
**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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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.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

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For an explanation on the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT) see the following URL: www.iso.org/iso/foreword.html.

The committee responsible for this document is ISO/TC 71, *Concrete, reinforced concrete and pre-stressed concrete*, Subcommittee SC 6, *Non-traditional reinforcing materials for concrete structures*.

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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 1920-3:2004, *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:

- IEC Electropedia: available at <http://www.electropedia.org/>
- ISO Online browsing platform: available at <http://www.iso.org/obp>

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