



SLOVENSKI STANDARD

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Proizvodi in sistemi za zaščito in popravilo betonskih konstrukcij - Definicije, zahteve, kontrola kakovosti in ocenjevanje ter preverjanje nespremenljivosti lastnosti (AVCP) - 8. del: Kontrola kakovosti in ocenjevanje ter preverjanje nespremenljivosti lastnosti (AVCP)

Products and systems for the protection and repair of concrete structures - Definitions, requirements, quality control and AVCP - Part 8: Quality control and Assessment and verification of the constancy of performance (AVCP)

Produkte und Systeme für den Schutz und die Instandsetzung von Betontragwerken - Definitionen, Anforderungen, Qualitätskontrolle und AVCP - Teil 8: Qualitätskontrolle und Bewertung und Überprüfung der Leistungsbeständigkeit

Produits et systèmes pour la protection et la réparation de structures en béton - Définitions, prescriptions, maîtrise de la qualité et EVCP - Partie 8 : Maîtrise de la qualité et Évaluation et vérification de la constance des performances

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Products and systems for the protection and repair of concrete structures - Definitions, requirements, quality control and AVCP - Part 8: Quality control and Assessment and verification of the constancy of performance (AVCP)

Produits et systèmes pour la protection et la réparation
de structures en béton - Définitions, prescriptions,
maîtrise de la qualité et EVCP - Partie 8 : Maîtrise de la
qualité et Évaluation et vérification de la constance des
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Produkte und Systeme für den Schutz und die
Instandsetzung von Betontragwerken - Definitionen,
Anforderungen, Qualitätskontrolle und AVCP - Teil 8:
Qualitätskontrolle und Bewertung und Überprüfung
der Leistungsbeständigkeit

This draft European Standard is submitted to CEN members for unique acceptance procedure. It has been drawn up by the Technical Committee CEN/TC 104.

If this draft becomes a European Standard, 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.

This draft European Standard was established by CEN 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 CEN-CENELEC Management Centre has the same status as the official versions.

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Recipients of this draft are invited to submit, with their comments, notification of any relevant patent rights of which they are aware and to provide supporting documentation.

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European foreword

This document (FprEN 1504-8:2015) has been prepared by Technical Committee CEN/TC 104 “Concrete and related products”, the secretariat of which is held by DIN.

This document is currently submitted to the Unique Acceptance Procedure.

This document will supersede EN 1504:8:2004.

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 EU Directive(s).

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

The main changes that have been made in this new edition are as follows:

The wording has been adapted to the CPR (Regulation (EU) No. 305/2011).

EN 1504 consists of the following parts under the general title *Products and systems for the protection and repair of concrete structures — Definitions, requirements, quality control and AVCP*.

- *Part 1: Definitions*
- *Part 2: Surface protection products and systems for concrete*
- *Part 3: Repair concrete and mortars*
- *Part 4: Structural bonding*
- *Part 5: Concrete injection*
- *Part 6: Anchoring of reinforcing steel bar*
- *Part 7: Reinforcement corrosion protection*
- *Part 9: General principles for the use of products and systems*
- *Part 10: Site application of products and systems and quality control of the works*

FprEN 1504-8:2015 (E)**1 Scope**

This Part of EN 1504 specifies procedures for sampling, quality control, assessment and verification of the constancy of performance (AVCP) including marking and labelling of products and systems for the protection and repair of concrete according to EN 1504-2 to -7.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

EN 1504-1, *Products and systems for the protection and repair of concrete structures - Definitions, requirements, quality control and evaluation of conformity - Part 1: Definitions*

EN 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 for concrete*

EN 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*

EN 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*

EN 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*

EN 1504-6, *Products and systems for the protection and repair of concrete structures - Definitions, requirements, quality control and evaluation of conformity - Part 6: Anchoring of reinforcing steel bar*

EN 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 protection*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in EN 1504-1 and the following apply.

