

Binders for magnesite screeds — Caustic magnesia and magnesium chloride —

Part 1: Definitions, requirements

The European Standard EN 14016-1:2004 has the status of a
British Standard

ICS 01.040.91; 91.100.50

National foreword

This British Standard is the official English language version of EN 14016-1:2004.

EN 14016-1:2004 is a candidate “harmonized” European Standard and fully takes into account the requirements of the European Commission mandate M/132, *Floorings*, given under the EU Construction Products Directive (89/106/EEC), and intended to lead to CE marking. The date of applicability of EN 14016-1:2004 as a “harmonized” European Standard, i.e. the date after which this standard may be used for CE marking purposes, is subject to an announcement in the *Official Journal of the European Communities*.

The European Commission in consultation with Member States has agreed a transition period for the co-existence of “harmonized” European Standards and their corresponding national standard(s). It is intended that this period will comprise a period, usually nine months, after the date of availability of the European Standard, during which any required changes to national regulations are to be made, followed by a further period, usually of 12 months, for the implementation of CE marking. At the end of this co-existence period, the national standard(s) will be withdrawn. In the UK, there is no corresponding national standard.

The UK participation in the preparation of EN 14016-1:2004 was entrusted by Technical Committee B/507, Paving units, kerbs, screeds and in situ floorings, to Subcommittee B/507/6, Screeds and in situ floorings, which has the responsibility to:

- aid enquirers to understand the text;
- present to the responsible international/European committee any enquiries on the interpretation, or proposals for change, and keep the UK interests informed;
- monitor related international and European developments and promulgate them in the UK.

A list of organizations represented on this subcommittee can be obtained on request to its secretary.

Cross-references

The British Standards which implement international or European publications referred to in this document may be found in the *BSI Catalogue* under the section entitled “International Standards Correspondence Index”, or by using the “Search” facility of the *BSI Electronic Catalogue* or of British Standards Online.

This publication does not purport to include all the necessary provisions of a contract. Users are responsible for its correct application.

Compliance with a British Standard does not of itself confer immunity from legal obligations.

This British Standard, was published under the authority of the Standards Policy and Strategy Committee on 22 January 2004

Summary of pages

This document comprises a front cover, an inside front cover, the EN title page, pages 2 to 16, an inside back cover and a back cover.

The BSI copyright notice displayed in this document indicates when the document was last issued.

Amendments issued since publication

Amd. No.	Date	Comments

© BSI 22 January 2004

ISBN 0 580 43305 6

EUROPEAN STANDARD

EN 14016-1

NORME EUROPÉENNE

EUROPÄISCHE NORM

January 2004

ICS 01.040.91; 91.100.50

English version

Binders for magnesite screeds - Caustic magnesia and magnesium chloride - Part 1: Definitions, requirements

Liants pour chapes à base de magnésie - Magnésie caustique et chlorure de magnésium - Partie 1: Définitions, exigences

Bindemittel für Magnesiaestriche - Kaustische Magnesia und Magnesiumchlorid - Teil 1: Begriffe und Anforderungen

This European Standard was approved by CEN on 15 September 2003.

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.

CEN members are the national standards bodies of 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.



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

Management Centre: rue de Stassart, 36 B-1050 Brussels

Contents

	page
Foreword.....	3
1 Scope	4
2 Normative references	4
3 Terms and definitions.....	4
4 Requirements	5
4.1 Magnesium chloride	5
4.2 Caustic magnesia	5
4.2.1 Homogeneity	5
4.2.2 Chemical composition.....	5
4.2.3 Loose density.....	5
4.2.4 Fineness of grind	5
4.2.5 Setting time.....	6
4.2.6 Flexural and compressive strength	6
4.3 Reaction to fire.....	6
5 Testing	6
6 Evaluation of conformity.....	6
6.1 General.....	6
6.2 Initial type testing (ITT).....	7
6.3 Factory production control (FPC)	7
6.4 Technical specifications for binders for magnesite screed	7
7 Designation.....	7
8 Marking and labelling	8
9 Conformity criteria and assessment procedure.....	8
9.1 General.....	8
9.2 Statistical conformity criteria	8
9.2.1 General.....	8
9.2.2 Check by variables	8
9.2.3 Check by attributes.....	9
9.3 Minimum testing frequencies	10
Annex ZA (informative) Clauses of this European Standard addressing essential requirements or other provisions of EU Directives.	11
ZA.1 Scope and relevant characteristics	11
ZA.2 Procedure(s) for attestation of conformity of binders for magnesite screed materials.....	12
ZA.2.1 System(s) of attestation of conformity	12
ZA.2.2 EC Declaration of conformity	13
ZA.3 CE marking and labelling	14
Bibliography	16

Foreword

This document (EN 14016-1:2004) has been prepared by Technical Committee CEN/TC 303, "Floor screeds and in-situ floorings in buildings", the secretariat of which is held by BSI.

