

Translated English of Chinese Standard: FZ/T54024-2019

www.ChineseStandard.net → Buy True-PDF → Auto-delivery.

Sales@ChineseStandard.net

FZ

TEXTILE INDUSTRY STANDARD OF
THE PEOPLE'S REPUBLIC OF CHINA

ICS 59.060.20

W 52

FZ/T 54024-2019

Replacing FZ/T 54024-2009

Polyamide 6 Pre-oriented Yarns

锦纶 6 预取向丝

Issued on: May 2, 2019

Implemented on: November 1, 2019

**Issued by: Ministry of Industry and Information Technology of the People's
Republic of China.**

Table of Contents

Foreword.....	3
1 Scope.....	5
2 Normative References.....	5
3 Terms and Definitions.....	6
4 Classification and Identification	6
5 Technical Requirements.....	6
6 Test Methods	7
7 Inspection Rules.....	8
8 Marking, Packaging, Transportation and Storage.....	10
Appendix A (normative) Appearance Requirements, Inspection and Assessment	12

Foreword

This Standard was drafted in accordance with the rules provided in GB/T 1.1-2009.

This Standard serves as a replacement of FZ/T 54024-2009 *Polyamide 6 Pre-oriented Yarn*. In comparison with FZ/T 54024-2009, the main technical changes are as follows:

- The monofilament linear density range is modified from 1.0 dtex ~ 5.5 dtex into 0.5 dtex ~ 7.0 dtex (see Chapter 1; Chapter 1 of Version 2009);
- In the property items and indicators, the following modifications are made (see Table 1 and 5.4; Table 1 of Version 2009):
 - The breaking tenacity is adjusted;
 - The coefficient of variation of elongation at break is adjusted;
 - The regulation on oil content, which is determined through negotiation between the supply-side and the demand-side, is added;
- In the appearance items and indicators, loose ring filament is modified into ring filament, the classification by monofilament linear density is added, and the indicators are adjusted (see Table A.1; Table A.1 of Version 2009);
- In the appearance inspection conditions, the illumination at the working point is adjusted (see A.2.1; A.2.1 of Version 2009);
- The humidity adjustment in the general rules of test methods and the quick humidity adjustment method in Appendix B are deleted (see Chapter 6; 6.1 and Appendix B of Version 2009).

This Standard was proposed by China National Textile and Apparel Council.

This Standard shall be under the jurisdiction of Shanghai Textile Industry Technical Supervision Institute.

The drafting organizations of this Standard: Yiwu Huading Nylon Co., Ltd.; Fujian Jinjiang Technology Co., Ltd.; Zhejiang KINGCHEER New Materials Technology Co., Ltd.; Guangdong Xinhui Media Nylon Co., Ltd.; Zhejiang Jinshida Chemical Fiber Co., Ltd.; Jiangsu Wenfeng Chemical Fiber Group Co., Ltd.; Tongkun Group Zhejiang Hengsheng Chemical Fiber Co., Ltd.; Shanghai Textile Industry Technical Supervision Institute.

The main drafters of this Standard: Tan Yankun, Zhang Xuehua, Wang Jianguo, Yu Chenggang, Li Rongjiang, Yuan Xiuqin, Pang Haifeng, Wang Chunyan, Zhou Zhende.

The issuing of the previous versions:

Polyamide 6 Pre-oriented Yarns

1 Scope

This Standard specifies the terms and definitions, classification and identification, technical requirements, test methods, inspection rules, and the requirements for marking, packaging, transportation and storage of polyamide 6 pre-oriented yarns.

This Standard is applicable to pre-oriented yarns processed from polycaprolactam as the raw material (mainly used for processing drawn textured yarns), and with a nominal linear density range of 8 dtex ~ 444 dtex; glossy, semi-dull and full-dull natural-colored polyamide 6 pre-oriented yarns with a monofilament linear density of 0.5 dtex ~ 7.0 dtex, and a round cross section.

2 Normative References

The following documents are indispensable to the application of this document. In terms of references with a specified date, only versions with a specified date are applicable to this document. In terms of references without a specified date, the latest version (including all the modifications) is applicable to this document.

GB/T 250 Textiles - Tests for Color Fastness - Grey Scale for Assessing Change in Color

GB/T 2828.1-2012 Sampling Procedures for Inspection by Attributes - Part 1: Sampling Schemes Indexed by Acceptance Quality Limit (AQL) for Lot-by-lot Inspection

GB/T 3291.1 Textiles - Terms of Textile Material Properties and Test - Part 1: Fiber and Yarn

GB/T 3291.3 Textiles - Terms of Textile Material Properties and Test - Part 3: General

GB/T 4146 (all parts) Textiles - Man-made Fibers

GB/T 6502 Sampling Method of Man-made Filament Yarns

GB/T 6503 Man-made Fibers - Test Method of Moisture Regain

GB/T 6504 Man-made Fiber - Test Method for Oil Content

GB/T 8170-2008 Rules of Rounding off for Numerical Values & Expression and Judgement of Limiting Values

GB/T 14343 Testing Method for Linear Density of Man-made Filament Yarns

GB/T 14344 Testing Method for Tensile of Man-made Filament Yarns

GB/T 14346 Man-made Fiber - Testing Method for Unevenness of Filament Yarns -

Capacitance Method

FZ/T 50027 Man-made Fibers - Test Method for Determination of the Titanium Dioxide Content

3 Terms and Definitions

The terms and definitions defined in GB/T 3291.1, GB/T 3291.3 and GB/T 4146 (all parts) are applicable to this document.

