INTERNATIONAL STANDARD

ISO 10406-1

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Fibre-reinforced polymer (FRP) reinforcement of concrete — Test methods —

Part 1: FRP bars and grids

Polymère renforcé par des fibres (PRF) pour l'armature du béton — Méthodes d'essai —

Partie 1: Barres et grilles en PRF

Reference number
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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 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 10406-1 was prepared by Technical Committee ISO/TC 71, *Concrete, reinforced concrete and pre-stressed concrete*, Subcommittee SC 6, *Non-traditional reinforcing materials for concrete structures*.

ISO 10406 consists of the following parts, under the general title *Fibre-reinforced polymer (FRP) reinforcement of concrete — Test methods*:

— *Part 1: FRP bars and grids*

— *Part 2: FRP sheets*

Fibre-reinforced polymer (FRP) reinforcement of concrete — Test methods —

Part 1: FRP bars and grids

1 Scope

This part of ISO 10406 specifies test methods applicable to fibre-reinforced polymer (FRP) bars and grids as reinforcements or pre-stressing tendons in concrete.

2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 291:2008, *Plastics — Standard atmospheres for conditioning and testing*

ISO 3611, *Micrometer callipers for external measurement*

ISO 4788:2005, *Laboratory glassware — Graduated measuring cylinders*

ISO 6906, *Vernier callipers reading to 0,02 mm*

ISO 7500-1, *Metallic materials — Verification of static uniaxial testing machines — Part 1: Tension/compression testing machines — Verification and calibration of the force-measuring system*

3 Terms, definitions and symbols

3.1 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

3.1.1
alkalinity
condition of having or containing hydroxyl (OH^-) ions; containing alkaline substances

NOTE In concrete, the initial alkaline environment has a pH above 13.

3.1.2
anchorage reinforcement
latticed or spiral reinforcing steel or FRP connected with the anchorage and arranged behind it