INTERNATIONAL STANDARD

ISO 1268-7

First edition
2001-05-01

Fibre-reinforced plastics — Methods of producing test plates —

Part 7: Resin transfer moulding

Plastiques renforcés de fibres — Méthodes de fabrication de plaques d'essai —

Partie 7: Moulage par transfert de résine

Reference number
ISO 1268-7:2001(E)

ISO copyright office
Case postale 56 • CH-1211 Geneva 20
Tel. + 41 22 749 01 11
Fax + 41 22 749 09 47
E-mail copyright@iso.ch
Web www.iso.ch

Printed in Switzerland

Contents

Page

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 3.

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 part of ISO 1268 may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

International Standard ISO 1268-7 was prepared by Technical Committee ISO/TC 61, *Plastics*, Subcommittee SC 13, *Composites and reinforcement fibres*.

Together with the other parts (see below), this part of ISO 1268 cancels and replaces ISO 1268:1974, which has been technically revised.

ISO 1268 consists of the following parts, under the general title *Fibre-reinforced plastics — Methods of producing test plates*:

— *Part 1: General conditions*

— *Part 2: Contact and spray-up moulding*

— *Part 3: Wet compression moulding*

— *Part 4: Moulding of prepregs*

— *Part 5: Filament winding*

— *Part 6: Pultrusion moulding*

— *Part 7: Resin transfer moulding*

— *Part 8: Compression moulding of SMC and BMC*

— *Part 9: Moulding of GMT/STC*

The following additional parts are in preparation:

— *Part 10: Injection moulding of SMC and BMC — General principles and moulding of multipurpose test specimens*

— *Part 11: Injection moulding of SMC and BMC — Small plates*

Fibre-reinforced plastics — Methods of producing test plates —

Part 7:
Resin transfer moulding

1 Scope

This part of ISO 1268 specifies a method of preparing reinforced-plastic test plates by resin transfer moulding (RTM). It is intended to be read in conjunction with ISO 1268-1.

2 Normative references

The following normative documents contain provisions which, through reference in this text, constitute provisions of this part of ISO 1268. For dated references, subsequent amendments to, or revisions of, any of these publications do not apply. However, parties to agreements based on this part of ISO 1268 are encouraged to investigate the possibility of applying the most recent editions of the normative documents indicated below. For undated references, the latest edition of the normative document referred to applies. Members of ISO and IEC maintain registers of currently valid International Standards.

ISO 1172:1996, *Textile-glass-reinforced plastics — Prepregs, moulding compounds and laminates — Determination of the textile-glass and mineral-filler content Calcination methods*.

ISO 1183 (all parts), *Plastics — Methods for determining the density of non-cellular plastics*.

ISO 1268-1, *Fibre-reinforced plastics — Methods of producing test plates — Part 1: General conditions*.

ISO 7822:1990, *Textile glass reinforced plastics — Determination of void content — Loss on ignition, mechanical disintegration and statistical counting methods*.

ISO 11357-2:1999, *Plastics — Differential scanning calorimetry (DSC) — Part 2: Determination of glass transition temperature*.

ISO 11357-5:1999, *Plastics — Differential scanning calorimetry (DSC) — Part 5: Determination of characteristic reaction-curve temperatures and times, enthalpy of reaction and degree of conversion*.

3 Health and safety

See ISO 1268-1.

4 Principle

Resin transfer moulding (RTM) is a low-pressure fabrication method carried out in a closed mould. The fibre reinforcement may be preformed. The reinforcement is placed in the cavity of the mould and the mould is closed. The resin system is injected into the cavity to impregnate the reinforcement. Subsequently, the resin is cured to form a composite plate. The procedure can be modifed, for instance by applying a vacuum to extract the air prior to resin injection, heating the resin to reduce its viscosity and curing time or, when the resin is a highly reactive one, introducing the resin and hardener separately, using two pumps, into a mixing chamber and then into the mould.