
International Standard



3598

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Textile glass — Yarns — Basis for a specification

Verre textile — Fils — Base de spécification

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Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work.

Draft International Standards adopted by the technical committees are circulated to the member bodies for approval before their acceptance as International Standards by the ISO Council. They are approved in accordance with ISO procedures requiring at least 75 % approval by the member bodies voting.

International Standard ISO 3598 was prepared by Technical Committee ISO/TC 61, *Plastics*.

This second edition cancels and replaces the first edition (ISO 3598:1976), of which clause 6 has been technically revised.

Users should note that all International Standards undergo revision from time to time and that any reference made herein to any other International Standard implies its latest edition, unless otherwise stated.

Textile glass — Yarns — Basis for a specification

0 Introduction

A basis for a specification is intended to give guidance on the establishment of technical specifications for products of a given type. It should enumerate as completely as possible the points that should be considered at the time of drafting the specifications.

The basis for a specification, therefore, does not in itself constitute a specification, but rather a model plan for the elaboration of specifications applying to a particular product or a family of products whose characteristics are very much related. These specifications may be established by a producer, supplier, user, or by a standardization organization.

1 Scope and field of application

This International Standard provides a basis for a specification applicable to textile glass yarns (strands, slivers, single yarns, folded yarns and cable yarns).

It does not apply to textured yarns, rovings,¹⁾ chopped strands, milled fibres, pre-impregnated yarns etc.

This International Standard does not cover all requirements for specialized applications. Where such other requirements are necessary, they are, or will be, given in other appropriate International Standards.

2 References

ISO 137, *Wool — Determination of fibre diameter — Projection microscope method.*

ISO 139, *Textiles — Standard atmospheres for conditioning and testing.*

ISO 291, *Plastics — Standard atmospheres for conditioning and testing.*

ISO 472, *Plastics — Vocabulary.*

ISO 1144, *Textiles — Universal system for designating linear density (Tex System).*

ISO 1886, *Textile glass — Method of sampling application to batches.*

ISO 1887, *Textile glass — Determination of combustible matter content.*

ISO 1888, *Textile glass — Determination of the average diameter of staple fibres or continuous filaments constituting a textile glass yarn — Cross-section method.*

ISO 1889, *Textile glass — Continuous filament yarns, staple fibre yarns and rovings in the form of packages — Determination of linear density.*

ISO 1890, *Textile glass — Continuous filament yarns and staple fibre yarns — Determination of twist.*

ISO 2078, *Textile glass — Yarns — Designation.*

ISO 2797, *Textile glass — Rovings — Basis for specification.*

ISO 3341, *Textile glass — Yarns — Determination of breaking force and breaking elongation.*

ISO 3343, *Textile glass — Yarns — Determination of twist balance index.*

ISO 3344, *Textile glass products — Determination of moisture content.*

ISO 6355, *Textile glass — Vocabulary.*

3 Designation

The yarns covered by the specification shall be designated in accordance with the applicable clause of ISO 2078.

4 Terms and definitions

Terms that are not defined in one of the International Standards listed in clause 2 shall be defined in this section of the specification.

1) The basis for a specification for rovings is given in ISO 2797.

5 Sampling and batch acceptance

The specification shall state the conditions of application of ISO 1886 to the yarns under consideration.

6 Conditioning

The specification shall supply the information required for proper conditioning of the samples and test specimens. In the absence of specific instructions for the yarns under consideration, it shall include a reference to ISO 139 or ISO 291.

7 Characteristics

Glass yarns shall be defined by the characteristics enumerated herein.

For the characteristics indicated by an asterisk, the specification shall indicate the tolerances allowed on the individual values and the mean values of the measurements made on a batch.

For these same characteristics the specification shall, if it is not specified in the test method, define the number of test specimens per sampled units as well as their method of selection.

The criteria of acceptance or rejection of a batch based on the results of the testing shall be defined.

7.1 Type of glass

The type of glass is indicated in the designation. Current glass types are listed in ISO 2078.

7.2 Type of size

The specification shall indicate the type of size applied to the yarn (for example plastic size or textile size).

7.3 Diameter of staple fibres or filaments

The reference diameter of staple fibres or filaments is indicated in the designation.

The mean value of the real diameter of staple fibres or filaments shall be determined and expressed in accordance with ISO 1888 (cross-section method) or ISO 137 (longitudinal).

7.4 Linear density*

This shall be determined and expressed in accordance with ISO 1889.

7.5 Size content*

This shall be determined and expressed in accordance with ISO 1887.

7.6 Twist*

This shall be determined and expressed in accordance with ISO 1890.

7.7 Twist balance index

If necessary, this shall be determined and expressed in accordance with ISO 3343.

7.8 Moisture content*

This shall be determined and expressed in accordance with ISO 3344.

7.9 Breaking strength and breaking elongation*

These shall be determined and expressed in accordance with ISO 3341.

8 Visible faults

The following list gives a number of recognized visible faults on yarns or packages of yarn, produced during manufacture or during subsequent handling. Their permissible number and severity shall be stated in the specification.

8.1 List of visible faults in yarns

8.1.1 Hairy yarn

8.1.2 Dirty yarn

8.1.3 Slubs, fuzz balls

8.1.4 Yarns partially or wholly cut

8.1.5 Faulty splices :

- dirty
- incomplete [end(s) not bonded]
- lumpy (lumps in the bond)
- too long

8.1.6 Incorrect number of ends

8.1.7 Uneven doubling (loops caused by uneven length between two or more yarns wound together)

8.2 List of visible faults in packages

8.2.1 Shiny yarn (lack of size)

8.2.2 Sloughed yarn

- 8.2.3 Flared package
- 8.2.4 Undercut package
- 8.2.5 Loops (on body of winding)
- 8.2.6 Base loops (near flange of bobbin)
- 8.2.7 Damaged tubes or bobbins (with cuts, bruises or breaks)
- 8.2.8 Cracked winding (partial gaps in winding)
- 8.2.9 Entrapped waste
- 8.2.10 Entrapped foreign matter
- 8.2.11 Protruding end (generally due to a poor splice or poor start-up)
- 8.2.12 Entrapped end
- 8.2.13 Overfilled package
- 8.2.14 Package too soft
- 8.2.15 Package too hard
- 8.2.16 Defective or dirty transfer tail
- 8.2.17 Dirt spots and mildew
- 8.2.18 Bad build of the package
- 8.2.19 Packages unflanged with loops on their end faces
- 8.2.20 Incorrect identification

8.2.21 Package abraded after its manufacture

8.2.22 Slubs, fuzz balls

9 Delivery

9.1 Presentation and packaging

The specification shall include any requirements for presentation and packaging of the yarns.

9.2 Labelling

The specification shall include a requirement that the packaging container shall be provided with an external label including the following information :

- designation;
- supplier's code;
- type or code number of the yarn package;
- type or code number of the packaging container;
- net mass of the yarn packages;
- name of the supplier;
- date of manufacture (by agreement between the interested parties).

10 Storage

The specification shall include any requirements for storage conditions (temperature, relative humidity, time) necessary to ensure retention of the properties of the yarns.

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