

FZ

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

FZ/T 01057.3-2025

Replacing FZ/T 01057.3-2007

Test method for identification of textile fibers - Part 3:

Microscopy

纺织纤维鉴别试验方法 第 3 部分：显微镜法

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Foreword

This document was drafted in accordance with the rules given in GB/T 1.1-2020 "Directives for standardization -- Part 1: Rules for the structure and drafting of standardizing documents".

This document is Part 3 of FZ/T 01057 "Test method for identification of textile fibers". The following parts of FZ/T 01057 have been published:

- Part 1: Introduction;
- Part 2: Burning behavior;
- Part 3: Microscopy;
- Part 4: Solubility;
- Part 5: Qualitative observation of colour-production for chloring and nitrogen;
- Part 6: Qualitative observation of colour-production for chlorine and nitrogen;
- Part 7: Fibre melting point;
- Part 8: Infrared absorption spectrum;
- Part 9: Birefringence;
- Part 10: Near-infrared spectroscopy;
- Part 11: Pyrolysis gas chromatography-mass spectrometry.

This document replaces FZ/T 01057.3-2007 "Test method for identification of textile fibers Part 3: Microscopy". Compared with FZ/T 01057.3-2007, in addition to structural adjustments and editorial changes, the main technical changes are as follows:

- Added "Terms and definitions" (see Clause 3 of this Edition);
- Merged "Reagents" and "Apparatus and tools". Added microscopic image analyzers and pipettes. Deleted small drills, dissecting knives, and fine brushes, and revised the drafting rules and presentation format (see Clause 5 of this Edition; Clauses 4 and 5 of Edition 2007);
- Revised the presentation format for "Test specimens" (see Clause 6 of this Edition; Clause 6 of Edition 2007);
- Merged "Procedure" and "Morphological characteristics of cross-sections and longitudinal views of various fibers" into "Procedure" and revised the presentation format (see Clause 7 of this Edition; Clauses 7 and 8 of Edition 2007);

- Revised the wording of items a) and d) in the "Test report" (see Clause 8 of this Edition; Clause 9 of Edition 2007);
- Changed the names of 23 types of fibers, including: "mercerized cotton" to "cotton (mercerized)"; "wool" to "sheep's wool"; "white cashmere" to "white goat cashmere"; "purple cashmere" to "purple goat cashmere"; "camel down" to "camel hair"; "viscose" to "viscose fiber (viscose)"; "Modal fiber" to "Modal fiber (Modal)"; "Lyocell fiber" to "Lyocell fiber (Lyocell)"; "acetate" to "acetate fiber (acetate)"; "milk protein-modified polyacrylonitrile fiber" to "polyacrylonitrile fiber (containing protein)"; "soybean protein fiber" to "polyvinyl alcohol fiber (containing protein)"; "polyester" to "polyester fiber"; "acrylic" to "polyacrylonitrile fiber (acrylic)"; "modacrylic" to "modified polyacrylonitrile fiber (modacrylic)"; "polyamide" to "polyamide fiber (polyamide, nylon)"; "vinylon" to "acetalized polyvinyl alcohol fiber (vinylon)"; "chlorofiber" to "chlorine-containing fiber (chlorofiber)"; "vinylidene chloride fiber" to "vinylidene chloride fiber (vinylidene chloride fiber)"; "spandex" to "polyurethane elastic fiber (spandex)"; "Aramid 1414" to "para-aramid fiber (Aramid 1414)"; "polyethylene fiber" to "polyethylene fiber (polyethylene fiber)"; "polypropylene fiber" to "polypropylene fiber (polypropylene fiber)"; and "polytetrafluoroethylene fiber" to "polytetrafluoroethylene fiber (fluorofiber)" (see Annex B of this Edition);
- Added descriptions of the cross-sectional and longitudinal morphological characteristics for 21 types of fibers, including kapok, calotropis fiber, kenaf, New Zealand flax, sisal, Manila hemp, horsehair, triacetate fiber, meta-aramid fiber (Aramid 1313), metal-coated fiber, polyphenylene sulfide fiber, polyimide fiber, polyamide-imide fiber, seaweed fiber, melamine fiber, chitosan fiber, polyester composite elastic fiber, poly(p-phenylene-1,3,4-oxadiazole) fiber, polybenzimidazole fiber, polyarylate fiber, and poly(p-phenylene terephthalamide-co-p-phenylene-3,4'-oxydiphenylene terephthalamide) fiber (see Annex B of this Edition);
- Revised the morphological descriptions for 13 types of fibers, including the cross-sections of ramie, flax, Modal, and metallic fibers; the longitudinal views of mohair, Lyocell, polylactic acid (PLA) fibers, and polyurethane elastic fibers; and both the cross-sections and longitudinal views of bamboo fiber, camel hair, and yak hair (see Annex B of this Edition);
- Deleted micrographs showing the cross-sectional and longitudinal morphologies of three types of fibers - high-wet-modulus viscose, modified nylon, and modified polyester (see Annex C of this Edition);
- Added photomicrographs showing the cross-sectional and longitudinal morphologies of 20 types of fibers, including kapok, Calotropis fiber, mulberry silk (ungummed), Modal fiber, cupro fiber, polylactic acid (PLA) fiber, meta-aramid fiber, polyethylene fiber, PTFE fiber, polyphenylene sulfide (PPS) fiber,

polyimide fiber, polyamide-imide fiber, seaweed fiber, melamine fiber, chitosan fiber, polyester composite elastic fiber, polyaryloxadiazole fiber, polybenzimidazole (PBI) fiber, polyarylate fiber, and polysulfonamide fiber (see Annex C of this Edition);

- Replaced morphological micrographs of 18 types of fibers, including longitudinal views of ramie, flax, mohair, viscose fiber, and metal-coated fiber; cross-sections of kendir, tussah silk, purple cashmere, rabbit hair, camel hair, protein-containing polyvinyl alcohol fiber, Lyocell fiber, polypropylene fiber, chlorine-containing fiber, and acetalized polyvinyl alcohol fiber; and cross-sections and longitudinal views of bamboo fiber, sheep wool, and white cashmere (see Annex C of this Edition);
- Changed the names of two types of fibers: including "horsehair" to "horse mane and tail hair," and "metal fiber" to "metal-coated fiber" (see Annex C of this Edition).

Annex A, Annex B, Annex C of this Part are all informative.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. The issuing authority shall not be held responsible for identifying any or all such patent rights.

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Versions of standard substituted by this document are:

- ZBW 04004.3-1989;
- FZ/T 01057.3-1999;
- FZ/T 01057.3-2007;
- This is the third revision.