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**TEXTILE INDUSTRY STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

FZ/T 52003-2014

Replacing FZ/T 52003-1993

Polypropylene staple fiber

丙纶短纤维 清晰版

(English Translation)

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Foreword

This standard was drafted in accordance with GB/T 1.1-2009 given rules.

Instead of the standard FZ/T 52003-1993 "polypropylene staple fiber", compared with the original standard, in addition to editorial changes, the major technological change as follows.

--- Scope of the density of the product line by 1.70dtex ~ 22.20dtex extended to 1.67dtex ~ 120.00dtex (see Chapter 1, Chapter 1 of the 1993 edition);

--- Grade products from the original class product, first-class product, second product, third-class products, less than third-class product is substandard products, read. superior products, a and other products, qualified three levels below the qualified product is substandard product (see Chapter 5, Section 4 of the 1993 edition);

--- Spinning fiber breaking strength coefficient of variation, long fiber and oil content index adjustment (see Table 1, 1993 edition of the Table 1);

--- Spinning fiber elongation at break of indicators to control positive and negative deviations (see Table 1, 1993 edition of the Table 1);

--- The nonwoven increased > 22.20dtex ~ 50.00dtex, > 50.00dtex ~ 120.00dtex two tranches indicators (see Table 2, 1993 edition of the Table 2);

--- The nonwoven increased breaking strength coefficient of variation, number of crimps, crimp rate index (Table 2, 1993 edition of the Table 2).

The standard proposed by China Textile Industry Association.

This standard by the Shanghai textile industry technical supervision of the centralized.

This standard was drafted. Bo Tao synthetic fiber Hubei Co., Ltd., China Chemical Fiber Industry Association, the Shanghai textile industry technical supervision.

1 Scope

This standard specifies the terms and definitions of polypropylene staple fibers, classification and identification, technical requirements, test methods, inspection rules and signs, packaging, Transportation, storage and other requirements.

This standard applies to spinning and non-woven polypropylene staple fiber length of 20mm or more, spinning line density 1.67dtex ~ 7.80dtex, Nonwoven linear density 1.67dtex ~ 120.00dtex of polypropylene staple fibers. Other types of polypropylene staple fiber can refer to use.

2 Normative references

The following documents for the application of this document is essential. For dated references, only the dated version suitable for use herein Member. For undated references, the latest edition (including any amendments) applies to this document.

GB/T 3291.1 textile material properties and test - Part 1. fibers and yarns GB/T 3291.3 textile material properties and test - Part 3. General GB/T 4146.1 Textiles chemical fiber - Part 1. generic name GB/T 4146.3 Textiles chemical fiber - Part 3. Testing Terminology GB/T 6503 Test Methods for chemical fiber moisture regain GB/T 6504 Test method for chemical fiber oil content GB/T 8170 repair value expressed about the rules and limit values and judgment GB/T 14334 chemical fiber staple sampling method GB/T 14335 chemical fiber staple linear density test method GB/T 14336 chemical fiber staple length of the test method GB/T 14337 chemical fiber short fiber tensile properties GB/T 14338 chemical fiber staple crimp performance test method GB/T 14339 chemical fiber staple defect test method GB/T 14342 synthetic staple fiber than the resistance test method

3 Terms and Definitions

GB/T 3291.1, GB/T 3291.3, terms and definitions GB/T 4146.1 and GB/T 4146.3 defined apply to this document.

4.1 Categories

Product use can be divided polypropylene staple fiber spinning and nonwoven polypropylene staple fiber types.

4.2 Product Identification

Product specifications indicate the fiber linear density and cut length. Among them, the line density in decitex (dtex); cut length in millimeters (Mm).

Example. 2.78dtex x 38mm, 2.78dtex x 51mm.

Products according to specifications, the product uses identified.

Example. 2.78dtex x 38mm polypropylene staple fiber spinning.

5.1 Product classification

Product class is divided into superior products, first-class products, qualified three levels below the qualified product is substandard products.

5.2 Physical properties

Table 1, Table 2.

Table 1 polypropylene staple fiber spinning physical performance

No. Item

1.67dtex ~ 3.30dtex > 3.30dtex ~ 7.80dtex Premium grade First grade Qualified Excellence
in goods First grade Qualified 1 linear density deviation rate /% $\pm 4.0 \pm 6.0 \pm 8.0 \pm 4.0 \pm 8.0$
 ± 10.0 2 breaking strength/(cN/dtex) ≥ 4.00 3.50 3.20 3.50 3.00 2.70 3 breaking strength
variation coefficient /% ≤ 12.0 14.0 16.0 12.0 14.0 16.0

4 Elongation at break /% M1a ± 10.0 M1a ± 15.0 M1a ± 20.0 M1a ± 20.0 M1a ± 30.0 M1a
 ± 40.0 5 length deviation rate /% $\pm 5.0 \pm 8.0 \pm 10.0 \pm 5.0 \pm 8.0 \pm 10.0$

