

<p style="text-align: center;">GNB-CPD SG02</p>	<p style="text-align: center;">Guidance from the Group of Notified Bodies for the Construction Products Directive 89/106/EEC</p>	<p style="text-align: center;">NB-CPD/SG02/03/001 Issued: 09 April 04 APPROVED – SG02 GUIDANCE</p>
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Operating procedure for the attestation of conformity of common cements in compliance with annex ZA of EN 197-1

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1. FOREWORD

- 1.1 The Sector Group 02 of the Notified Bodies (NBs) of the Construction Products Directive 89/106/EEC has prepared the present document to support the NBs to prepare equivalent procedures to issue EC Certificate of Conformity to Annex ZA of EN 197-1 on request of a cement Manufacturer.
- 1.2 The scope of this document is to supplement some parts of the “Guidelines for the application of EN 197-2 Conformity Evaluation” (CEN/TC51 - Document N° 650, Rev.1° approved in Krakov 7-8.09.2000, see Annex 6) taking into consideration the necessary internal procedures of the certification bodies. All the activities of the Notified certification Body, necessary to achieve the EC Certificate of Conformity, are reported and explained in the sequence of the certification activity. Where it is not necessary to give a further explanation of the certification activity, the relevant clause(s) of the “Guidelines for the application of EN 197-2 Conformity Evaluation CEN/TC51 - Document N° 650, Rev.1° are recalled. During the preparation of the present “Operating Procedure”, the Sector Group 02 has taken into consideration the experience of European Institutes for Certification/Inspection and Testing Laboratories in the field of cement as per the documents in the reference list.
- 1.3 It is underlined that the Cement Manufacturer/Holder of the CE Marking is only responsible for granting that cements bearing the CE Marking have all the characteristics required by Annex ZA of EN 197-1 (issued on the Official Journal of the European Communities C20, 23rd of January 2001).

2. SCOPE AND FIELD OF APPLICATION

- 2.1 This document defines and describes the sequence of the main operational procedures to be followed by a Notified Certification Body in granting EC Attestation of Conformity for cements on the basis of the requirements of Annex ZA of EN 197-1.

3. REFERENCE LIST

- 3.1 Construction Products Directive 89/106/EEC
- 3.2 Guidance Paper B – The definition of Factory Production Control in technical specifications for construction products
- 3.3 Guidance Paper D – CE Marking under the Construction Products Directive
- 3.4 Guidance Paper K – The attestation of conformity systems and the role and tasks of the notified bodies in the field of the Construction Products Directive
- 3.5 EN 197-1, including annex ZA
- 3.6 EN 197-2
- 3.7 EN ISO 9000, for definitions only
- 3.8 CEN/TC51 - Guidelines for the application of EN 197-2 Conformity Evaluation (Annex 7)

4 TERMINOLOGY

For those terms that are not included in the documents listed in clause 3 and for those that needed to be detailed, the definition is given below

4.1 **Additional identification of cement**

Additional identification not specified by EN 197-1 and not certified under this Scheme, but necessary to identify the cement, related only to its characteristics/performances (see Guidelines for the Application of EN 197-2, § 7 and § 8.1 note “g”)

4.2 **Additional information of cement**

Additional information given in EN 197-1 annex ZA (notes 6, 7, 8)

4.3 **Applicant**

Manufacturer applying for the EC Certificate of Conformity for one or more cements produced in one factory, directly or through its Authorised representative.

4.4 **Audit sample**

Spot sample taken under the responsibility of the Notified Certification Body, at any time without prior notice, at the point(s) of release of cement from the factory and/or depot supplied with cement by the factory. (see the description in § 5.4.1 of EN 197-2)

4.5 **Authorised representative**

Any natural or legal person, expressly designated by the manufacturer, to act on his behalf. The authorised representative must be established inside the EEA.

4.6 **Brand name**

A unique proprietary name owned and used by a manufacturer for a type of cement.

4.7 **CIRCA**

The European Commission Website dedicated to the Construct Products Directive related activities in which is contained all the information concerning the general co-ordination of the certification (Advisory Group NB-CPD) and the specific co-ordination (Sector Groups) in the frame of EC-mandates. Relevant information may be found at any time by consulting: <http://forum.europa.eu.int/Members/irc/enterprise/cpdgnb/home>

4.8 **EC Certificate of conformity**

A Certificate which entitles the manufacturer to affix the CE Marking (see the description in Annex ZA.3 of EN 197-1)

4.9 **EC Certified cement**

Cement for which an EC Certificate of Conformity has been issued

4.10 **EC Declaration of conformity**

Declaration by the manufacturer or its Authorised Representative in conformity with EN 197-1 annex ZA

4.11 **Holder (of the EC Certificate of Conformity)**

The Manufacturer is the holder of the EC Certificate of Conformity and the only one entitled to affix the CE marking

4.12 **Inspector**

Person appointed under the responsibility of the Notified Certification Body to perform the activities of inspection and/or audit sampling

5 EC CEMENT CERTIFICATION PROCESS (for a New Factory)

5.1 The scheme to be followed by the Notified Certification Body to grant the EC Certificate (in the case of a New Factory) is divided into four main “operative phases”. A further phase concerns continuous surveillance (see chapter 11).

Scheme of reference for the EC cement certification process	
1st - Starting/Application/Acceptance (see chapter 6):	
	Application receipt/acceptance
	Acceptance of the application
	Examination of the received documents
2nd - Initial Inspection of the factory and factory production control (see chapter 7):	
	Assessment of the quality documentation
	Initial inspection of the Factory and Factory Production Control
	Initial inspection of the Laboratory of the Factory
	Report of the results of the initial inspection
3rd – Initial Audit sampling/Type testing and issue of EC Certificate of Conformity (see chapter 8):	
	Audit Sampling
	Testing of the first audit sample
	Evaluation of the results of the first audit sample
	Issue of the EC Certificate of Conformity and information to the manufacturer
	Additional identification of cement
4th - Initial period (see chapter 9):	
	Subsequent audit samples
	Testing of the subsequent audit samples
	Receiving testing results
	Evaluation of the auto-control results
	Evaluation of the subsequent audit samples results
	Decision that the EC Certificate of Conformity remains valid (and information to the Manufacturer)

6 STARTING / APPLICATION / ACCEPTANCE - 1st Phase

6.1 Application by the Manufacturer

Each application refers to cement, produced in one Factory

The application shall be addressed to a Notified Certification Body. As an example a format is given in Annex 1.

