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## Plastics — Glass-fibre-reinforced products — Determination of fibre length

*Plastiques — Produits renforcés de fibres de verre — Détermination de la longueur des fibres*

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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 document 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](http://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*.

This second edition cancels and replaces the first edition (ISO 22314:2006), which has been technically revised.

The main changes are as follows:

- the requirements of muffle furnace and ultrasonic device have been modified;
- the description of the calcination time has been added;
- the description of the number of fibre measurements has been added;
- the meaning of  $L_p / L_n$  has been added.

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](http://www.iso.org/members.html).

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## Introduction

There is global interest in the determination of the length of glass fibres in all types of composite, to predict their characteristics (essentially mechanical ones). For these determinations, three steps are necessary:

- separation of the fibres from the composite;
- dispersion of the fibres to obtain individual fibres;
- measurement of their length.

After considering all the existing methods for separating the fibres from the resin, it was decided to develop the proposed method only for short glass fibres from thermoplastic resins, extracted by calcination.

The principles of the method are probably suitable for other composites, but it would need more development to obtain a method suitable for other conditions (thermoset resins, long fibres in thermoplastic or thermoset resins, carbon fibres).

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