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Textile glass — Textured yarns — Basis for a specification

Verre textile — Fils texturés — 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. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of technical committees is to prepare International Standards. Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

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

ISO 8516 was prepared by Technical Committee ISO/TC 61, *Plastics*, Subcommittee SC 13, *Composites and reinforcement fibres*.

This second edition cancels and replaces the first edition (ISO 8516:1987), of which it constitutes a minor revision. The main changes are as follows:

- a) the normative references have been updated;
- b) old Clause 3, which concerned sampling, has been deleted as it referred the reader to ISO 1886 which has been withdrawn;
- c) a terms and definitions clause has been added (new Clause 3);
- d) Clause 7 has been revised as two clauses (Clause 7, "Delivery", and Clause 8, "Storage").

Textile glass — Textured yarns — Basis for a specification

1 Scope

This International Standard provides a basis for a specification applicable to textured yarns made from single or folded yarns of textile glass.

Textured glass yarns can be produced by several types of process. They can be made starting either from a single strand or from two or more strands in which one or more have been “opened” to give the “bulky” aspect of textured yarn.

Textured glass yarn is used in various applications, for example insulation, filtration, the manufacture of decorative textiles, the reinforcement of plastics and the manufacture of packing materials.

2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 472, *Plastics — Vocabulary*

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

ISO 1888, *Textile glass — Staple fibres or filaments — Determination of average diameter*

ISO 1889, *Reinforcement yarns — Determination of linear density*

ISO 2078, *Textile glass — Yarns — Designation*

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

ISO 3344, *Reinforcement products — Determination of moisture content*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 472 apply.

4 Designation

The designation of the yarn shall conform to ISO 2078.

5 Physical properties

5.1 General

Unless otherwise agreed, textured glass yarns shall be defined by the characteristics specified in 5.2 to 5.7, and nominal values and tolerances shall be given for these characteristics in the supplier's technical specification.

The criteria for acceptance or rejection of a batch, based on the results of testing, shall also be given in the supplier's specification.

5.2 Type of glass

Various types of glass are used in the production of textured yarns. A list of available glass types is given in ISO 2078.

5.3 Size content

The texturizing process requires the use of yarn covered with size to give suitable lubrication during texturization. This size can be eliminated after weaving by a heat-cleaning treatment, if necessary. The size content shall be determined in accordance with ISO 1887.

5.4 Average filament diameter

The average filament diameter shall be determined in accordance with ISO 1888.

5.5 Linear density

The linear density shall be determined in accordance with ISO 1889, taking care, when taking the test specimens, that the yarn is tensioned to a level suitable for staple-fibre yarns in order to ensure that the specimens will be of the required length.

5.6 Moisture content

The moisture content shall be determined in accordance with ISO 3344.

5.7 Breaking load

At the yield point, textured yarn can possess a strength which is much less than the breaking load. If this is the case, the supplier's specification shall indicate the minimum value of the strength at yield and the minimum value of the breaking strength, as determined in accordance with ISO 3341.

6 Visual properties — Defects

6.1 General

The supplier's technical specification shall indicate the normal visual characteristics and defects that can be present on the yarns and packages (see examples in 6.2 and 6.3). The acceptable level with regard to number or importance shall be agreed between supplier and buyer. If necessary, reference samples shall be kept by the supplier in order to assess any disputed packages, especially for the defects described in 6.2.3, 6.3.2, 6.3.3 and 6.3.10.

6.2 Visible defects of yarn

- 6.2.1 Dirty yarn.
- 6.2.2 Incorrect number of ends or mixed yarn.
- 6.2.3 Lack of texturization.
- 6.2.4 Damaged yarn.
- 6.2.5 Fuzz balls, slubs.
- 6.2.6 Presence of knots or splices (when they are not allowed).
- 6.2.7 Badly made knots or splices (when they are allowed).

6.3 Visible defects of packages

- 6.3.1 Package badly made up.
- 6.3.2 Package too soft.
- 6.3.3 Package too hard.
- 6.3.4 Trapped end or foreign yarn.
- 6.3.5 Trapped foreign matter.
- 6.3.6 Sloughed yarn.
- 6.3.7 Dirt spots.
- 6.3.8 Package damaged.
- 6.3.9 Incorrect identification.
- 6.3.10 Shiny yarn (due to lack of size or lack of texturization).
- 6.3.11 Dirty or incorrectly joined (or transferred) ends or unjoined ends (when joined ends were specified).

7 Delivery

7.1 Presentation and packaging

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

7.2 Labelling

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

- the designation of the yarn;
- the type of yarn package or a code-number indicating the type;
- the type of container or a code-number indicating the type;
- the net mass of the yarn packages in the container;
- the name of the supplier;
- the date of manufacture.

8 Storage

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

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