The application and the attached documents shall be submitted in a language previously agreed between the applicant and the Notified Certification Body. (see also Guidance § 5.2.1)

The applicant must formally declare whether or not another application has been sent to any other Notified Certification Body, for the same cement.

The manufacturer has to request in which of the official language(s) of the EEA the first issue of the EC Certificate of Conformity has to be written.

In the case where the cement already bears a still valid EC Certificate of Conformity and the Manufacturer intends to change the Notified Certification Body and addresses a new application for the same cement, he should give in annex a copy of that EC Certificate.

6.2 Acceptance of the application

The application shall be verified and missing or corrected documents shall be requested.

The Notified Certification Body shall inform the applicant about the sub-contracted Bodies for the certification process.

The Notified Certification Body shall send to the Manufacturer a formal confirmation of its acceptance or non-acceptance of the application. The non-acceptance shall be motivated.

Following the application acceptance, the Notified Certification Body shall send to the Manufacturer a formal communication of the agreed dates of the Initial Inspection Visit.

The communication should include the number of the EC Certificate of Conformity to enable the manufacturer to prepare, only under its responsibility, the CE marking to be affixed on the bags and on the shipping documents.

6.3 Examination of the received documents

Before the initial Inspection of the Factory/F.P.C., the submitted documents, in particular the Works' Quality Manual, shall be examined on the basis of a check list prepared by the Notified Certification Body. The results of this examination should be reported to the Manufacturer prior to the Initial Inspection.

The Notified Certification Body shall verify that the list of quality documents covers, as a minimum, all the activities reported in the Works' Quality Manual.

7 INITIAL INSPECTION OF THE FACTORY AND FACTORY PRODUCTION CONTROL - 2nd Phase

During the Initial Inspection of the Factory, the Inspector should use a checklist, in addition to all of the relevant document listed in § 3, (see an example in annex 2).

7.1 Assessment of the quality documentation

During the Initial Inspection the Manufacturer shall make available to the Inspector the latest controlled version of the Works' Quality Manual and of the related quality documents.

The Inspectors shall verify that the Works' Quality Manual and related quality documents are correctly implemented and applied in compliance with EN 197-2.

7.2 **Initial Inspection of the Factory and Factory Production Control**

The main actions to be taken are reported in EN 197-2 § 5.5.1, § 5.5.2, § 5.5.3 and in the related “Guidelines for the application of EN 197-2”.

The Inspector, among others, shall verify that each Cement silo bears the information concerning the type and strength class or other indications necessary for a unique identification of the cement (brand name, number of EC Certificate, etc.....).

A unique identification of the cement/silos shall be available for sampling, control process and loading.

During the Initial Inspection, the first audit samples could be taken.

The assessment of Depot(s) should be included in the Initial Inspection.

7.3 **Initial Inspection of the Laboratory of the Factory**

The main actions to be taken are reported in the EN 197-2 § 5.5.4 and in the related “Guidelines for the application of EN 197-2”.

In the case where some auto-control tests are performed by an external laboratory as mentioned in the Works’ Quality Manual, the Notified Body shall inspect this external laboratory to verify the records, the competency and the confidentiality at least once per year.

The annex 3 lists the minimum equipment that shall be functioning in the laboratory for auto-control testing.

7.4 **Report of the initial inspection**

The main actions to be taken are reported in EN 197-2 § 5.5.5, § 5.2.3 and in the related “Guidelines for the application of EN 197-2”.

At the end of the initial inspection, the Inspectors should draw up a Note showing observations, remarks and non-conformities, if any. This Note should be signed for reception by the Factory Representative who will also keep a copy.

The Notified Certification Body shall afterwards draw up an Inspection Report relating all the items which have been covered during the inspection and containing all the statements, observations, remarks and non conformities noticed during the Inspection, to be sent to the Manufacturer (contact person). In the case of non-conformities the Notified Certification Body shall ask the Manufacturer to resolve the problem, in established times.

The Manufacturer shall inform the Notified Certification Body concerning the type and result of the Corrective Actions adopted and shall record them in compliance with the Works’ Quality Manual.

8 **INITIAL AUDIT SAMPLING/TYPE TESTING AND ISSUE OF EC CERTIFICATE OF CONFORMITY - 3rd Phase**

8.1 **Audit sampling**

The main actions to be taken are reported in EN 197-2 § 5.4.1, § 5.4.2, § 5.4.4, § 5.6.1 and in the related “Guidelines for the application of EN 197-2”.

In certain particular cases (e.g. need for visa of entrance in some country or for logistical difficulties in reaching the Factory) it may be necessary to inform the Manufacturer. This decision can only be taken under the responsibility of the Notified Certification Body.

Any non-conformity in sampling operations shall be recorded on the sampling report. The data shall be checked by the Manufacturer’s Representative who should countersign it.

The characteristics of the containers/envelopes and the arrangements for sealing these should be specified by the Notified Certification Body to the manufacturer in advance.

It is recommended to maintain confidentiality about the origin of the samples.

The Notified Certification Body shall have a procedure for sampling.

8.2 **Testing of the first audit sample**

The actions to be taken are reported in EN 197-2 § 5.4.3 and in the related “Guidelines for the application of EN 197-2”.

8.3 **Evaluation of the results of the first audit sample**

The main actions to be taken are reported in EN 197-2 § 5.6.2, § 5.6.3 and in the related “Guidelines for the application of EN 197-2”.