3.1**batch**

quantity of material made in a single operation, or in the case of continuous production for a defined quantity (in tonnes) which shall be demonstrated by the producer to have a uniform composition and shall not exceed one day's production

3.2**identification test**

test carried out to verify a declared value of the composition or property of the product or system in terms of consistency of the production

Note 1 to entry: This is to ensure that the product or system being tested corresponds to the product or system subjected to the initial type test, within the permitted tolerances.

3.3

performance test

test carried out to verify a value for a required property of the product or system in terms of its specified performance during application and use

Note 1 to entry: This is to ensure that the product or system conforms to its specified performance characteristics.

3.4

declared value

value declared and documented by the manufacturer for identification or performance requirements

4 Sampling

4.1 General

Sampling shall be carried out in such a way that the resulting sample is homogeneous and representative of the batch or product to be inspected. Samples shall be clearly labelled to uniquely identify the source, location and time of sampling. The sample size shall be sufficient for all the required testing in accordance with the relevant test method standards.

A part of the sample should be retained for future reference until the use by date.

4.2 Record

All information relevant to the sampling shall be recorded, including in particular:

- a) date of manufacture and sampling;
- b) unique identification of the product and of the sample(s);
- c) type of material and quantity of sample(s);
- d) name of the manufacturer;
- e) manufacturer's batch identification number;
- f) quantity of batch or product represented by the sample;
- g) physical state;
- h) colour or appearance;
- i) name(s) of the person(s) responsible for sampling;
- j) method of sampling.

4.3 Frequency of sampling

For frequency of sampling see frequency of testing in EN 1504 –2 to –6.

5 Assessment and verification of the constancy of performance (AVCP)

5.1 General

The compliance of the products and systems for the protection and repair of concrete structures with the requirement of this standard and with the performances declared by the manufacturer in the DoP shall be demonstrated by:

- determination of the product type;
- factory production control by the manufacturer, including product assessment.

The manufacturer shall always retain the overall control and shall have the necessary means to take responsibility for the conformity of the product with its declared performance(s).

NOTE The assignment of tasks to the notified bodies and the manufacturer is shown in Annex ZA, Tables ZA.3ff of the relevant part of this standard.

5.2 Type testing

5.2.1 General

All performances related to characteristics included in this standard shall be determined when the manufacturer intends to declare the respective performances unless the standard gives provisions for declaring them without performing tests. (e.g. use of previously existing data, CWFT and conventionally accepted performance).

Assessment previously performed in accordance with the provisions of this standard, may be taken into account provided that they were made to the same or a more rigorous test method, under the same AVCP system on the same product or products of similar design, construction and functionality, such that the results are applicable to the product in question.

NOTE 1 Same AVCP system means testing by an independent third party [only for products covered by system 1+, 1 and 3], under the responsibility of a notified product certification body [only for products covered by system 1+ and 1].

For the purposes of assessment, the manufacturer's products may be grouped into families, where it is considered that the results for one or more characteristics from any one product within the family are representative for that same characteristics for all products within that same family

NOTE 2 Products may be grouped in different families for different characteristics.

Reference to the assessment method standards should be made to allow the selection of a suitable representative sample.

In addition, the determination of the product type shall be performed for all characteristics included in the standard for which the manufacturer declares the performance:

- at the beginning of the production of a new or modified product or system for the protection and repair of concrete structures (unless a member of the same product range), or
- at the beginning of a new or modified method of production (where this may affect the stated properties); or
- they shall be repeated for the appropriate characteristic(s), whenever a change occurs in the product or system for the protection and repair of concrete structures design, in the raw material or in the supplier of the components, or in the method of production (subject to the definition of a family), which would affect significantly one or more of the characteristics.

Where components are used whose characteristics have already been determined, by the component manufacturer, on the basis of assessment methods of other product standards, these characteristics need not be re-assessed. The specifications of these components shall be documented.

Products bearing regulatory marking in accordance with appropriate harmonized European specifications may be presumed to have the performances declared in the DoP, although this does not replace the responsibility on the product or system for the protection and repair of concrete structures manufacturer to ensure that the product or system for the protection and repair of concrete structures as a whole is correctly manufactured and its component products have the declared performance values.

