
INTERNATIONAL STANDARD



3598

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Textile glass yarns — Basis for a specification

Fils à base de verre textile — Base de spécification

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FOREWORD

ISO (the International Organization for Standardization) is a worldwide federation of national standards institutes (ISO Member Bodies). The work of developing International Standards is carried out through ISO Technical Committees. Every Member Body interested in a subject for which a Technical Committee has been set up 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.

International Standard ISO 3598 was drawn up by Technical Committee ISO/TC 61, *Plastics*, and was circulated to the Member Bodies in November 1974.

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It has been approved by the Member Bodies of the following countries :

Austria	Hungary	Portugal
Belgium	India	Romania
Brazil	Iran	Spain
Canada	Ireland	Sweden
Chile	Israel	Switzerland
Czechoslovakia	Italy	Turkey
Finland	Japan	United Kingdom
France	Netherlands	U.S.A.
Germany	Poland	Yugoslavia

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No Member Body expressed disapproval of the document.

Textile glass yarns — Basis for a specification

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 cabled yarns).

It does not apply to rovings¹⁾, 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/R 472, *Addendum 2, Plastics — Definitions of terms (terms relating to textile glass products used in plastics).*

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

ISO 1886, *Textile glass products — Continuous filament yarns, staple fibre yarns and rovings in the form of packages — Sampling of batches or consignments.*

ISO 1887, *Textile glass products — Determination of the percentage of combustible matter.*

ISO/R 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 products — Continuous filament yarns, staple fibre yarns and rovings in the form of packages — Determination of linear density.*

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

ISO 2078, *Textile glass yarns — Designation.*

ISO 3341, *Glass yarns from packages — Determination of breaking force and breaking elongation of single strands.*²⁾

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

ISO 3344, *Textile glass products — Determination of moisture content.*²⁾

3 SAMPLING

Sampling shall be carried out in accordance with ISO 1886.

4 CHARACTERISTICS

Except when indicated to the contrary, the textile glass yarns will be defined by the characteristics listed below. Their nominal values and associated tolerances will be given in the manufacturers' technical literature.

4.1 Type of glass

At the purchaser's request, the textile glass producer shall state the essential chemical, physical and other properties of the glass type supplied.

It is usual to classify the glasses into the following types :

- of high electrical resistance, for example : E glass;
- of high alkali content, for example : A glass;
- of good chemical resistance, for example : C glass;
- of high mechanical strength, for example : S, R glasses.

4.2 Type of size

For example :

- plastic (coupling) size
- textile size

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

2) At present at the stage of draft.

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4.3 Average diameter of constituent staple fibres or continuous filaments

Determine in accordance with ISO/R 1888 or ISO 137.

4.4 Linear density

Determine in accordance with ISO 1889.

4.5 Percentage of combustible matter

Determine in accordance with ISO 1887.

4.6 Twist

Determine in accordance with ISO 1890.

4.7 Twist balance index

If necessary, determine in accordance with ISO 3343.

4.8 Moisture content

Determine in accordance with ISO 3344.

4.9 Breaking strength and breaking elongation

Determine in accordance with ISO 3341.

5 VISIBLE FAULTS

Below are listed 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 agreed between the interested parties.

5.1 List of visible faults in yarns

5.1.1 Hairy yarn

5.1.2 Dirty yarn

5.1.3 Slubs, fuzz balls

5.1.4 Yarns partially or wholly cut

5.1.5 Faulty splices :

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

5.1.6 Incorrect number of ends

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

5.2 List of visible faults in packages

5.2.1 Shiny yarn (lack of size)

5.2.2 Sloughed yarn

5.2.3 Flared package

5.2.4 Undercut package

5.2.5 Loops (on body of winding)

5.2.6 Base loops (near flange of bobbin)

5.2.7 Damaged tubes or bobbins (with cuts, bruises or breaks)

5.2.8 Cracked winding (partial gaps in winding)

5.2.9 Entrapped waste

5.2.10 Entrapped foreign matter

5.2.11 Protruding end (generally due to a bad joint)

5.2.12 Entrapped end

5.2.13 Overfilled package

5.2.14 Package too soft

5.2.15 Package too hard

5.2.16 Defective or dirty transfer tail

5.2.17 Dirt spots and mildew

5.2.18 Bad build of the package

5.2.19 Packages unflanged with loops on their end faces.

5.2.20 Incorrect identification

5.2.21 Package abraded after its manufacture

5.2.22 Slubs, fuzz balls

6 PRESENTATION, PACKAGING, STORAGE CONDITIONS

Specifications concerning presentation, packaging and storage conditions shall be agreed between supplier and purchaser.