The Manufacturer shall inform the Notified Certification Body of the results of the testing on audit samples as soon as they are available.

The test results of the Testing Laboratory shall be sent to the Manufacturer only by the Notified Certification Body, and in any case always after the receipt of the correspondent internal test results.

At the end of the tests of the first audit sample the Notified Certification Body shall send a Test Report to the Manufacturer.

The test results of the testing laboratory and the manufacturer have to be equivalent (taking into consideration the reliability of the test method) and both must comply with the requirements of EN 197-1.

It is the responsibility of the Notified Certification Body to take immediate action in the case of doubts concerning the test results. In any case the Manufacturer shall be informed.

8.4 **Issue of the EC Certificate of Conformity and information to the Manufacturer**

Each EC Certificate of Conformity shall specifically refer to one cement produced in a specific Factory.

The Notified Certification Body shall issue the EC Certificate of Conformity after the positive results of the 2nd and 3rd phases and shall immediately inform the Applicant.

At this time some results of the auto-control for that cement are available. They also can be compared with the requirements of EN 197-1 in order to make the conclusion of the Notified Certification Body as reliable as possible. In this case all available results of the auto-control should comply with the requirements of EN 197-1.

The Manufacturer shall send a copy of its EC Declaration of Conformity to the Notified Certification Body for information.

8.5 **Additional identification of cement**

When a Manufacturer produces different cements complying to the same standard designation, these cements receive an additional identification in the form of a number or of two lower case letters, between parentheses, in order to distinguish these cements from each other. (see related “Guidelines for the application of EN 197-2” § 7). For the numbering system this number should be 1 for the second certified cement, 2 for the next, and so on. For the lettering system the letters shall be chosen in such a way to avoid confusion with letters used for cement standard and regulation indications across the EEA countries.

Example: The designation “CEM I 42,5 R (1)” or “CEM I 42,5 R (st)” is given to a cement produced in a factory that already has a certificate for a CEM I 42,5 R with different (additional) properties, but complying with the requirements for that cement in EN 197-1. This indication must always accompany the standard designation of the cement to which it is given even if other cement(s) are no longer produced. This enables backward traceability of this cement and its test results. Once an indication is used for a certain cement it may never be used again for another cement with the same standard designation produced by the same factory.

When this additional identification is given to a cement the following note will be added in the CE Conformity Certificate under “additional identification”:

“The indication between parentheses following the standard designation is added to distinguish this cement from another certified cement produced by this factory bearing the same standard designation. This indication must for this reason be added to the standard designation of this cement.”

It is recommended to CEN/TC 51 that there should be a unique system of additional identification based on numbering from April 1st 2002.

9 **INITIAL PERIOD - 4th Phase**

9.1 **Subsequent audit samples**

The actions to be taken are reported in EN 197-2 § 4.3.1, § 5.4.1, § 5.4.2 and in the related “Guidelines for the application of EN 197-2”.

In the case of Depot(s), the Notified Certification Body should be informed in advance by the Manufacturer concerning the provisional quantity percentage of each cement directly to be sold by the Factory and/or by the Depot(s) to permit that the audit sample programme could be organised in compliance with the requirements of the related standards.

In this case, also the Manufacturer’s auto-control sample programme could be organised in the same way and evidence of it could be given on the quality documents of the Factory.

9.2 Testing of the subsequent audit samples

The actions to be taken are reported in EN 197-2 clause 5.4.3 and in the related “Guidelines for the application of EN 197-2.”

9.3 Receiving testing results

The Manufacturer shall inform the Notified Certification Body of the results of the testing on audit samples and auto-control as soon as they are available.

The test results of the Testing Laboratory shall be sent to the Manufacturer only by the Notified Certification Body, and in any case always after the receipt of the correspondent internal test results.

9.4 Evaluation of the auto-control results

The actions to be taken are reported in EN 197-2 § 5.6 and in the related “Guidelines for the application of EN 197-2”.

9.5 Evaluation of the subsequent audit samples results

The actions to be taken are reported in EN 197-2 § 5.6 and in the related “Guidelines for the application of EN 197-2”.

It is in the responsibility of the Notified Certification Body to take immediate actions in the case of doubts concerning the test results. In any case the Manufacturer shall be informed about these actions.

9.6 Decision that the EC Certificate of Conformity remains valid (and information to the Manufacturer)

When the evaluation on the first initial period of auto-control results is confirmed, as well as the results of the external tests and all the aspects related to Factory Production Control, at the end of the initial period the Notified Certification Body should inform the Manufacturer of the confirmation of validity of the first issue of the EC Certificate of Conformity.

10 MAINTAINING THE EC CERTIFICATE OF CONFORMITY

10.1 The scheme to be followed by the Notified Certification Body to maintain the validity of the EC Certificate is shown below.

Scheme of reference of EC Certificate of Conformity continuous surveillance, assessment and approval of Factory Production Control (see chapter 11)
Annual inspection to the factory, FPC and laboratory
Management of the non conformities/corrective actions following the Annual inspection to the factory, FPC and laboratory
Evaluation of the results of auto-control testing of samples
Management of the non conformities/corrective actions following the evaluation of the results of auto-control testing of samples
Audit samples results
Management of the non conformities/corrective actions following the evaluation of

the results of audit testing
Annual decision that the EC Certificate of Conformity remains valid (and information to the Manufacturer)

11 CONTINUOUS SURVEILLANCE, ASSESSMENT AND APPROVAL OF FACTORY PRODUCTION CONTROL

11.1 Annual inspection to the factory, FPC and laboratory

The actions to be taken are reported in EN 197-2 § 5.2.1, § 5.2.2, § 5.2.3 and in the related “Guidelines for the application of EN 197-2”.

11.2 Management of the non conformities/corrective actions following the Annual inspection to the factory, FPC and laboratory

The actions to be taken are reported in EN 197-2 § 6.2.1 and in the related “Guidelines for the application of EN 197-2”.

11.3 Evaluation of the results of auto-control testing of samples

The actions to be taken are reported in EN 197-2 § 5.3 and in the related “Guidelines for the application of EN 197-2”.

