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Building lime - Part 1: Definitions, specifications and conformity criteria

Baukalk - Teil 1: Begriffe, Anforderungen und Konformitätskriterien

Chaux de construction - Partie 1 : Définitions, spécifications et critères de conformité

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Building lime - Part 1: Definitions, specifications and conformity criteria

Chaux de construction - Partie 1 : Définitions, spécifications et critères de conformité

Baukalk - Teil 1: Begriffe, Anforderungen und Konformitätskriterien

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EUROPEAN COMMITTEE FOR STANDARDIZATION
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Foreword

This document (FprEN 459-1:2014) has been prepared by Technical Committee CEN/TC 51 “Cement and building limes”, the secretariat of which is held by NBN.

This document is currently submitted to the Unique Acceptance Procedure.

This document will supersede EN 459-1:2010.

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 Regulation (EU) No. 305/2011.

For relationship with Regulation (EU) No. 305/2011, see informative Annex ZA, which is an integral part of this document.

The European Standard EN 459 for *Building lime* consists of the following parts:

— *Part 1: Definitions, specifications and conformity criteria*;

— *Part 2: Test methods*;

— *Part 3: Conformity evaluation*.

The requirements in EN 459-1 are based on the results of tests on building lime determined in accordance with EN 459-2.

Note: Due to fact that the Framework Partnership Agreement between the Commission and CEN and CENELEC is not signed yet, there are currently no New Approach Consultants in place for 2014. Therefore the provisions of CEN-CENELEC Guide 15 cannot be met.

This shall not prevent the processing of draft standards nor the offering of harmonized standards to the Commission. In particular, draft standards can be sent to vote without Consultant assessment.

This note will be removed from the Foreword of the finalized publication.

Introduction

The revision of this European Standard for building lime was initiated by Decision 4 taken by CEN/TC 51 “Cement and building limes” in 2013.

Different sources of raw materials and different climatic conditions have led to different developments in building construction and civil engineering practices and materials and therefore to different kinds of building lime in different regions of Europe.

The inclusion of a wider range of building lime which exists in Europe has made it necessary to establish a number of classes.

The previous national standards for building lime generally also formed the basis for different areas of application (see Annex C (informative)). The classification chosen therefore also takes into consideration these circumstances as far as possible.

For a better understanding, the standard makes a clear distinction between air lime (Clause 4) and lime with hydraulic properties (Clause 5). Depending on the composition and characteristics of the products, each clause is then divided into sub-paragraphs (calcium lime and dolomitic lime for air lime; natural hydraulic lime, formulated lime and hydraulic lime for lime with hydraulic properties) containing the appropriate definitions, specifications and conformity criteria.

1 Scope

This European Standard applies to building lime used for:

— preparation of binder for mortar (for example for masonry, rendering and plastering);

— production of other construction products (for example calcium silicate bricks, autoclaved aerated concrete, concrete, etc.);

— civil engineering applications (for example soil treatment, asphalt mixtures, etc.).

It gives definitions for the different types of building lime and their classification. It also gives requirements for their chemical and physical properties which depend on the type of building lime and specifies the conformity criteria.

Terms of delivery or other contractual conditions, normally included in documents exchanged between the supplier and the purchaser of building lime, are outside the scope of this European Standard.

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 197-1, *Cement — Part 1: Composition, specifications and conformity criteria for common cements*

EN 459-2:2010, *Building lime — Part 2: Test methods*

EN 459-3:2015, *Building lime — Part 3: Conformity evaluation*

3 Terms and definitions

For the purposes of this document, the following terms, definitions and abbreviations apply.

NOTE See also Annex C.

3.1
lime
calcium oxide and/or hydroxide, and calcium-magnesium oxide and/or hydroxide produced by the thermal decomposition (calcination) of naturally occurring calcium carbonate (for example limestone, chalk, shells) or naturally occurring calcium magnesium carbonate (for example dolomitic limestone, dolomite)

3.2
building lime
group of lime products, exclusively consisting of two families: air lime and lime with hydraulic properties, used in applications or materials for construction, building and civil engineering

3.3
air lime[1)]
lime (see 3.1) which combines and hardens with carbon dioxide present in air

Note 1 to entry: Air lime has no hydraulic properties. Air lime is divided into two sub-families, calcium lime (CL) and dolomitic lime (DL).

1) Translation of a term used in most European countries.

3.4
lime with hydraulic properties
building lime (see 3.2) consisting mainly of calcium hydroxide, calcium silicates and calcium aluminates

Note 1 to entry: It has the property of setting and hardening when mixed with water and/or under water. Reaction with atmospheric carbon dioxide is part of the hardening process. Lime with hydraulic properties is divided into three sub-families, natural hydraulic lime (NHL), formulated lime (FL) and hydraulic lime (HL).

3.5
allowable probability of acceptance
CR
for a given sampling plan, allowed probability of acceptance of building lime with a characteristic value outside the specified characteristic value

3.6
sampling plan
specific plan which states the (statistical) sample size(s) to be used, the percentile P_k and the allowable probability of acceptance CR

3.7
characteristic value
value of a required property outside which lies a specified percentage, the percentile P_k, of all the values of the population

3.8
specified characteristic value
characteristic value of a strength, physical or chemical property which in the case of an upper limit is not to be exceeded or in the case of a lower limit is, as a minimum, to be reached

3.9
single result limit value
value of a strength, physical or chemical property which − for any single test result − in the case of an upper limit is not be exceeded or in the case of a lower limit is, as a minimum, to be reached

3.10
spot sample
sample taken at the same time and from one and the same place, relating to the intended tests

Note 1 to entry: It can be obtained by combining one or more immediately consecutive increments (see EN 459–2).

3.11
autocontrol testing
continual testing by the manufacturer of building lime spot samples taken at the point(s) of release from the factory/depot

3.12
control period
period of production and dispatch identified for the evaluation of the autocontrol test results

4 Air lime

4.1 General

Air lime is used for the preparation or the production of materials used in building construction as well as in civil engineering.