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## Plastics — Acquisition and presentation of comparable single-point data —

# Part 2: **Long-fibre-reinforced plastics**

Plastiques — Acquisition et présentation de caractéristiques intrinsèques comparables —

Partie 2: Plastiques renforcés par de longues fibres



Reference number ISO 10350-2:2011(E)

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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.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of technical committees is to prepare International Standards. 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.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

ISO 10350-2 was prepared by Technical Committee ISO/TC 61, *Plastics*, Subcommittee SC 2, *Mechanical properties*.

This second edition cancels and replaces the first edition (ISO 10350-2:2001), which has been technically revised.

ISO 10350 consists of the following parts, under the general title *Plastics* — *Acquisition and presentation of comparable single-point data*:

- Part 1: Moulding materials
- Part 2: Long-fibre-reinforced plastics

#### Introduction

This part of ISO 10350 has been prepared because users of long-fibre-reinforced plastics find that available data cannot always be readily used to compare the properties of similar materials, especially when the data have been supplied by different sources. Even when the same standard tests have been used, they may allow the adoption of a wide range of alternative test conditions, and the data obtained are not necessarily comparable. The purpose of this part of ISO 10350 is to identify specific methods and conditions of test to be used for the acquisition and presentation of data in order that valid comparisons between materials can be made.

This part of ISO 10350 is concerned with tests employed to present "single-point" data on the limited range of properties commonly included in data sheets and used for the preliminary selection of materials. Such data represent the most basic approach to the specification of properties of materials and this part of ISO 10350 thus facilitates the first steps towards more efficient selection and use of plastics in the many applications to which they are suited.

Many properties of long-fibre-reinforced plastics are anisotropic. The test method standards for these properties have been produced with different procedures for specific types of reinforcement. In this part of ISO 10350, use of the appropriate procedure is specified rather than the use of a specific specimen geometry as adopted in Part 1 for moulding materials. This is necessary for the recording of meaningful material property values.

Complementary International Standards (ISO 11403-1, ISO 11403-2 and ISO 11403-3) (see the Bibliography) are concerned with the standardized acquisition and presentation of multipoint data, to demonstrate how properties vary with important factors such as time, temperature and the presence of particular natural and chemical environments. In these standards, some additional properties are included. Their use will provide a more substantial database than one containing only single-point data, and so will enable improved assessment of the fitness of a material for any particular application. In addition, ISO 11403-1, which deals with mechanical properties, assists predictions of the performance of components and ISO 11403-2, covering thermal and processing properties, aids predictions of melt-flow behaviour during manufacturing. ISO 11403-3 is concerned with environmental influences on properties, and other parts may be prepared to cover additional properties. The various parts of ISO 11403 were written primarily for moulding materials. The test methods and test conditions referred to might not therefore be ideally suited to the acquisition of data for all long-fibre-reinforced plastics.