11.4 Management of the non conformities/corrective actions following the evaluation of the results of auto-control testing of samples

The actions to be taken are reported in EN 197-2 § 6.2.1 and in the related “Guidelines for the application of EN 197-2”.

11.5 Audit samples results

The actions to be taken are reported in EN 197-2 § 5.4.1, § 5.4.2, § 5.4.3, § 5.4.4, § 5.4.5, § 5.4.6 and in the related “Guidelines for the application of EN 197-2”.

11.6 Management of the non conformities/corrective actions following the evaluation of the results of audit testing

The actions to be taken are reported in EN 197-2 § 6.2.2 and in the related “Guidelines for the application of EN 197-2”.

11.7 Annual decision that the EC Certificate of Conformity remains valid (and information to the Manufacturer)

Yearly and in any case only if the statistical and last conformity evaluation on the previous twelve months period of auto-control results conforms, the Notified Certification Body may prepare a new original issue of the EC Certificate of Conformity, maintaining the same number.

This re-issue shall contain also the date of the first issue.

12 QUALITY RECORDS

The actions to be taken are reported in EN 197-2 § 4.1.4.2. and in the related “Guidelines for the application of EN 197-2”.

13 FORMAT OF THE EC CERTIFICATE OF CONFORMITY

The format of the EC Certificate of Conformity reported in Annex 5 has been defined by the Commission for the product covered by the CPD with Attestation of Conformity System 1⁺.

The EC Certificate of Conformity shall have unique number, which shall be allocated by the Notified Certification Body. The number is divided in three parts, separated by hyphens, as follows:

- the notification number of the Notified Certification Body (given by the Commission),
- the acronym “CPD”,
- a unique reference number allocated by the Notified Certification Body for each individual cement.

The unique reference number shall be composed of a number or an alpha-numeric combination consistent with the procedures of the Notified Certification Body.

The numbering criteria are considered equivalent among the NB-CPD-SG02 such that any possibility of repetition of the reference number allocated by the Notified Certification Body is avoided.

14 LIST OF EC CERTIFICATES OF CONFORMITY

Each Notified Certification Body should as a minimum have and maintain up-to-date a list containing the EC Certificates of Conformity issued and their state of validity. This list shall be made available upon request.

15 PROFICIENCY TESTS

The main requirements to be taken are reported in EN 197-2 § 5.4.7 and in the related “Guidelines for the application of EN 197-2”.

The further development will be considered by SG02 during the application process of the EC Certification scheme.

ANNEXES

ANNEX 1 APPLICATION FORM ^A FOR A EC CERTIFICATE OF CONFORMITY ON A CEMENT, IN COMPLIANCE WITH ANNEX ZA OF EN 197-1

I the undersigned ^B, in my capacity as representative of ^C,
with its Registered Office in ^D,

- as a Manufacturer, ^E
- as Authorised Representative established in the EEA^F, of the Manufacturer located in ^G

in compliance with Annex ZA of EN 197-1, apply, for the first time and only to this Notified
Certification Body, for the issue of a EC Certificate of Conformity for the cement mentioned below,
produced at the Factory of ^H,
with its Registered Office at ^I

- Having the relevant industrial property:^L
- Having been authorised by the Manufacturer to have the relevant industrial property ^M:
- Standard designation of cement: ^N

Brand name: ^O,
Additional information: ^P,
Additional identification: ^Q,
To be sold: ^R

This cement is sold under the direct responsibility:

- at the Factory mentioned above,
- and at external Depot(s) listed in attached document.

The sale is seasonal, from, to of the year.

It is particularly declared that:

- the Factory above and its Factory Production Control System complies with EN 197-2
- the above cement conforms with all requirements stated by the Annex ZA of the EN 197-1
- the cement in question has not yet any valid EC Certificate of conformity
- the Factory in question is not producing any other cement with a valid EC Certificate of Conformity

In addition I declare I have read the current rules and conditions of this Notified Certification Body for the
EC Conformity Certification to Annex ZA of EN 197-1 of cement and fully accept all the provisions.

I authorise the access of the Inspectors appointed by the Notified Certification Body to carry out the required
external audit sampling without any prior notice.

The following documents are attached in support of this application:

1. Works' Quality Manual
2. List of related quality documents
3. List of external Depot(s), their location(s) and principal contact name(s)
4. Acceptance of the rules and conditions as defined by the Notified Certification Body
5. Others ^S

In compliance with EN 197-2 I authorise the Notified Certification Body to use the data provided, in order to
manage the procedures related to the activity in question (also by computerised systems).

I also authorise that all correspondence of the Notified Certification Body concerning this matter is to be addressed to the Contact Person

Place, Date

Signature

-
- A The Application shall be drawn up by the Manufacturer or by his Authorised Representative established in the EEA and it shall be written on headed paper.
One Application Form is needed for each cement, of each Factory.
The Application shall be presented in one original, written in a Language previously accepted by the receiving Notified Certification Body.
 - B Name and surname of Applicant appointed by the Manufacturer.
 - C Acronym and full name of the Applicant and relevant business name.
 - D Full address.
 - E If applicable.
 - F If applicable.
 - G Name of the extra Country.
 - H Name of the Factory, full address, phone and fax numbers and e-mail address of the Factory.
 - I If applicable.
 - L If applicable.
 - M If applicable.
 - N Type and strength class, according to EN 197-1.
 - O If applicable.
 - P If applicable.
 - Q If applicable.
 - R Country in which will be marketed.
 - S *Any other needed or applicable document.*

ANNEX 2
EXAMPLE OF A REFERENCE CHECKLIST
(in brackets the reference § of EN 197-2)

A - GENERAL REQUIREMENTS (4.1)

1 Works' Quality Manual (4.1.2)

Does the cement Factory have a controlled copy of the Works' Quality Manual ?

Is the year of the first issue of the Works' Quality Manual recorded?

