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Textile glass — Determination of combustible-matter content

Verre textile — Détermination de la teneur en matières combustibles



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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.

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.

International Standard ISO 1887 was prepared by Technical Committee ISO/TC 61, *Plastics*, Subcommittee SC 13, *Composites and reinforcement fibres*.

This third edition cancels and replaces the second edition (ISO 1887:1980), which has been technically revised.

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International Organization for Standardization

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Textile glass — Determination of combustible-matter content

1 Scope

This International Standard specifies a method for the determination of the combustible-matter content of products made from textile glass, such as continuous-filament yarns, staple-fibre yarns, rovings, chopped strands, milled fibres, fabrics, chopped strand and continuous-filament mats and other glass reinforcements.

2 Definition

For the purposes of this International Standard, the following definition applies.

2.1 combustible-matter content: The ratio of the mass of material removed on calcination from a dried textile glass product to the mass of the dried product.

NOTE 1 This ratio is expressed as a percentage in this International Standard. It is equal to the content of size or finish on the textile glass product when the size or finish is completely combustible without significant residue (i.e. primarily organic products).

3 Principle

Test specimens, dried under prescribed conditions, are weighed before and after calcination at a temperature of $625\text{ }^{\circ}\text{C} \pm 20\text{ }^{\circ}\text{C}$ or, with types of glass which are unstable at this temperature, at a temperature between $500\text{ }^{\circ}\text{C}$ and $600\text{ }^{\circ}\text{C}$, also kept constant to within $20\text{ }^{\circ}\text{C}$.

4 Apparatus

4.1 Air-circulation oven, for drying specimens, capable of being maintained at $105\text{ }^{\circ}\text{C} \pm 5\text{ }^{\circ}\text{C}$ or the chosen drying temperature $\pm 5\text{ }^{\circ}\text{C}$ (see 6.3).

4.2 Muffle furnace, capable of being maintained, with a tolerance of $\pm 20\text{ }^{\circ}\text{C}$, at any desired temperature up to $625\text{ }^{\circ}\text{C}$, the temperature being measured at the centre of the muffle furnace with the door closed.

4.3 Desiccator, containing a suitable desiccant, for example silica gel, calcium chloride, phosphorous(V) oxide.

4.4 Specimen holder, made from a material stable at the test temperature, allowing the best possible air circulation around the test specimen and designed to prevent loss of material. The holder may be a porcelain crucible, a basket made of stainless-steel gauze, etc.

4.5 Stainless-steel tongs, for handling test specimens and holders.

4.6 Balance, accurate to 1 mg and graduated to 0,1 mg.

4.7 Polished-metal templates, for the preparation of test specimens.

4.8 Suitable cutting tool, for cutting mat or fabric, for example a knife, scissors or a cutting disc.

4.9 Suitable wrap-reel, for taking yarn and roving test specimens.

5 Test specimens

5.1 Selection of test specimens

Unless stated to the contrary in the product specification or by the person requesting the test, the test specimens shall be selected as specified in 5.1.1 to 5.1.4.