5.2.2 Test samples, testing and compliance criteria

The number of samples of products and systems for the protection and repair of concrete structures to be tested/assessed shall be as specified by the materials specification part of this standard (EN 1504-2 to -7).

5.2.3 Test reports

The results of the determination of the product type shall be documented in test reports. All test reports shall be retained by the manufacturer for at least 10 years after the last date of production of the products and systems for the protection and repair of concrete structures to which they relate.

5.2.4 Shared other party results

A manufacturer may use the results of the product type determination obtained by someone else (e.g. by another manufacturer, as a common service to manufacturers, or by a product developer), to justify his own declaration of performance regarding a product that is manufactured according to the same design (e.g. dimensions) and with raw materials, constituents and manufacturing methods of the same kind, provided that:

- the results are known to be valid for products with the same essential characteristics relevant for the product performance;
- in addition to any information essential for confirming that the product has such same performances related to specific essential characteristics, the other party who has carried out the determination of the product type concerned or has had it carried out, has expressly accepted¹ to transmit to the manufacturer the results and the test report to be used for the latter's product type determination, as well as information regarding production facilities and the production control process that can be taken into account for FPC;
- the manufacturer using other party results accepts to remain responsible for the product having the declared performances and he also:
 - ensures that the product has the same characteristics relevant for performance as the one that has been subjected to the determination of the product type, and that there are no significant differences with regard to production facilities and the production control process compared to that used for the product that was subjected to the determination of the product type; and
 - keeps available a copy of the determination of the product type report that also contains the information needed for verifying that the product is manufactured according to the same design and with raw materials, constituents and manufacturing methods of the same kind.

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5.2.5 Cascading determination of the product type result

For some construction products, there are companies (often called “system houses”) which supply or ensure the supply of, on the basis of an agreement¹⁾²⁾, some or all of the components (e.g. in case of windows: profiles, gaskets, weather strips)³⁾ to an assembler who then manufactures the finished product (referred to below as the “assembler”) in his factory.

Provided that the activities for which such a system house is legally established include manufacturing/assembling of products as the assembled one, the system house may take the responsibility for the determination of the product type regarding one or several essential characteristics of an end product which is subsequently manufactured and/or assembled by other firms in their own factory.

When doing so, the system house shall submit an “assembled product” using components manufactured by it or by others, to the determination of the product type and then make the determination of the product type report available to the assemblers, i.e. the actual manufacturer of the product placed on the market.

To take into account such a situation, the concept of cascading determination of the product type might be taken into consideration in the technical specification, provided that this concerns characteristics for which either a notified product certification body or a notified test laboratory intervene, as presented below.

The determination of the product type report that the system house has obtained with regard to tests carried out by a notified body, and which is supplied to the assemblers, may be used for the regulatory marking purposes without the assembler having to involve again a notified body to undertake the determination of the product type of the essential characteristic(s) that were already tested, provided that:

- the assembler manufactures a product which uses the same combination of components (components with the same characteristics), and in the same way, as that for which the system house has obtained the determination of the product type report. If this report is based on a combination of components not representing the final product as to be placed on the market, and/or is not assembled in accordance with the system house’s instruction for assembling the components, the assembler needs to submit his finished product to the determination of the product type;
- the system house has notified to the manufacturer the instructions for manufacturing/assembling the product and installation guidance;
- the assembler (manufacturer) assumes the responsibility for the correct assembly of the product in accordance with the instructions for manufacturing/assembling the product and installation guidance notified to him by the system house;
- the instructions for manufacturing/assembling the product and installation guidance notified to the assembler (manufacturer) by the system house are an integral part of the assembler’s Factory Production Control system and are referred to in the determination of the product type report;

1) The formulation of such an agreement can be done by license, contract, or any other type of written consent.

2) This can be, for instance, a contract, license or whatever kind of written agreement, which should also contain clear provisions with regard to responsibility and liability of the component producer (system house, on the one hand, and the assembler of the finished product, on the other hand).

3) These companies may produce components but they are not required to do so.