Is there a distribution list of the Works' Quality Manual and related quality documents?

Is there evidence of receipt of the copies (controlled or not) of the Works' Quality Manual (and related quality documents) by the persons indicated in the distribution list ?

2 Management system (4.1.3)

Does the Works' Quality Manual show the organisation structure ?

3 Quality policy statement (4.1.3.1)

Does the Works' Quality Manual show the quality objectives of the Manufacturer/Factory ?

Are there defined responsibilities concerning quality ?

Are the resources required to reach and maintain the quality objectives available ?

4 Management representative (4.1.3.2)

Is there an appointed management Representative ?

5 Internal audit and management review (4.1.3.3)

Is there any list of persons charged with internal audit ?

Are the members of this list independent of the area to be audited ?

6 Training (4.1.3.4)

Is there evidence of the competence of the personnel involved in the quality production/control process ?

Is there a defined programme for the training of the personnel involved in the quality production/control process ?

Are there personal sheets/files for recording the experience/training of each person involved in the quality production/control process ?

7 Document control (4.1.4.1)

Does a control ensure that the appropriate issue of all documents are available at essential locations?

Does a control ensure that the changes or modifications to any document are effectively introduced?

Has a master list been established to identify the current version of documents in order to prevent the use of non - applicable documents?

8 Quality records (4.1.4.2)

Are the Factory Production records be kept for a minimum period of three years ?

Are the Factory Production records for fine cement kept for a minimum period of ten years ?

Is there suitable back-up for electronic records ?

B - INTERNAL QUALITY CONTROL (4.2)

1 Process control (4.2.1)

Are the steps of the production process described in a flow chart ?

Are targets and control limits defined for each production step ?

Are corrective measures set if control limits are overcome ?

What are the method and frequencies adopted to collect process control data. Are these methods made available to the Factory managers ?

Are there procedures for changing cement types, for example in a grinding and storage process ?

Are there procedures intended to avoid contamination:

- of cement constituents ?
- of cements ?
- during production, handling and in point of dispatching ?

Are the incoming cement constituents stocked separately ?

Are there procedures for testing and control all cement constituents ?

Are there silos for stocking cement products in bulk before dispatch ?

Are there adequate areas for stocking cement in bags before dispatch ?

2 Constituents and composition of cement (4.2.1.1)

Are there procedures defining purchase specifications for cement constituents ?

Are there procedures for sampling and testing the purchased constituents aimed at verifying their compliance with purchase specifications ?

Are there procedures to segregate those constituents that do not comply with the limits provided ?

Are there procedures aimed at determining the composition of cement, including minor constituents ?

Is there a defined and recorded requirement for all constituents ?

3 Control of off-specification production (4.2.1.2)

Are there procedures for controlling the cement produced that does not comply with the control limits set by the manufacturer ?

Are there procedure aimed at avoiding the dispatch of a cement that proves to be non complying with the specifications provided in EN 197-1 ?

4 Measuring and testing (4.2.2)

Do the Quality Documents define the equipment required for control and test activities during production ?

5 Inspection, measuring and test equipment (4.2.2.1)

Are there procedures to control and calibrate the test equipment used during production ?

Are there records of the control and calibration of the test equipment used during production ?

Is there an inspection/testing plan for all the steps of the production process ?

6 Handling, storage, packaging and delivery (4.2.3)

Are there procedures for assuring that the cement conveyed inside the cement works Factory from the mill to the silo is not contaminated ?

Are there procedures for assuring that the cement conveyed inside the depots from the unloading point to the silo is not contaminated ?

Is the cement contained in each silo of the cement Factory unequivocally and clearly identified, in conformity with the complete "name" that will appear on the EC Certificate of Conformity ?

For the external Depot(s) only, if applicable: Is the cement contained in each silo of the cement Depot unequivocally and clearly identified, in conformity with the complete "name" that will

appear on the EC Certificate of Conformity and also with the identification of the Factory in which it was produced ?

Is there a diagram showing handling and feeding lines to the silos, deviations, dispatching and sampling points ?

Are there procedures aimed at ensuring that the loaded cement complies with the customer's specifications ?

Does the Works' Quality Manual contain the list of the cement Depots of the Factory ?

Have the weighing machines at the gate been approved and certified ?

C - AUTO-CONTROL TESTING OF SAMPLES (4.3)

1 Sampling and testing (4.3.1)

Is there a procedure describing the auto-control plan for each cement ?

Do these controls and tests frequencies comply with the requirement of EN 197-1 ?

For those cements sold discontinuously are the test frequencies and sampling points specified in the Works' Quality Manual and agreed with the Notified Certification Body ?

Is the cement sampling plan in proportion to the bulk cement, bags and depots according to the relevant sale quantities ?

Is auto-control data transmitted to the Certification Body in due time ?

Do the test procedures comply with the test methods given in EN 197-1 ?

For which tests does the cement Factory use an external laboratory ? Is this recorded in the Works' Quality Manual ?

Has the manufacturer agreed for inspections of the external laboratory by the Notified Certification Body ?

Is the procedure for determining the cement composition reported in the quality documents ?

Are the registers containing the auto-control data correctly completed, updated and made available?

Are working/technical instructions for the repetition of eventual failed test results available?

Are there instructions for repeating tests which have failed ? Are the above recorded ?

What is the frequency of the statistical assessment according to the criteria provided in EN 197-1?

Are records concerning the auto-control data retained for at least 10 years ?

2 Corrective actions (4.3.2)

Does the Works' Quality Manual provide corrective actions procedures to be carried out in order to eliminate the causes of non-compliance ?

In case of non-compliance with the single results limit values conformity criteria, does the Works' Quality Manual provide a procedure for a review of the factory production control ?

In such cases, is the Notified Certification Body informed ?

In case of non-compliance of a sample taken at the delivery point:

- has the manufacturer determined the quantity of non-complying materials ?
- has the manufacturer taken all the necessary precautions to avoid dispatch of the product ?
- has the manufacturer informed the customers that they could have been given non-complying cement ?

