Irish Standard
I.S. EN 14889-2:2007

Fibres for concrete - Part 2: Polymer fibres - Definitions, specifications and conformity

I.S. EN 14889-2:2007

Incorporating amendments/corrigenda issued since publication:

The National Standards Authority of Ireland (NSAI) produces the following categories of formal documents:

I.S. xxx: Irish Standard – national specification based on the consensus of an expert panel and subject to public consultation.

S.R. xxx: Standard Recommendation - recommendation based on the consensus of an expert panel and subject to public consultation.

SWiFT xxx: A rapidly developed recommendatory document based on the consensus of the participants of an NSAI workshop.

This document replaces/revises/consolidates the NSAI adoption of the document(s) indicated on the CEN/CENELEC cover/Foreword and the following National document(s):

NOTE: The date of any NSAI previous adoption may not match the date of its original CEN/CENELEC document.

This document is based on:
EN 14889-2:2006

Published:
23 August, 2006

This document was published under the authority of the NSAI and comes into effect on:
15 June, 2007

ICS number:
91.100.30

NSAI
1 Swift Square,
Northwood, Santry
Dublin 9

T +353 1 807 3800
F +353 1 807 3838
E standards@nsai.ie
W NSAI.ie

Sales:
T +353 1 857 6730
F +353 1 857 6729
W standards.ie

Údarás um Chaighdeáin Náisiúnta na hÉireann

I.S. EN 14889-2:2007

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 14889-2

August 2006

ICS 91.100.30

English Version

Fibres for concrete - Part 2: Polymer fibres - Definitions, specifications and conformity

Fibres pour béton - Partie 2 : Fibres polymère - Définition, spécifications et conformité

Fasern für Beton - Teil 2: Polymerfasern - Begriffe, Festlegungen und Konformität

This European Standard was approved by CEN on 26 June 2006.

CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the Central Secretariat or to any CEN member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the Central Secretariat has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and United Kingdom.

EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

Management Centre: rue de Stassart, 36 B-1050 Brussels

Ref. No. EN 14889-2:2006: E

Contents

Page

Foreword

This document (EN 14889-2:2006) has been prepared by Technical Committee CEN/TC 104 “Concrete and related products”, the secretariat of which is held by DIN. It has been developed by working group 11, "Fibres for concrete", the secretariat of which is held by BSI.

This standard comprises two parts:
Part 1 dealing with steel fibres for concrete,
Part 2 dealing with polymer fibres

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by February 2007, and conflicting national standards shall be withdrawn at the latest by May 2008.

This document has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association, and supports essential requirements of the Construction Products Directive.

For relationship with EU Directive(s), see informative Annex ZA, which is an integral part of this document.

This European Standard should be given the status of a national standard.

No existing European Standard is superseded.

Not all fibre characteristics that may be relevant to the performance of a fibre concrete, structural or non-structural, such as early age effects, creep and chemical attack, have been addressed in this standard due to the difficulties of formulating meaningful and reproducible standardised test methods.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and United Kingdom.

1 Scope

This Part 2 of EN 14889 specifies requirements for polymer fibres for structural or non-structural use in concrete, mortar and grout.

NOTE Structural use of fibres is where the addition of fibres is designed to contribute to the load bearing capacity of a concrete element. This standard covers fibres intended for use in all types of concrete and mortar, including sprayed concrete, flooring, precast, in-situ and repair concretes.

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.

EN 10002-1, *Metallic materials – Tensile testing – Part 1: Method of test at ambient temperature*

EN 12350-3, *Testing fresh concrete – Part 3: Vebe test*

EN 13392, *Textiles – Monofilaments – Determination of linear density*

prEN 14845-1, *Test methods for fibres in concrete – Part 1: Reference concretes*

EN 14845-2, *Test methods for fibres in concrete – Part 2: Effect on concrete*

EN ISO 2062, *Textiles – Yarns from packages – Determination of single-end breaking force and elongation at break (ISO 2062:1993)*

ISO 11357-3, *Plastics – Differential scanning calorimetry (DSC) – Part 3: Determination of temperature and enthalpy of melting and crystallization*

3 Terms and definitions

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

3.1
polymer
polymeric material such as polyolefin, e.g. polypropylene or polyethylene, polyester, nylon, pva, polyacrylic, aramids and blends of them

3.2
polymer fibres
straight or deformed pieces of extruded, orientated and cut material which are suitable to be homogeneously mixed into concrete or mortar

3.3
length
distance between the outer ends of the fibre

3.3.1
developed length (for deformed fibres with irregular cross section)

length of the deformed fibre after straightening the fibre without deforming the cross section