
**Fibre-reinforced plastics — Methods of
producing test plates —**

**Part 5:
Filament winding**

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

Partie 5: Moulage par enroulement filamentaire



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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 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 1268-5 was prepared by Technical Committee ISO/TC 61, *Plastics*, Subcommittee SC 13, *Composites and reinforcement fibres*.

This first edition cancels and replaces ISO 9291:1996, 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*

Annexes A and B of this part of ISO 1268 are for information only.

Fibre-reinforced plastics — Methods of producing test plates —

Part 5:

Filament winding

1 Scope

This part of ISO 1268 specifies a method of preparing reinforced-plastic test plates by the filament winding process, using textile glass rovings and the most resins (preimpregnated fibres are excluded).

It specifies the preparation, under optimum industrial conditions, of unidirectionally reinforced plates, from which test specimens for various static mechanical tests can be cut.

This part of ISO 1268 has been established for glass-reinforced plastics made of polyester or epoxy resin, but it can be extended to other types of resin and reinforcement.

It is intended to be read in conjunction with ISO 1268-1.

NOTE To aid understanding of the method, the word "rovings" is used throughout the text and is taken to include yarns, unless specifically mentioned to the contrary.

2 Normative reference

The following normative document contains 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 edition of the normative document 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 1268-1, *Fibre-reinforced plastics — Methods of producing test plates — Part 1: General conditions*.

3 Health and safety

See ISO 1268-1.

4 Principle

A roving (or a number of rovings together) impregnated with resin is wound, in several successive layers, onto a former.

The required final thickness of the plates is obtained by strapping outer-mould pieces onto the former. Polymerization can be carried out either in a press with heated platens or in an oven.

This method leads to the preparation of two similar plates simultaneously.