

INTERNATIONAL STANDARD

ISO 10724-1

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Plastics — Injection moulding of test specimens of thermosetting powder moulding compounds (PMCs) —

Part 1: General principles and moulding of multipurpose test specimens

*Plastiques — Moulage par injection d'éprouvettes en compositions de poudre
à mouler (PMC) thermodurcissables —*

Partie 1: Principes généraux et moulage d'éprouvettes à usages multiples

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Reference number
ISO 10724-1:1998(E)

ISO 10724-1:1998(E)**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.

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.

International Standard ISO 10724-1 was prepared by Technical Committee ISO/TC 61, *Plastics*, Subcommittee SC 12, *Thermosetting materials*.

Together with part 2, this part of ISO 10724 cancels and replaces ISO 10724:1994, which has been revised to improve the definition of the injection-moulding parameters and has been restructured to specify two types of ISO mould for the production of the basic specimen types required for the acquisition of comparable test data.

Care has been taken to ensure that the ISO moulds described can all be fitted in existing injection-moulding equipment and have interchangeable cavity plates.

As far as possible, the wording of this part of ISO 10724 and its definitions corresponds to that in its counterpart for thermoplastic materials, ISO 294:1996, *Plastics — Injection moulding of test specimens of thermoplastics materials*. Unlike the latter, however, there is no need for the separate moulding of rectangular bars (80 mm × 10 mm × 4 mm, which should be taken from the central portion of the multipurpose test specimen) or for the moulding of small tensile bars (≥ 60 mm × 10 mm × 3 mm). Therefore the type B and type C ISO moulds specified in ISO 294 have not been included in this part of ISO 10724. Regardless of this, and to avoid confusion, the designation of the different mould types in this part of ISO 10724 and in ISO 294 correspond to each other.

ISO 10724 consists of the following parts, under the general title *Plastics — Injection moulding of test specimens of thermosetting powder moulding compounds (PMCs)*:

- *Part 1: General principles and moulding of multipurpose test specimens*
- *Part 2: Small plates*

Annexes A to D of this part of ISO 10724 are for information only.

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International Organization for Standardization
Case postale 56 • CH-1211 Genève 20 • Switzerland
Internet iso@iso.ch

Printed in Switzerland

Introduction

Many factors in the injection-moulding process which can influence the properties of moulded test specimens and hence the measured values obtained when the specimens are used in a test method. The thermal and mechanical properties of such specimens are in fact strongly dependent on the conditions of the moulding process used to prepare the specimens. Exact definition of each of the main parameters of the moulding process is a basic requirement for reproducible and comparable operating conditions.

It is important in defining moulding conditions to consider any influence the conditions may have on the properties to be determined. Thermosets may show differences in orientation and length of anisotropic fillers such as short fibres and in curing. Residual ("frozen-in") stresses in the moulded test specimens may also influence properties. Due to the crosslinking of thermosets, molecular orientation is of less influence on mechanical properties than it is for thermoplastics. Each of these phenomena must be controlled to avoid fluctuation of the numerical values of the measured properties.