National Standards Authority of Ireland

IRISH STANDARD

I.S. EN 14649:2005

ICS 91.100.30

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PRECAST CONCRETE PRODUCTS - TEST METHOD FOR STRENGTH RETENTION OF GLASS FIBRES IN CEMENT AND CONCRETE (SIC TEST)

This Irish Standard was published under the authority of the National Standards Authority of Ireland and comes into effect on:

June 22, 2005

Price Code G

Údarás um Chaighdeáin Náisiúnta na hÉireann

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 14649

April 2005

ICS 91.100.30

English version

Precast concrete products - Test method for strength retention of glass fibres in cement and concrete (SIC TEST)

Produits préfabriqués en béton - Méthode d'essai de la conservation de la résistance des fibres de verre en contact avec le ciment et le béton (SIC-TEST)

Vorgefertigte Betonerzeugnisse - Prüfverfahren zur Bestimmung der Beständigkeit von Glasfasern in Beton (SIC-Prüfung)

This European Standard was approved by CEN on 3 March 2005.

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EUROPÄISCHES KOMITEE FÜR NORMUNG

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Ref. No. EN 14649:2005: E

Contents

Foreword

This document (EN 14649:2005) has been prepared by Technical Committee CEN/TC 229 “Precast concrete products”, the secretariat of which is held by AFNOR.

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of an identical text or by endorsement, at the latest by October 2005, and conflicting national standards shall be withdrawn at the latest by October 2005.

This document includes a Bibliography.

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, Slovakia, Slovenia, Spain, Sweden, Switzerland and United Kingdom.

Introduction

The Strand in Cement (SIC) test measures the tensile strength of a glass fibre strand in a specified hardened cement or mortar environment. The test enables an assessment to be made of the strength durability of strands of glass fibre after accelerated ageing, under conditions which approximate to those in a cement or concrete precast product.

This test may be used to ensure that an AR glass fibre complies with the specified minimum value of retained strength as defined in the related standard *Precast Concrete products - classification of GRC performances* when tested in standard conditions. The test is a type test, and is appropriate to determine whether the fibre is suitable to use in a standard current matrix, or if necessary using different types of cement or modified cement matrices. The method utilises a strand of glass fibre as used in the commercial glass fibre reinforcement product. In the test the middle section of a length of glass fibre strand is encased within a block of cement paste. The block is cured and aged under defined conditions for a given time and the strength of the encased part of the strand is determined by applying a tensile load at each end of the strand. The test may be performed on strands extracted from a roving or on strands from a cake prior to making up into rovings or chopped strands. Strands of different tex may be assessed.