4 Classification and Identification

4.1 In accordance with the amount of titanium dioxide added during production, the products can be classified into glossy, semi-dull and full-dull yarns.

4.2 Product specifications are identified by linear density (dtex) and the number of monofilaments (f), for example, if the linear density is 93 dtex and the number of monofilaments is 68, the product specifications are expressed as: 93 dtex/68 f.

4.3 Product identification shall include: product specifications, color, product name or batch No., which can be effectively distinguished.

5 Technical Requirements

5.1 Product Grading

Products are divided into three grades: superior products, first-class products and qualified products.

5.2 Property Items and Indicators

See Table 1.

provisions of 5.3.

7.4.3 For the assessment of the comprehensive grade of the products, the grade of the lowest property indicator and appearance indicator in the inspection batch shall be determined as the grade of the batch of products.

7.5 Re-inspection Rules

7.5.1 General rules

Within three months of the arrival of a batch of products to the recipient, re-inspection can be requested as a matter of acceptance or if there is any objection to the quality. If more than one-third of the batch of products has been used, the application for re-inspection is not allowed. However, if the recipient can provide relevant evidence to prove that the batch of products has indeed affected the quality of the processed products and caused serious losses, the causes shall be analyzed, the responsibilities of both parties shall be clarified, and the matter shall be resolved through negotiation.

7.5.2 Inspection items

Same as 7.1.

7.5.3 Batch grouping rules

The batches are grouped in accordance with the original production batch, but the products with a production date interval of more than 90 days cannot be grouped into batches in accordance with the same batch No.

7.5.4 Sampling rules

7.5.4.1 The laboratory samples for property items shall be sampled in accordance with the provisions of GB/T 6502.

7.5.4.2 The appearance shall be subject to sampling inspection. In accordance with the batch size and the provisions of general inspection level II in Table 1 of GB/T 2828.1-2012, determine the sample size (character code).

7.5.5 Re-inspection assessment

7.5.5.1 The determined values or calculated values of the property items shall be compared with the limit values of property indicators in Table 1 in accordance with the rounded value comparison method in GB/T 8170-2008 for grade assessment.

7.5.5.2 For the appearance items, in accordance with the sample size in 7.5.4.2, and the AQL value of the normal inspection one-time sampling scheme in Table 2-A of GB/T 2828.1-2012, which is 4.0, determine the acceptance number A_c and the rejection number R_e , and conduct the assessment based on the contract indicators between the supply-side and the demand-side. When the number of disqualified coils is $\leq A_c$, it is the original grade; when the number of

disqualified coils is $\geq R_e$, then, it shall be determined as nonconforming with the original grade.

7.5.5.3 The comprehensive grade of the products shall be assessed in accordance with 7.4.3. If it is higher than or equal to the original grade, then, it shall be determined as conforming; if it is lower than the original grade, then, it shall be determined as nonconforming.

7.5.6 Conventional mass

In accordance with the provisions of GB/T 6503, determine the actual moisture regain, and the conventional mass shall be calculated using Formula (1).

$$m = m_1 \times \frac{1 + R_0}{1 + R} \dots\dots\dots (1)$$

Where,

m ---the conventional mass of the batch product packaging, expressed in (kg);

m_1 ---the net mass of the batch product packaging, expressed in (kg);

R_0 ---the conventional moisture regain rate of polyamide 6 pre-oriented yarns, which is 4.5%;

R ---the actual determined moisture regain rate, expressed in (%).

The conventional mass difference shall not exceed 0.5%; if it exceeds, it shall be determined through negotiation between the supply-side and the demand-side.

8 Marking, Packaging, Transportation and Storage

8.1 Marking

The packaging box shall be marked with product name, specifications, grade, batch No., net weight, gross weight, number of coils, packaging date, serial No. of product standard, trademark, manufacturing enterprise's name, detailed address and other relevant information, as well as moisture-proof, handle with care and other warning signs.

8.2 Packaging

8.2.1 Each coil must be wrapped in a plastic bag before being put in the packaging box. Supported coils in the packaging box shall be positioned and fixed, and unsupported coils shall be protected from damage.

8.2.2 The size of coils in each packaging box shall be as uniform as possible. Products of different varieties, specifications, batch numbers and grades shall be respectively packaged, and mixed packaging is strictly prohibited.

8.2.3 Each batch of products shall be accompanied by a quality inspection sheet.

This is an excerpt of the PDF (Some pages are marked off intentionally)

Full-copy PDF can be purchased from 1 of 2 websites:

1. <https://www.ChineseStandard.us>

- SEARCH the standard ID, such as GB 4943.1-2022.
- Select your country (currency), for example: USA (USD); Germany (Euro).
- Full-copy of PDF (text-editable, true-PDF) can be downloaded in 9 seconds.
- Tax invoice can be downloaded in 9 seconds.
- Receiving emails in 9 seconds (with download links).

2. <https://www.ChineseStandard.net>

- SEARCH the standard ID, such as GB 4943.1-2022.
- Add to cart. Only accept USD (other currencies - <https://www.ChineseStandard.us>).
- Full-copy of PDF (text-editable, true-PDF) can be downloaded in 9 seconds.
- Receiving emails in 9 seconds (with PDFs attached, invoice and download links).

Translated by: Field Test Asia Pte. Ltd. (Incorporated & taxed in Singapore. Tax ID: 201302277C)

About Us (Goodwill, Policies, Fair Trading...): <https://www.chinesestandard.net/AboutUs.aspx>

Contact: Wayne Zheng, Sales@ChineseStandard.net

Linkin: <https://www.linkedin.com/in/waynezhengwenrui/>

----- The End -----