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Fibre-reinforced plastics — Moulding compounds and prepregs — Determination of mass per unit area and fibre mass per unit area

Plastiques renforcés de fibres — Mélanges à mouler et préimprégnés — Détermination de la masse surfacique et de la masse des fibres par unité de surface

Reference number
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Foreword

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The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular, the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

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This document was prepared by Technical Committee ISO/TC 61, *Plastics*, Subcommittee SC 13, *Composites and reinforcement fibres*, in collaboration with the European Committee for Standardization (CEN) Technical Committee CEN/TC 249, *Plastics*, in accordance with the Agreement on technical cooperation between ISO and CEN (Vienna Agreement).

This fourth edition cancels and replaces the third edition (ISO 10352:2010), which has been technically revised.

The main changes compared to the previous edition are as follows:

— determination of fibre mass per unit area by Method A, Method B, Method C, Method D and Method E have been added.

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Fibre-reinforced plastics — Moulding compounds and prepregs — Determination of mass per unit area and fibre mass per unit area

1 Scope

This document specifies a method for the determination of the mass per unit area. It also specifies five methods (Method A to Method E) for the determination of the fibre mass per unit area of moulding compounds and prepregs. The five methods are as follows:

— Method A: Extraction by Soxhlet;

— Method B: Extraction by immersion in solvent in a beaker;

— Method C: Decomposition by loss ignition;

— Method D: Extraction by wet combustion;

— Method E: Method by calculation.

This document is applicable to the following types of materials:

— moulding compound and preimpregnated unidirectional sheet, tape, fabric and mats;

— prepregs in which any type of reinforcement (aramid, carbon, glass, etc.) and any type of matrix (thermosetting or thermoplastic) has been used.

Typically, reinforcement fibres are coated with sizing or finishes. These normally dissolve with the resin and are, therefore, included in the resin content.

This document is not applicable to the following types of prepregs:

— those containing reinforcements which are soluble (or partly soluble) in the solvents used to dissolve the resin.

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*

ISO 472, *Plastics — Vocabulary*

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

ISO 4602, *Reinforcements — Woven fabrics — Determination of number of yarns per unit length of warp and weft*

3 Terms and definitions

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

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