International Standard

ISO 9782

Plastics — Reinforced moulding compounds and prepregs — Determination of apparent volatile-matter content

Plastiques renforcés — Compositions pour moulage et préimprégnés — Détermination de la teneur apparente en matières volatiles

Second edition
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Foreword

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This document 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 9782:1993), which has been technically revised.

The main changes are as follows:

— the requirement for the weighing accuracy of balances has been raised from ±1 mg to ±0,1 mg;

— a timer has been added in the apparatus clause;

— the symbol V_c for volatile-matter content in the calculation formula has been supplemented;

— the number of test specimens has been changed from "three" to "at least three";

— the following instruction has been added to 8.4 “The specimens should be placed so that the maximum surface area is exposed to the circulating heat.”;

— a precision statement has been added in Annex A.

Any feedback or questions on this document should be directed to the user’s national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

Plastics — Reinforced moulding compounds and prepregs — Determination of apparent volatile-matter content

1 Scope

This document specifies a method for the determination of the apparent volatile-matter content in pre-impregnated yarns, tapes, mats (SMC) and fabrics.

The method is applicable to all unidirectional and multidirectional fibre-reinforced prepregs and all thermosetting-resin matrices, unless otherwise specified in product specifications.

The method does not apply to unimpregnated reinforcement fibres.

NOTE For products with a polyester-resin matrix (UP), the result will be lower than the real value.

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 291, *Plastics — Standard atmospheres for conditioning and testing*

3 Terms and definitions

No terms and definitions are listed in this document.

ISO and IEC maintain terminology databases for use in standardization at the following addresses:

— ISO Online browsing platform: available at https://www.iso.org/obp

— IEC Electropedia: available at https://www.electropedia.org/

4 Principle

The apparent volatile-matter content is the percentage of matter lost on heating, relative to the initial mass. It is obtained by measuring the change in mass of a test specimen when heated in an air - ventilated oven at a specified temperature for a specified length of time.

If aramid fibres are used as the reinforcement, water absorbed by the fibres is eliminated with volatile matter at the test temperature. It is therefore necessary to correct the volatile-matter content by subtracting the water content.

5 Apparatus

5.1 Cutting device, for preparation of test specimens.

5.2 Balance , accurate to 0,1 mg.

5.3 Air-ventilated oven, capable of being maintained at the chosen temperature to within ±5 °C.