SLOVENSKI STANDARD
oSIST prEN ISO 1172:2022

01-december-2022

S stekleno tkanino ojačeni polimerni materiali - Prepregi, zmesi za oblikovanje in laminati - Določevanje steklene tkanine in mineralnih polnil - Metoda s sežigom (ISO/DIS 1172:2022)

Textile-glass-reinforced plastics - Prepregs, moulding compounds and laminates - Determination of the textile-glass and mineral-filler content - Calcination methods (ISO/DIS 1172:2022)

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Textilglasverstärkte Kunststoffe - Prepregs, Formmassen und Laminate - Bestimmung des Textilglas- und Mineralfüllstoffgehalts - Kalzinierungsverfahren (ISO/DIS 1172:2022)

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Plastiques renforcés de verre textile - Préimprégnés, compositions de moulage et stratifiés - Détermination des taux de verre textile et de charge minérale - Méthodes par calcination (ISO/DIS 1172:2022)

Ta slovenski standard je istoveten z: **prEN ISO 1172**

ICS:

83.120	Ojačani polimeri	Reinforced plastics

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DRAFT INTERNATIONAL STANDARD

ISO/DIS 1172

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Textile-glass-reinforced plastics — Prepregs, moulding compounds and laminates — Determination of the textile-glass and mineral-filler content — Calcination methods

Plastiques renforcés de verre textile — Préimprégnés, compositions de moulage et stratifiés — Détermination des taux de verre textile et de charge minérale — Méthodes par calcination

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

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This third edition cancels and replaces the second edition (ISO 1172:1996), which has been technically revised.

The main changes are as follows:

— xxx xxxxxxx xxx xxxx

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Textile-glass-reinforced plastics — Prepregs, moulding compounds and laminates — Determination of the textile-glass and mineral-filler content — Calcination methods

WARNING — This International Standard does not give details of the precautions that should be taken to meet health and safety requirements. The test methods described require the use of high temperatures and concentrated acids. It is the responsibility of the user of this International Standard to follow the appropriate health and safety procedures.

1 Scope

This International Standard specifies two calcination methods for the determination of the textile glass and mineral filler content of glass-reinforced plastics:

Method A: for the determination of the textile glass content when no mineral fillers are present.

Method B: for the determination of the textile-glass and mineral-filler content when both components are present.

This International Standard is applicable to the following types of material:

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— Prepregs made from yarns, rovings, tapes or fabrics;

— SMC, BMC and DMC moulding compounds;

— textile-glass-reinforced thermoplastic moulding materials and granules;

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— filled or unfilled textile-glass laminates made with thermosetting or thermoplastic resins.

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The methods are not applicable to the following types of reinforced plastic:

— those containing reinforcements other than textile glass;

— those containing materials which do not completely burn off at the test temperature (for example, those based on silicone resin);

— those containing mineral fillers which degrade at temperatures below the minimum calcination temperature.

For these materials, ISO 11667, *Fibre-reinforced plastics - Moulding compounds and prepregs -Determination of resin, reinforcement-fibre and mineral-filler content - Dissolution method,* may be used.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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 4793, *Laboratory sintered (fritted) filters — Porosity grading, classification and designation*

ISO 8604, *Plastics — Prepregs — Definitions of terms and symbols for designations*

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3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 472 and ISO 8604 apply.

4 Principle

A test specimen is weighed and subsequently calcinated at a defined temperature. The specimen is then reweighed and the non combustible matter content (glass + filler) obtained by determining the difference in mass of a test specimen before and after calcination in one of the following ways:

a) In the case of materials containing no fillers the glass content is calculated directly from the difference in mass (method A);

b) In the case of materials containing both glass and filler, the glass and filler remaining after calcination are separated by dissolution of the filler in hydrochloric acid. The difference between the mass of the specimen before calcination and the mass of the dried specimen after reaction with acid is used to measure the glass content. The filler content is obtained by calculating the difference between the mass of the specimen after calcination and the mass of the dried specimen after reaction with acid (method B).

The test method requires that all weighings be made at constant mass after repeated calcination and/or drying. In those cases where known materials are being tested regularly, a minimum time for the calcination and drying stages may be determined by experiment to ensure that constant mass has been reached.

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NOTE 1 If the material tested contains a resin which is combustible under the test conditions and/or fillers which do not degrade by calcination, then the loss on ignition is equal to the resin content. It should be noted that the resin content calculated in this way includes the combustible part of the other components in the composition (glass size, pigments, etc.) but this is usually small compared to the resin content.

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NOTE 2 In those cases where fillers are present that are degraded at the test temperature, it is not possible to obtain an accurate determination of the glass, resin or filler content.

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5 Sampling

5.1 The determination of the glass and filler contents is shall be carried out in parallel on two specimens which are as near identical as possible. The result of the test is the average of the measurements on the two specimens, provided that the difference between the two measurements is less than 5 %. If this is not the case, a third specimen shall be tested which is as near identical to the other two as possible. The three values shall then be used to calculate the test result.

5.2 In order to carry out an evaluation test the result of which is as representative as possible of the glass and filler content of the elementary unit or laboratory sample, this test procedure may need to be repeated a certain number of times, at specific locations in the elementary unit examined. The number of times and the actual locations will be defined either in the product specification or by the person requesting the analysis. In the latter case, the number and location will be decided by experience or as the result of previous work.

5.3 For all tests other than those on elementary units, take specimens that are as representative of the material under test as circumstances allow.

6 Preparation of test specimens

The test specimens shall be fully representative of the piece or batch examined. They shall be obtained in accordance with Clause 5.

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