INTERNATIONAL STANDARD

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Fibre-reinforced plastic composites — Determination of apparent interlaminar shear strength by short-beam method

Composites plastiques renforcés de fibres — Détermination de la résistance au cisaillement interlaminaire apparent par essai de flexion sur appuis rapprochés

Reference number
ISO 14130:1997(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 14130 was prepared by Technical Committee ISO/TC 61, *Plastics*, Subcommittee SC 13, *Composites and reinforcement fibres*.

It cancels and replaces International Standard ISO 4585:1989. The main changes are as follows:

The scope of ISO 4585 has been extended to include all current and future textile-diameter fibre-reinforced plastic composites which fail in the required manner, with an additional requirement for a standard specimen thickness of 2 mm. The 3 mm thick specimen is still available as an alternative using the specimen scaling rules given in 6.1.2, but, although the test span at 15 mm is the same as previously, the width is now 15 mm (cf. 10 mm previously).

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Fibre-reinforced plastic composites — Determination of apparent interlaminar shear strength by short-beam method

1 Scope

1.1 This International Standard specifies a procedure for determining the apparent interlaminar shear strength of fibre-reinforced plastic composites by the short-beam method.

1.2 The method is suitable for use with fibre-reinforced plastic composites with a thermoset or a thermoplastic matrix, providing interlaminar shear failure is obtained.

NOTE — When using other than laminated materials which are not symmetrical and balanced, the results may be affected by various couplings such as extension/bending, bending/twisting, etc.

1.3 The method is not suitable for the determination of design parameters, but may be used for screening materials, or as a quality-control test.

2 Normative references

The following standards contain provisions which, through reference in this text, constitute provisions of this International Standard. At the time of publication, the editions indicated were valid. All standards are subject to revision, and parties to agreements based on this International Standard are encouraged to investigate the possibility of applying the most recent editions of the standards indicated below. Members of IEC and ISO maintain registers of currently valid International Standards.

ISO 291:1997, *Plastics — Standard atmospheres for conditioning and testing.*

ISO 1268:1974, *Plastics — Preparation of glass fibre reinforced, resin bonded, low-pressure laminated plates or panels for test purposes.*[1)]

ISO 2602:1980, *Statistical interpretation of test results — Estimation of the mean — Confidence interval.*

ISO 2818:1994, *Plastics — Preparation of test specimens by machining.*

ISO 5893:1993, *Rubber and plastics test equipment — Tensile, flexural and compression types (constant rate of traverse) — Description.*

1) Under revision.