Are the corrective measures taken due to a non-compliance recorded and traceable ?

Is the efficacy of the corrective measures controlled and recorded ?

3 Measuring and test equipment for auto-control testing (4.3.3)

Is there a list of the measuring equipment used for auto-control tests ?

Is there a procedure for controlling and calibrating the test equipment ?

Control and calibration procedures include:

- equipment identification ?
- equipment supplier and model ?
- location of the equipment ?
- control frequency ?
- control method ?
- approval criteria ?
- reference samples/instruments ?
- measures to be taken in case the results of the control/calibration are not satisfactory ?

Each equipment is identified by a label reporting:

- dates of the last and next control/calibrations ?
- authorised signature ?

Is non-calibrated equipment identified with a label indicating that it is out of service ?

4 Quality records (4.3.4)

Are auto-control results recorded and traceable ?

Is the documentation relevant to the control and calibration of test equipment recorded and traceable?

Does the Works' Quality Manual show that auto-control results and control/calibration documentation are kept for at least 10 years ?

ANNEX 3
TABLE OF MINIMUM FACTORY LABORATORY ENVIRONMENTAL REQUIREMENTS AND EQUIPMENT FOR AUTO-CONTROL TESTING

1. Environmental conditions (Standard series EN 196, various parts):

Laboratory Area	Environmental requirements
Room for the preparation of mortar:	T = 20°C±2°C and R. H. ≥ 50%;
Moisture room, or cabinet, for curing specimens in moulds during the first 24 hours:	T = 20°C±1°C and R. H. ≥ 90%;
Water temperature in tank for curing mortar specimen after 2 or 7 and 28 days:	T = 20°C±1°C;
Room for the preparation of normal consistency paste	T = 20°C±2°C and R. H. ≥ 50%;
Moisture room or cabinet for curing specimen for soundness test (Le Chatelier):	T = 20°C±1°C and R. H. ≥ 90%;

2. Minimum test equipment (Standard series EN 196, various parts):

2.1 Physical-Mechanical equipment:

- Mixer;
- Moulds for mortar and cover-platens;
- Vibrating or jolting table;
- Compressive strength test machine;
- Technical weighing machine: precision ±1g.;
- EN 196-1 standardised sand;
- Graduated cylinder or burette for measuring volume with 1% tolerance;
- Vicat equipment;
- Le Chatelier mould and cover platens;
- Water bath with heating device able to contain Le Chatelier specimen and to increase water temperature from 20°C±2°C to boiling point in 30 minutes ± 5 minutes;
- Flexural testing apparatus or prism-cutter;
- Stop-watch;
- Straightedge.

2.2 Chemical laboratory:

At least necessary equipment to carry out the chemical test required for the relevant product standards. In the case of common cements according to EN 197-1 the following test have to be done according to EN 196-2, 196-5 and 196-21, if relevant:

- Loss of ignition;
- Insoluble residue;
- Sulphate content;
- Chloride content;
- Pozzolanicity.

If other methods are used as the reference procedures it is necessary to demonstrate the achieved results are equivalent to those given by the reference method.

**SPECIFICATION FOR THE CHECK
OF THE AUTO-CONTROL LABORATORY TEST EQUIPMENT**

Equipment Type	Control Type	Acceptance Parameters		
MIXER	Blade/basin distance:	3 ± 1 mm;		
	Times and automatism's sequence: (1) low speed (2) high speed	cement + water mix: 30±1 sec; (1) sand introduction: 30±1 sec; (1) mixing: 30±1 sec; (2) rest: 90±1 sec; mixing: 60±1 sec; (2)		
	Basin diameter:	about 200 mm;		
	Basin height:	about 180 mm;		
	Blade edge diameter:	5±1 mm;		
	Blade edge thickness	8±1 mm;		
MOULDS FOR MORTAR	Length:	160.0±0.8 mm;		
	Width:	40.0±0.2 mm;		
	Depth:	40.1±0.1 mm;		
	Component thickness:	> 10 mm;		
	Mould sealing:	to be specified		
	De-moulding agent:	to be specified		
	Covering for curing during the first 24 hours:	to be specified		
	Squareness between the faces and the lower plane section of the mould compartment:	tolerance < 0.2 mm;		
	Squareness between the vertical faces of the mould compartment:	tolerance < 0.2 mm;		
	Flatness on the whole side face (ISO 1101, p.14.2):	tolerance < 0.03 mm;		
Visual control of mould preparation:				
JOILTING TABLE	Table joint mass with arms, empty mould, bin and pliers	20.0±0.5 kg;		
	Fall height of the shaking part:	15.0±0.3 mm;		
	Shaking speed, strokes:	60 strokes/60 sec;		
	Horizontal displacement of the table centre:	< 1,0 mm;		
	Table horizontal level :	the 4 angles shall not deviate from the mean value by more than 1,0 mm;		
VIBRATING TABLE	Technical description	Table A (D)	Table B (UK)	
	Amplitude	0,75±0,10 mm	(1,2 mm)	
	Acceleration		(4,50 ± 0,25) 'g' rms	
	Vibrating mass (with empty mould)	(35,00 ± 0,25) kg	(43,0 ± 2,0) kg	
	Mass of Vibrating table	> 100 kg		
	Vibration plate	Dimensions	400x300 mm	630x250 mm
		Thickness	≥ 20 mm	-
		or stiffed	≥ 10 mm	13 ± 2 mm
Timer		120± 1 sec	120± 1 sec	
TEST EQUIPMENT FOR COMPRESSIVE STRENGTH	Calibration certification issued by a recognised Metrological Centre:	issued on: by: expiry date:		
VICAT EQUIPMENT	Base thickness of the plane glass:	≥ 2.5 mm;		
	Diameter of the probe used to determine normal	10±0.05 mm;		

