeight of Residue) × 100

(Initial Weight of Yarn)

**ANNEX H**

*(Table 3)*

**DETERMINATION OF COLOUR STRENGTH AND COLOUR DIFFERENCE IN DOPE DYED YARNS**

**H-1 PRINCIPLE**

A choma meter / photo spectrometer is used to comprehend the colour difference that is not generally possible to detect by a human eye. Moreover, it gives quantitative analysis of colour difference in terms of either ΔE or colour strength. It is designed for physical sample analysis via full spectrum colour measurement.

NOTES — Two methods have been specified under this Annex. For finer yarn counts, Method 2 is preferred over method 1 for testing of yarn

**METHOD 1**

**H-2 EQUIPMENTS AND MATERIALS**

**H-2.1 Card Winding Machine**

This is used to prepare card samples from the yarn package. The machine can wind multiple yarns at the same time with a suitable traverse mechanism. It is possible to use one long card sample having multiple samples wound adjacent to each other. Some machines will have one sample per card.

**H-2.2 Knitting Machine**

Single end knitting machine is used for knit-hose preparation. The continuous knit hose thus prepared can be used for visual inspection of colour difference as well.

**H-2.3 Colour Spectrophotometer**

A standard colour spectrophotometer with computerized measurement and calculation system shall be used for assessment of colour difference or colour strength. The instrument gives spectral analysis of a sample’s reflectance, absorbance or transmittance properties.

**H-3 SAMPLE PREPARATION**

**H-3.1** The sample is wound on a card made of aluminum or cardboard evenly with the layers lying parallel to each other. Care should be taken such that no surface the base material is visible. The number of layers is dependent on the denier of the yarn being wound. Typically, about 5-8 layers are wound for getting a densely wound sample.

**H-3.2** Apart from the card sample as mentioned in H-4.1, it is also possible to test the samples in knit hose form. Single yarn knitting machine is used for sample preparation. As knot hose produced from single end machine may not be dense, it is preferred to fold the knit hose in 4 layers while checking on a spectrophotometer.

**H-4 MEASUREMENT OF COLOUR STRENGTH AND COLOUR DIFFERENCE**

**H-4.1 Calibration of the Instrument**

Calibrate the instrument as per the standard operating Procedure given by the supplier. Generally, it is calibrated against the perfectly white tile and a perfectly black tile. This exercise needs to be done every time the spectrophotometer is switched on and/or at intervals suggested by the supplier.

**H-4.2 Procedure**

The assessment of colour strength and/or colour difference shall be done under D-65 light source with a 10º observer mode. Place the sample (either card or folded knit hose) in the specimen section. Start the test and take 2-3 flashes per sample and note down the displayed colour strength and/or colour difference. Repeat the tests for all samples.

**H-5 TEST REPORT**

Report colour difference or colour strength as required.

**METHOD 2**

**H-6 EQUIPMENTS AND MATERIALS**

**H-6.1 Chroma meter Minolta CR-400**

**H-6.2** **Bobbin samples to be tested**

**H-6.3 White reference tile**

**H-6.4 PROCEDURE 1**

**H-7 Sample preparation.**

1. Label each bobbin with a unique identifier to track the results accurately.
2. Place the white reference tile on the measuring area of the chromometer and calibrate it if necessary.

**H-7.2** Ensure that the chromometer is set up in a clean and well-lit area with controlled lighting conditions.

**H-7.3** Verify that the chromometer is properly calibrated according to the manufacturer's instructions.

**H-7.4** Clean the measuring area of the chromometer using a lint-free cloth and appropriate cleaning solution to remove any dust or residue.

**H-7.5** Position the bobbin surface over the measuring area of the chromometer, ensuring it covers the entire measurement area.

**H-7.6** Initiate the measurement process according to the chromometer's user manual. Typically, this involves pressing a button or triggering the measurement process electronically.

**H-7.7** Record the color measurement values provided by the chromometer, including L\*, a\*, and b\* values, as well as any other relevant color data.

**H-8 CALCUALTION**



(L2\*-L1\*) represents a lightness difference between the sample and standard colors.(a2\*-a1\*) represents the difference in redness or greyness between the sample and standard colors.

(b2\*-b1\*) denotes blueness-yellowness differences between the sample and standard colors

**ANNEX 21**

**(Item 6.1)**

**1 Comments from M/s, SASMIRA**

# Re: Meeting Minutes: TC Meeting on 11-10-2023 at 11:00

1. "Page # 5: (v) ‘Banned arylamines horn am dyes, mg/kg, Max’".

Comment: Kindly check the word "horn am" which could be a spelling mistake.

1. "Page # 5: vii) ‘C-2.1.1 The instrument used shall be a constant rate of extension dynamometer (CRE Type: INSTRON Machine)’".

Comment: We suggest to replace INSTRON by TENSILE as any single manufacturer need not be promoted.

1. "Page # 6: xi and xiii): ‘Note — The conditioning may also be done at 20 ± 2°C temperature and 65 ± 2 percent relative humidity if agreed between the buyer and the seller’".

Comment: If we are already replacing 27 ± 2°C by 20 ± 2°C in clause x and xii, do we need to mention this note? or should the note be ‘Note — The conditioning may also be done at 27 ± 2°C temperature and 65 ± 2 percent relative humidity if agreed between the buyer and the seller’"?.

Thanking you.

Yours faithfully

# Dr. Manisha Mathur Joint Director and Member TXD 31

The Synthetic & Art Silk Mills' Research Association

(SASMIRA)

Sasmira Marg, Worli,

MUMBAI - 400 030, INDIA

1. **Comments received from M/s BTRA**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **SNo.** | **Clause / Subclause No.** | **Paragraph No./Figure No./Table No.** | **Type of Comment** | **Attachment** |
| 1 | 4 | Table 1 and 2 | Editorial | N/A |
| **Comments/Suggestions along with Justification for the Proposed Change** | | | Finish oil pick up percentage in table 2 can be shifted to table 1, as the requirements are based on denier range. | |
| **Proposed Change/Modified Wordings** | | |  | |