

**SLOVENSKI
STANDARD**

SIST EN 1504-1:1998

prva izdaja
maj 1998

Proizvodi in sistemi za zaščito in obnovo betonskih konstrukcij - Definicije, zahteve, kontrola kakovosti in ovrednotenje skladnosti - 1. del: Definicije

Products and systems for the protection and repair of concrete structures -
Definitions, requirements, quality control and evaluation of conformity - Part 1:
Definitions

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EUROPEAN STANDARD

EN 1504-1

NORME EUROPÉENNE

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January 1998

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Descriptors: concrete structures, repairs, maintenance, reinforced : structures, protection, materials, products for concrete construction, definitions

English version

Products and systems for the protection and repair of concrete structures - Definitions, requirements, quality control and evaluation of conformity - Part 1: Definitions

Produits et systèmes pour la protection et la réparation des structures en béton - Définitions, prescriptions, maîtrise de la qualité et évaluation de la conformité - Partie 1: Définitions

Produkte und Systeme für den Schutz und die Instandsetzung von Betontragwerken - Definitionen, Anforderungen, Güteüberwachung und Beurteilung der Konformität - Teil 1: Definitionen

This European Standard was approved by CEN on 20 December 1997.

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.

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

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Foreword

This European Standard has been prepared by Technical Committee CEN/TC 104 "Concrete (performance, production, placing and compliance criteria)", the secretariat of which is held by DIN.

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 July 1998, and conflicting national standards shall be withdrawn at the latest by July 1998.

This European Standard is part of a series of standards dealing with the general considerations related to the products and systems for the repair and protection of concrete structures.

The other parts of this Standard are :

- prEN 1504-2 Products and systems for the protection and repair of concrete structures - Definitions, requirements, quality control and evaluation of conformity - Part 2 : Surface protection systems ;
- prEN 1504-3 Products and systems for the protection and repair of concrete structures - Definitions, requirements, quality control and evaluation of conformity - Part 3 : Structural and non structural repair ;
- prEN 1504-4 Products and systems for the protection and repair of concrete structures - Definitions, requirements, quality control and evaluation of conformity - Part 4 : Structural bonding ;
- prEN 1504-5 Products and systems for the protection and repair of concrete structures - Definitions, requirements, quality control and evaluation of conformity - Part 5 : Concrete injection ;
- prEN 1504-6 Products and systems for the protection and repair of concrete structures - Definitions, requirements, quality control and evaluation of conformity - Part 6 : Grouting to anchor of reinforcement or to fill external voids ;
- prEN 1504-7 Products and systems for the protection and repair of concrete structures - Definitions, requirements, quality control and evaluation of conformity - Part 7 : Reinforcement corrosion prevention ;
- prEN 1504-8 Products and systems for the protection and repair of concrete structures - Definitions, requirements, quality control and evaluation of conformity - Part 8 : Quality control and evaluation of conformity ;
- ENV 1504-9 Products and systems for the protection and repair of concrete structures - Definitions, requirements, quality control and evaluation of conformity - Part 9 : General principles for the use of products and systems.
- prENV 1504-10 Products and systems for the protection and repair of concrete structures - Definitions, requirements, quality control and evaluation of conformity - Part 10 : Site application of products and systems, and quality control of the works.

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

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1 Scope

This standard defines terms relating to products and systems for repair, for use in maintenance and protection, restoration and strengthening of concrete structures.

2 Normative references

This European Standard incorporates by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this European Standard only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies.

- prEN 934-2 Admixtures for concrete, mortar and grout - Part 2 : Concrete admixtures - Definitions, specifications and conformity criteria.
- ENV 197-1 Cement - Composition, specifications and conformity criteria - Part 1 : Common cement
- ENV 413-1 Masonry cement - Part 1 : Specification
- ENV 459-1 Building lime - Part 1 : Definitions, specifications and conformity criteria

3 Definitions

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For the purposes of the parts of this Standard, the following definitions apply :

3.1 general

3.1.1 product

Constituents formulated for the repair or protection of concrete structures.

3.1.2 systems

Two or more products which are used together, or consecutively, to undertake repair or protection of concrete structures.

3.1.3 technology

Application of a product or system using specific equipment or method (for example crack injection).

3.1.4 performance

Ability of a product or system to provide an effective and durable repair or protection without adverse effects on the original structure, other structures, site operatives, users, third parties and environment.

3.1.5 performance requirements

Required mechanical, physical and chemical properties of products and systems to provide durability and stability of both the repaired concrete and the structure.

3.2 main categories of products and systems

3.2.1 surface protection products and systems

Products and systems which, when applied, improve the durability of concrete and reinforced concrete structures.

3.2.2 non-structural repair products and systems

Products and systems which, when applied on a concrete surface, restore the geometric or aesthetic aspect of the structure.

3.2.3 structural repair products and systems

Products and systems applied to a concrete structure, to replace defective concrete and to restore structural integrity and durability.

3.2.4 products and systems for bonding

Products and systems applied to concrete to provide a durable structural bond to additional applied material.

3.2.5 products and systems for injection

Products and systems which, when injected into a concrete structure, restore the structural integrity and/or durability.

3.2.6 products and systems for anchoring

Products and systems which :

- anchor reinforcement into concrete to give adequate structural behaviour ;
- fill cavities in order to ensure a continuity between steel and concrete elements.

3.2.7 products and systems for protecting reinforcement or/and other steel elements

Products and systems applied to unprotected reinforcement to improve the durability of the repair.

3.3 main chemical types and constituents of protection and repair products and systems

3.3.1 impregnating hydrophobic pore lining

Liquid products which penetrate into the concrete to form a hydrophobic lining on the pore walls.

3.3.2 impregnating pore filling materials

Liquid products which penetrate and impregnate the pores of the concrete and form solid materials.

3.3.3 film forming systems

Liquid products applied to a concrete surface, to form a continuous film.

3.3.4 hydraulic binders (H)

Cements conforming to ENV 197-1 or to ENV 413-1, building limes conforming to ENV 459-1 or a combination of a cement conforming to ENV 197-1 with a Type II addition (see 3.3.7) conforming to its European Standard.

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NOTE : Until European Standards for cements and additions are adopted, cements and additions should comply with national regulations or standards valid in the place of use.

3.3.5 reactive polymer (P) binder

Binders which generally consist of two components, a reactive polymer base and a hardener or catalyst, and which cure at ambient temperature. Additives (see 3.3.8) may also be added.

NOTE 1 : Ambient moisture vapour may act as the hardener/catalyst in some systems.

NOTE 2 : Usual binders are for example :

- epoxies ;
- polyesters ;
- cross-linkable acrylics ;
- one or two-component polyurethanes.

3.3.6 admixtures

Admixtures are defined in prEN 934-2.