International Standard

ISO 19044

Test methods for fibre-reinforced cementitious composites — Load-displacement curve using notched specimen

Méthodes d'essai des composites à base de ciment renforcés par des fibres — Courbe de déplacement de charge utilisant un échantillon entaillé

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ISO copyright office
CP 401 • Ch. de Blandonnet 8
CH-1214 Vernier, Geneva
Phone: +41 22 749 01 11
Email: copyright@iso.org
Website: www.iso.org

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Foreword

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

This second edition cancels and replaces the first edition (ISO 19044:2016), which has been technically revised.

The main changes are as follows:

— in Clause 2, the normative reference has been updated;

— in Clause 4, the list of symbols has been updated;

— the legend for Figure 1 has been edited;

— A.7 has been updated.

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Test methods for fibre-reinforced cementitious composites — Load-displacement curve using notched specimen

1 Scope

This document specifies the test method for the load-displacement curves of fibre-reinforced cementitious composites (FRCC) by three-point loading of notched prisms. The main purpose of this test is to evaluate the tension softening curve of FRCC.

NOTE 1 Both crack mouth opening displacement (CMOD) and load point displacement (LPD) are specified as the displacement in load-displacement curves, but measurement of both might not be necessary. Either can be selected depending on the purpose of measurement.

NOTE 2 Three-point bending test using notched specimen generally provides higher results than those observed in four-point bending test, in which the fracture occurs at the weakest point of the specimen.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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 1920-3:2019, *Testing of concrete — Part 3: Making and curing test specimens*

3 Terms and definitions

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

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

— ISO Online browsing platform: available at http://www.iso.org/obp

— IEC Electropedia: available at https://www.electropedia.org/

3.1
fibre-reinforced cementitious composite
FRCC
concrete or mortar containing short discrete fibres that are distributed in matrix

Note 1 to entry: Fibres include chemical fibres (metallic fibres, inorganic fibres, synthetic fibres, and so on) and natural fibres.

3.2
ligament
area above the notch subject to fracture

3.3
notch
cut for the initiation of fracture

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