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

FZ/T 54071-2014

**Polyamide 6 monofilament
(English Translation)**

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6 Stretch yarn shortage is not allowed not allowed not allowed	
8 Cylinder weight d (net)/kg fixed weight or length - -	
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Foreword

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

The standard proposed by China Textile Industry Association.

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

This standard was drafted. Shaoxing Zhong Chemical Fiber Co., Nantong Dili grams of Textile Chemical Fiber Co., Jiangsu Du Advanced Materials Co. has Limited, Shanghai textile industry technical supervision.

1 Scope

This standard specifies the terms and definitions monofilament nylon 6, classification and identification, technical requirements, test methods, inspection rules and signs, packaging, Transportation and storage requirements.

This standard applies to a linear density of 5.50dtex ~ 230000.00dtex, corresponding to the equivalent filament diameter of 0.024mm ~ 5.036mm, Circular cross-section profiled, bright, semi dull, dull nylon 6 filament.

NOTE: Nylon 6 monofilament linear density and the corresponding equivalent in terms of the

diameter of the monofilaments, refer to Appendix A.

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 250 textile color fastness test assessing change in color like the gray card GB/T 2828.1-2012 Sampling procedures for inspection - Part 1. by acceptance quality limit (AQL) retrieval batch test sample plan 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 6502 sampling method of chemical fiber filament GB/T 6503 Test Methods for chemical fiber moisture regain GB/T 6504 Test method for chemical fiber oil content GB/T 6505 chemical fiber filament heat shrinkage test method GB/T 8170 repair value expressed about the rules and limit values and judgment GB/T 14343 chemical fiber filament linear density test method GB/T 14344 chemical fiber filament tensile properties GB/T 14346 chemical fiber filament electronic evenness test method FZ/T 50002 Test method for chemical fiber shaped degree FZ/T 50008 nylon filament yarn dyeing uniformity test method FZ/T 51004 chips fiber grade polycaprolactam

3 Terms and Definitions

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

Monofilament equivalent diameter equivalentdiameterofmonofilament the same linear density filaments of circular cross-section corresponding to yarn diameter.

4.1 Categories

4.1.1

fine type. nominal linear density of 5.50dtex ~ 44.40dtex; corresponding to an equivalent diameter of monofilament 0.024mm ~ 0.070mm.

4.1.2

denier type. nominal linear density of > 44.40dtex ~ 204.10dtex; corresponding to an equivalent diameter of monofilament > 0.070mm ~ 0.150mm.

4.1.3

coarse denier type. nominal linear density of > 204.10dtex ~ 9143.00dtex; corresponding to an equivalent diameter of monofilament > 0.150mm ~ 1.004mm.

4.1.4

Special coarse denier type. nominal linear density of $> 9143.10\text{dtex} \sim 230000.00\text{dtex}$; corresponding to an equivalent diameter of monofilament $> 1.004\text{mm} \sim 5.036\text{mm}$.

4.2 Product Identification

4.2.1

fine type. linear density expressed in product specifications, line density in decitex (dtex).

Example. a linear density of 22.20dtex , product specifications expressed as $22.20\text{dtex}/1\text{f}$.

4.2.2

denier type, coarse denier type. Product specifications in line density or a corresponding equivalent diameter monofilament. Line density in decitex (dtex), monofilament Equivalent diameter in millimeters (mm).

Example. a linear density of 90.70dtex , product specifications expressed as $90.70\text{dtex}/1\text{f}$ ($0.100\text{mm}/1\text{f}$)

4.2.3

Special coarse denier type. Product specifications in the corresponding equivalent diameter monofilament. Monofilament equivalent diameter in millimeters (mm).

Example. corresponds to the equivalent diameter monofilament 2.000mm , product specifications expressed as $2.000\text{mm}/1\text{f}$.

4.2.4

product according to specifications, the production process is identified.

Example. $22.20\text{dtex}/1\text{f}$ three Yeyou Guang, which represents 22.20 yarn linear density of 22.20dtex , 1f represents a single wire, a cross-sectional shape of clover leaf type, it represents big bright light.

5.1 Product classification

Nylon 6 filament product quality indicators divided into superior products, first-class products, qualified three levels below the qualified product is substandard products.

5.2 Monofilament nylon 6 and dyeing of physical performance

Table 1.

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5.3 Nylon 6 monofilament appearance and performance indicators project

Table 2.

Table 2 nylon 6 monofilament appearance and performance indicators project

No. Item Premium grade First grade Qualified 1 bead wire $a/(a / \text{barrel}) \leq 0.0102$ oil wire $b/(\text{cm}^2/\text{barrel}) \leq 0.123$ steelhead wire $/(a / \text{barrel}) \leq 0.02$ Normal Normal 4 color c minor 5 forming a good good

6 Stretch yarn shortage is not allowed not allowed not allowed

7 Connectors $/(a / \text{barrel}) \leq 0.38$

9 Filariasis length determined by the supply and demand sides negotiated

The length of a coil wire is not more than 10mm.

b oil silk, first-class product allowing only a pale yellow oil, its total area does not exceed 1cm^2 ; qualified products only allows light yellow and darker oil, its total area is not More than 2cm^2 , black oil is not allowed.

c color reference GB/T 250 level set, of which the "normal" equivalent to 4, "slight" is equivalent to level 3.

d heavy barrel, negotiated by the supply and demand depending on the variety.

5.4 profiled shape and contour index the two sides negotiated by supply and demand.

6 Test methods

6.1 mechanical properties and dyeing performance test 6.1.1 linear density test According to GB/T 14343 regulations. Special coarse denier type, using a single method.

6.1.2 breaking strength and elongation test Performed in GB/T 14344 regulations. Heavy denier, especially coarse denier gauge length of 250mm, the movable gripper speed 250mm/min.

6.1.3 The boiling water shrinkage test According to GB/T 6505 regulations.

6.1.4 Dry heat shrinkage According to GB/T 6505 regulations. Temperature $(150 \pm 3) ^\circ\text{C}$,