	consistency:	
	Length of the probe used to determine normal consistency:	50±1 mm;
	Diameter of the needle used to determine the beginning of setting:	1.13±0.05 mm;
	Length of the needle used to determine the beginning of setting:	50±1 mm;
	Total mass of the moving parts:	300±1 g.
TRUNCATED CONE MOULD	Depth:	40.0±0.2mm;
	Upper inner diameter:	70±5 mm;
	Lower inner diameter:	80±5 mm;
LE CHATELIER MOULD	Mould covering plate:	> 75 g.;
	Mould diameter:	30 mm;
	Mould height:	30 mm;
	Needle length:	150 mm;
BAIN-MARIE	Mould thickness:	0.5 mm;
	Verification of the boiling time starting from 20°C±2°C:	30±5 min;
	Verification of water amount after 3 hour boiling:	> Le Chatelier mould height;
TECHNICAL WEIGHING MACHINE (with a weighing capacity up at least 1.5 kg and ±1 g. accuracy)	Calibration certification issued by a recognised Metrological Centre,	issued on: by: expiry date:
	or verification with calibrated masses:	carried out on:
ANALYTICAL WEIGHING MACHINE (0.0001 gr. reading accuracy)	Calibration certification issued by a recognised Metrological Centre, or check with calibrated masses:	issued on: by: expiry date: carried out on:
CALIBRATED MASSES	Calibration certification issued by a recognised Metrological Centre:	issued on: by: expiry date:
MUFFLE	Controls carried out by use temperatures:	925°C±25°C; 975°C±25°C;

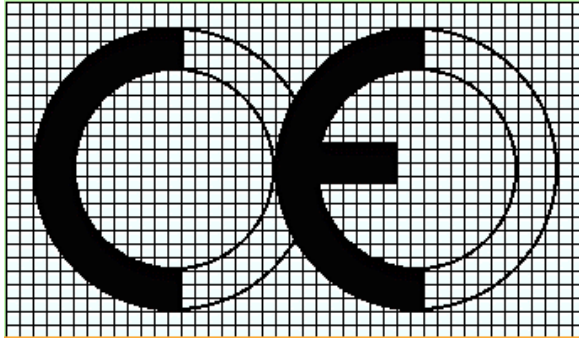
ANNEX 4
CE CONFORMITY MARKING AND FORMAT
(Recommended information for the Manufacturer)

Due to the decisions already taken at national level, at this moment it is unrealistic to propose a unique format for CE Conformity Marking. However, the Sector Group 02 has agreed to maintain the followings definitions, based on the Guidance Paper D, European Commission communication of 16-01-2001 and EN 197-1 Annex ZA 4.1, to cover all of the EEA countries.

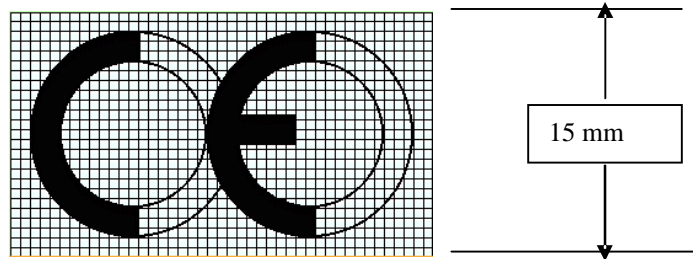
- 1 The Format of the CE Conformity Marking is a rectangle divided into vertical sections. The Guidance paper D reports 3 vertical sections, whereas the EN 197-1 Annex ZA 4.1. reports 2 vertical sections. Text and lines shall be black on the existing background. All the required descriptions should have the same character size. The character styles (normal, bold, small and capital letters) could be defined by the Notified Certification Body.
- 2 For cement distributed in bags, it is mandatory to affix the CE Conformity Marking at least on one of the widest faces of the bag.
- 3 The total external size of the CE Conformity Marking Format should be positioned on one of the two widest faces of the bag and the total external size should be as follows:

	Minimum	Maximum
Width	50 mm	80 mm
Height	60 mm	175 mm

4. For bulk cement the complete information should be printed on the accompanying commercial documents. The dimensions will be flexible, on condition that the information can be read, and this is written with the characters required and the dimensions respect the proportionality ratio (no minimum size required).
5. The vertical sections of the CE Conformity Marking Format shall report the information required by EN 197-1 Annex ZA.4, adding eventually an indication as defined in clause 8 of this Operating Procedure.
6. The CE Conformity Marking shall consist of the initial “CE” taking the following form:

