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English version

Precast concrete products - General rules for factory production control of metallic fibered concrete

Produits préfabriqués en béton - Règles générales pour le contrôle de la production en usine de béton de fibres métalliques

Betonfertigteile - Allgemeine Regeln für die werkseigene Produktionskontrolle von Beton mit metallischen Fasern

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

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.

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Foreword

This European Standard (EN 14650:2005) 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of an identical text or by endorsement, at the latest by November 2005, and conflicting national standards shall be withdrawn at the latest by November 2005.

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.

1 Scope

This document defines the general rules for factory production control of metallic fibered concrete.

This document does not specify the conformity control procedure for the finished metallic fibered concrete products, for which reference should be made to European product standards or, if none, to the technical specifications defined and agreed between the customer and the manufacturer.

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 206-1:2000, *Concrete — Part 1: Specification, performance, production and conformity*

EN 13369:2004, *Common rules for precast concrete products.*

EN 14651, *Test method for metallic fibered concrete — Measuring the flexural tensile strength (limit of proportionality (LOP), residual).*

prEN 14721, *Precast concrete products - Test method for metallic fibre concrete — Measuring the fibre content in fresh and hardened concrete.*

3 Concrete production requirements

3.1 General

4.2.1 of EN 13369:2004 applies.

3.2 Storage of materials

9.6.2.1 of EN 206-1:2000 applies.

3.3 Batching of constituent materials

9.7 of EN 206-1:2000 applies.

The tolerance of batching fibres shall not exceed $\pm 5\%$ of the required quantity for all quantities of concrete of 1 m^3 or more.

4 Factory production control

4.1 General

6.3 of EN 13369:2004 applies.

The switching rules given in Table D.5 of EN 13369:2004 also apply to the supplementary inspection schemes given in Table A.1.

4.2 Equipment inspection

The equipment inspection scheme given in Table D.1 of EN 13369:2004 shall be supplemented by the scheme given in part A.1 of Table A.1.

4.3 Materials inspection

The materials inspection scheme given in Table D.2 of EN 13369:2004 shall be supplemented by the scheme given in part A.2 of Table A.1.

4.4 Production process inspection

The production process inspection scheme given in Table D.3 of EN 13369:2004 shall be supplemented by the scheme given in part A.3 of Table A.1.

4.5 Finished product inspection

The finished product inspection scheme given in Table D.4 of EN 13369:2004 shall be supplemented by the scheme given in part A.4 of Table A.1.

Annex A (normative)

Supplementary inspection schemes

Table A.1 — Supplementary inspection schemes

	SUBJECT	METHOD	PURPOSE	FREQUENCY
A.1 Equipment inspection^a				
1	Displacement measuring equipment	Except as indicated in the test method, calibrating against equipment which has been calibrated to National Standards and is used exclusively for this purpose	Correct functioning and accuracy	<ul style="list-style-type: none"> - on (re)installation or after major repair; - once per year.
A.2 Materials inspection				
1	Metallic fibres ^b	Visual inspection	Conformity with normal appearance	Each delivery.
A.3 Production process inspection				
1	Fibre content of fresh concrete	Testing according to prEN 14721	Conformity with the specified content	As specified in the product standard ^c
2	Concrete mix	Visual check	Correct mixing with correct steel fibre type and even fibre distribution without balling	Daily for each batch
A.4 Finished product inspection				
1	Fibre content	Testing according to prEN 14721	Conformity with the specified content	As specified in the product standard ^c
2	Flexural tensile strength	Testing according to EN 14651 or any other appropriate EN if mentioned in the product standard	Conformity with the specified value	As specified in the product standard ^{c, d}
<p>^a National regulations prevail if they require higher frequency.</p> <p>^b Material shall be submitted to an assessment of conformity before delivery.</p> <p>^c Failing a product standard, the frequency shall be as agreed between the customer and the manufacturer.</p> <p>^d The product standard may reduce the frequency and tighten the frequency for the inspection of fibre content and compressive strength accordingly.</p>				