

ISO

INTERNATIONAL ORGANIZATION FOR STANDARDIZATION

ISO RECOMMENDATION R 1887

TEXTILE GLASS

DETERMINATION OF THE PERCENTAGE OF COMBUSTIBLE MATTER
OF TEXTILE GLASS PRODUCTS

1st EDITION

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BRIEF HISTORY

The ISO Recommendation R 1887, *Textile glass – Determination of the percentage of combustible matter of textile glass products*, was drawn up by Technical Committee ISO/TC 61, *Plastics*, the Secretariat of which is held by the American National Standards Institute (ANSI).

Work on this question led to the adoption of Draft ISO Recommendation No. 1887, which was circulated to all the ISO Member Bodies for enquiry in October 1969. It was approved, subject to a few modifications of an editorial nature, by the following Member Bodies :

Australia	Israel	Spain
Austria	Italy	Sweden
Belgium	Japan	Switzerland
Canada	Korea, Rep. of	Turkey
Czechoslovakia	Netherlands	U.A.R.
France	New Zealand	United Kingdom
Germany	Romania	U.S.A.
Greece	South Africa, Rep. of	U.S.S.R.

No Member Body opposed the approval of the Draft.

This Draft ISO Recommendation was then submitted by correspondence to the ISO Council, which decided to accept it as an ISO RECOMMENDATION.

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TEXTILE GLASS

DETERMINATION OF THE PERCENTAGE OF COMBUSTIBLE MATTER
OF TEXTILE GLASS PRODUCTS

1. SCOPE

This ISO Recommendation describes a method for determining the percentage of combustible matter of products made from textile glass, such as continuous filament yarns, staple fibre glass yarns, chopped strands, milled fibres, glass fabrics, glass mats, and other glass reinforcements.

2. DEFINITION

Percentage of combustible matter. The quantity of material removed from the textile glass product by heating under the conditions prescribed in this ISO Recommendation, related to the mass of the calcined product*.

3. PRINCIPLE

Weighing of test specimens, dried under prescribed conditions, before and after calcination at a standard temperature of 625 ± 20 °C.

NOTE. - For glasses which are unstable at this temperature, a temperature between 500 and 600 °C may be chosen according to the glass specification or upon agreement. The chosen temperature must be kept constant to ± 20 °C.

4. APPARATUS

- 4.1 *Air-ventilated oven* controlled at a temperature of 80 ± 2 °C for drying the test specimens.
- 4.2 *Muffle furnace* capable of maintaining a temperature between 450 and 650 °C with an accuracy of ± 20 °C.
- 4.3 *Desiccator* containing a suitable drying agent (for example, silica gel, calcium chloride, phosphorus pentoxide).
- 4.4 *Specimen holder* made from a heat-stable material, allowing the best possible air circulation around the test specimen. A fixing device must hold the test specimen firmly. This may be a porcelain crucible, a basket made from stainless steel gauze, etc.

* The percentage of combustible matter is equal to the quantity of size or finish on the textile glass product, when the size or finish is completely combustible without notable residue (i.e. primarily organic products).

- 4.5 *Stainless steel tongs* for handling test specimens and holders.
- 4.6 *Balance* sensitive to 0.1 mg.
- 4.7 *Template*, of polished sheet iron, 300 mm × 300 mm, for cutting glass mats.
- 4.8 *Suitable tool* for cutting glass mat or glass fabric, for example, knife, scissors or disc.

5. SAMPLE AND PREPARATION OF TEST SPECIMENS

5.1 Glass textile continuous filament yarns, staple fibre yarns and rovings

5.1.1 *Sampling procedure.* For one batch or consignment of packages, the number of sampled packages shall be the number stated in ISO Recommendation R 1886, *Textile glass – Procedure for sampling batches or consignments of textile glass continuous filament yarn, staple fibre yarn and roving packages.*

5.1.2 *Preparation of test specimens.* To prepare each test specimen, unwind a length of yarn to give a mass of at least 5 g*.

Should the sample to be tested be of such small size that it is not possible to select several test specimens, or even one 5 g test specimen, the procedure described in section 6 may be used with a test specimen of reduced mass, but the value of the result thus obtained may only be an approximation of the percentage of combustible matter and this fact should be noted in the test report.

5.1.3 *Number of test specimens.* Take at least two test specimens from each package.

5.2 Chopped strands – Milled fibres

5.2.1 *Sampling procedure.* The sampling procedure shall be determined by agreement between customer and supplier.

5.2.2 *Preparation of test specimens.* Each test specimen shall have a mass of not less than 5 g.

5.2.3 *Number of test specimens.* Use at least five test specimens per sample.

5.3 Textile glass fabrics

5.3.1 *Sampling procedure.* The number *n* of rolls to be tested from a batch or consignment of *N* rolls is given by the following table :

Number of rolls in the batch or consignment <i>N</i>	Number of rolls to be picked at random and tested <i>n</i>
3 or less	1
4 to 10	2
11 to 30	3
31 to 75	4
76 or more	5

5.3.2 *Preparation of test specimens.* The specimens should be rectangles of 150 mm × 80 mm**, the edges being frayed out for about 5 mm to avoid any subsequent loss of yarns. Larger rectangles should be taken from light-weight fabrics to obtain test specimens weighing at least 5 g.

5.3.3 *Number of test specimens.* Use at least five test specimens per sample.

* Test specimens used in this test may be used for the determination of the linear density.

** Or with comparable dimensions compatible with the apparatus (muffle furnace, balance) and which can be handled flat without being removed from the holders.