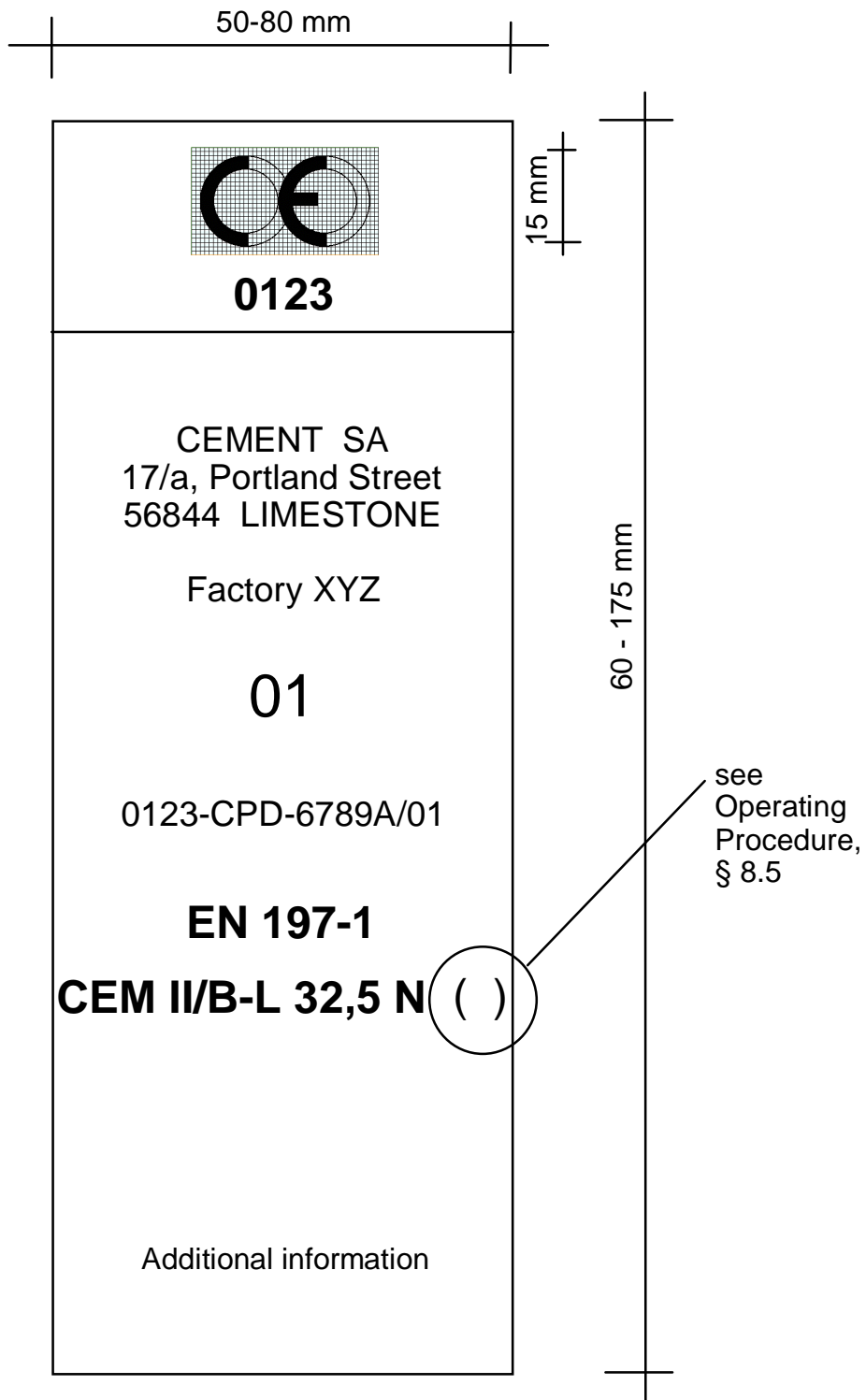


7. If the CE Conformity Marking is reduced or enlarged the proportion given in the above graduated drawing shall be respected.
8. The various components of the CE Conformity Marking must have substantially the same vertical dimension, which may not be less than 5 mm.
9. In the cement bags it is suggested to have minimum dimensions as follows:



10. The CE Conformity Marking and all its accompanying information shall be grouped and graphically be separated from the other information on the commercial documents so that any confusion is impossible.
11. In the definition of the CE Conformity Marking, whilst flexibility is allowed, any small deviations, from the examples reported in the Guidance paper D or in EN 197-1 Annex ZA 4.1, may not, under any circumstance, give rise to doubts or misinterpretation.
12. An example of a CE Conformity Marking Format on cement with suggested (min-max) reference dimensions is given below.

It is recommended to CEN/TC 51 the revision of Annex ZA 4 before April 1st 2002



ANNEX 5

Logo of the Notified
Certification Body

<Name and address of the Notified Certification Body>

CERTIFICATE OF CONFORMITY

0XXX - CPD - YYY

In application of article <X> of the <Law converting the CPD in national Law> relative to the application of the Directive 89/106/EEC of the Council of European Communities of 21 December 1988 on the approximation of laws, regulations and administrative provisions of the Member States relating to the construction products (Construction Products Directive - CPD), and of articles <Y> to <Z> of the <(eventually) application Decree of the national Law> relative to the construction products, it has been stated that the construction product

<PRODUCT>

produced by the manufacturer

<Name of the producer>

<Full address>

in its factory

<Factory>

is submitted by the manufacturer to a factory production control and to the further testing of samples taken at the factory in accordance with a prescribed test plan and that the approved body - **<Name of the certification body>** – has performed the initial type-testing of the product, the initial inspection of the factory and of the factory production control and performs the continuous surveillance, assessment and approval of the factory production control and an audit-testing of samples taken at the factory.

This certificate attests that all provisions concerning the attestation of conformity described in Annex ZA of the standard **<EN XXX:YYYY>** were applied and that the product fulfils all of the minimum prescribed requirements.

<City, Date>

<Authorised signature>

Electronic Transmission Notice

Reference Number :
 Work Item Number :
 Title :
 Sending date:

With reference to the above, **find in attachment**, the electronic files appertaining to the following procedure:

Stage 32
 PQ/UQ
 Cocor Vote
 Enquiry (6 months) 2nd 2 months 3 months 4 months
 Parallel Enquiry 2nd ISO lead CEN lead
 Formal Vote 2nd
 Formal Vote in meeting (ENV)
 Parallel Formal Vote 2nd ISO lead CEN lead
 UAP 4 months 6 months
 Publication
 Parallel Publication ISO lead CEN lead
 Corrigendum
 2-year Enquiry Review (ENV)

The text is sent in the following **Reference language version** in PDF and revisable format:

English Reference version Word 97 Word 2000
 French Reference version Word 97 Word 2000
 German Reference version Word 97 Word 2000

COMMENTS:

Resolution:	BC Ref.	BC/CEN/

FROM:

Secretary of CEN/TC:	NSB Responsible:
Name:	

CONFIRMATION OF ELECTRONIC DELIVERY TO: (BSI, ONLY when reference version is NOT English)

CMC Standards Delivery (production@cenorm.be)	<input type="checkbox"/>
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DIN, Central Point (translation@din.de)	<input type="checkbox"/>

ANNEX 7

CEN/TC 51

**GUIDELINES
FOR THE APPLICATION OF EN 197-2
“CONFORMITY EVALUATION”**

BT confirmed by resolution 3/2001 the publication as CEN REPORT

The full document is annexed but the followings are not for reference:

- **clause 8**
- **clause 9**
- **table 2**