6 Defect content/(mg/100g) ≤ 5.0 10.0 20.0 5.0 25.0 50.0 7 times longer fiber
content/(mg/100g) ≤ 5.0 10.0 20.0 5.0 20.0 40.0 8 long fiber content /% ≤ 0.5 1.0 2.0 0.5
1.0 2.0 9 number of crimps/(a / 25mm) M2b ± 2.5 M2b ± 3.0 M2b ± 3.5 M2b ± 2.5 M2b $\pm$
3.0 M2b ± 3.5 10 crimp ratio /% M3c ± 2.5 M3c ± 3.0 M3c ± 3.5 M3c ± 2.5 M3c ± 3.0 M3c $\pm$
3.5 11 specific resistance/(ohm · cm) $\leq k_d \times 10^7$ $k_d \times 10^9$ $k_d \times 10^9$ $k_d \times 10^8$ $k_d \times 10^9$ $k_d \times$
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12 Oil content /% M4e ± 0.10 M4e ± 0.20 M4e ± 0.10 M4e ± 0.20

aM1 centered values elongation at break, in particular by the manufacturer in consultation with the client, it can not be arbitrarily changed once determined.

bM2 for the number of crimps central value between 12.0 to 15.0, in particular by the manufacturer and determined in consultation with the client, can not be arbitrarily changed once determined.

cm3 crimped central value between 11.0 to 14.0, in particular by the manufacturer and determined in consultation with the client, it can not be arbitrarily changed once determined.

dk than resistivity, $1.0 \leq k$ 7.80dtex ~ 22.20dtex Premium grade First grade Qualified Excellence in goods First grade Qualified 1 linear density deviation rate /% $\pm 5.0 \pm 10.0 \pm 15.0 \pm 5.0 \pm 10.0 \pm 15.0$ 2 breaking strength/(cN/dtex) ≥ 3.50 3.00 2.50 3.00 2.70 2.50

3 Elongation at break /% M1a ± 15.0 M1a ± 25.0 M1a ± 35.0 M1a ± 20.0 M1a ± 30.0 M1a ± 40.0 TABLE 2 (cont.) no. Item 1.67dtex ~ 7.80dtex > 7.80dtex ~ 22.20dtex Premium grade First grade Qualified Excellence in goods First grade Qualified 4 breaking strength variation coefficient /% ≤ 10.0 12.0 14.0 10.0 12.0 14.0 5 length deviation rate /% $\pm 5.0 \pm 8.0 \pm 10.0 \pm 5.0 \pm 8.0 \pm 10.0$

6 Defect content/(mg/100g) ≤ 10.0 50.0 75.0 50.0 100.0 150.0 7 times longer fiber content/(mg/100g) ≤ 20.0 40.0 60.0 20.0 50.0 75.0 8 number of crimps/(a / 25mm) M2b ± 2.5 M2b ± 3.0 M2b ± 3.5 M2b ± 2.5 M2b ± 3.0 M2b ± 3.5 9 crimp ratio /% M3c ± 2.5 M3c ± 3.0 M3c ± 3.5 M3c ± 2.5 M3c ± 3.0 M3c ± 3.5 10 specific resistance/(ohm · cm) $\leq k_d \times 107$ $k_d \times 109$ $k_d \times 109$ $k_d \times 108$ $k_d \times 109$ $k_d \times 109$ no. Item > 22.20dtex ~ 50.00dtex > 50.00dtex ~ 120.00dtex Premium grade First grade Qualified Excellence in goods First grade Qualified 1 linear density deviation rate /% $\pm 5.0 \pm 10.0 \pm 15.0 \pm 5.0 \pm 10.0 \pm 15.0$ 2 breaking strength/(cN/dtex) ≥ 2.5 2.3 2.0 2.3 2.0 1.7

3 Elongation at break /% M1a ± 20.0 M1a ± 30.0 M1a ± 40.0 M1a ± 20.0 M1a ± 30.0 M1a ± 40.0 4 breaking strength variation coefficient /% ≤ 10.0 12.0 14.0 12.0 15.0 18.0 5 length deviation rate /% $\pm 5.0 \pm 8.0 \pm 10.0 \pm 5.0 \pm 8.0 \pm 10.0$

6 Defect content/(mg/100g) ≤ 50.0 100.0 150.0 75.0 125.0 175.0 7 times longer fiber content/(mg/100g) ≤ 20.0 50.0 75.0 35.0 75.0 100.0 8 number of crimps/(a / 25mm) M2b ± 2.5 M2b ± 3.0 M2b ± 3.5 M2b ± 2.5 M2b ± 3.0 M2b ± 3.5 9 crimp ratio /% M3c ± 2.5 M3c ± 3.0 M3c ± 3.5 M3c ± 2.5 M3c ± 3.0 M3c ± 3.5 10 specific resistance/(ohm · cm) $\leq k_d \times 107$ $k_d \times 109$ $k_d \times 109$ $k_d \times 108$ $k_d \times 109$ $k_d \times 109$

NOTE: breaking strength, elongation at break with special requirements, negotiated by both parties.

aM1 centered values elongation at break, in particular by the manufacturer in consultation with the client, it can not be arbitrarily changed once determined.

bM2 value for the number of crimps centers, specifically by the manufacturer in consultation with the client, can not be arbitrarily changed once determined.

cm3 crimped central value, in particular by the manufacturer in consultation with the client, it can not be arbitrarily changed once determined.

dk than resistivity, $1.0 \leq k$ 6 Test methods

6.1 Tensile Properties Performed in GB/T 14337 regulations.