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 2004, and conflicting national standards shall be withdrawn at the latest by October 2005.

This document belongs to a series of standards for screed material and floor screeds within building constructions.

No existing European Standard is superseded.

This document has been prepared under Mandate M 132 "Floorings" 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.

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 European Standard specifies requirements for caustic magnesia and magnesium chloride, which will be used for magnesite screed material and magnesite screeds as specified in EN 13813.

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 (including amendments).

EN 196-1, *Methods of testing cement — Part 1: Determination of strength*.

EN 13318:2000, *Screed materials and floor screeds — Definitions*.

EN 14016-2, *Binders for magnesite screeds — Caustic magnesia and magnesium chloride — Part 2: Test methods*.

EN 13501-1, *Fire classification of construction products and building elements - Part 1: Classification using test data from reaction to fire tests*.

EN ISO 9001, *Quality management systems - Requirements (ISO 9001:2000)*.

3 Terms and definitions

For the purposes of this European Standard, the terms and definitions given in EN 13318:2000 and the following apply.

3.1

magnesium chloride

compound (magnesium chloride (MgCl_2)) which may contain water insoluble substances, e.g. ferrous oxide (Fe_2O_3) and magnesium oxide (MgO), as well as water-soluble substances, e.g. sodium chloride (NaCl), potassium chloride (KCl), calcium chloride (CaCl_2) and magnesium sulfate (MgSO_4); it is traded as solid salt or aqueous solution

3.2

caustic magnesia

a finely ground binder, which is burned out of naturally occurring magnesium carbonate MgCO_3 or other magnesium compounds; the main constituent of the caustic magnesia is magnesium oxide (MgO); sub-constituents may be carbonate (CO_3), silicic oxide (SiO_2), aluminium oxide (Al_2O_3), ferric oxide (Fe_2O_3), calcium oxide (CaO) and sulfate (SO_4)

4 Requirements

4.1 Magnesium chloride

Magnesium chloride shall conform to the requirements by composition given in Table 1:

Table 1 — Requirements for magnesium chloride

Trade form	Main constituent mass MgCl ₂ (%)	Water insoluble substances mass (%)	Sub ingredients			pH-value
			NaCl + KCl mass (%)	MgSO ₄ mass (%)	CaCl ₂ mass (%)	
Aqueous solution	20	0,05	1	0,5	0,5	6
Solid salt	46	0,1	2	1	1	

4.2 Caustic magnesia

4.2.1 Homogeneity

Charges shall be homogenous and show the same colour by visual inspection.

4.2.2 Chemical composition

The chemical composition shall fulfil the following requirements:

- | | |
|--|--------------|
| a) magnesium oxide MgO | 80 % by mass |
| b) hydrochloric-acid-insoluble residues + sesquioxides | 14 % by mass |
| c) calcium oxide CaO ¹⁾ | 4 % by mass |
| d) ignition loss | 8 % by mass |

4.2.3 Loose density

The loose density shall not be more than 1 000 kg/m³.

4.2.4 Fineness of grind

By testing the fineness of the grind the residues in the sieves shall not exceed the value in Table 2.

1) A higher total amount of CaO is allowed, if the free CaO content is lower than 1 % by mass.

Table 2 — Fineness of grind

Sieve mesh width (mm)	Mass of residues (%)
0,09	30

4.2.5 Setting time

The setting process of the magnesia paste shall begin 30 minutes after mixing at the earliest and end 5 h after mixing at the latest.

4.2.6 Flexural and compressive strength

The magnesia test mortar, consisting of caustic magnesia, magnesium chloride and CEN-standard sand according to EN 196-1 (see EN 14016-2) shall have at least the strength characteristics given in Table 3.

Table 3 — Flexural and compressive strength

Age days	Flexural strength N/mm ²	Compressive strength N/mm ²
28	9	60

NOTE When tested at the age of 3 days, a flexural strength of about 8 N/mm² and a compressive strength of approximately 50 N/mm² should be obtained.

4.3 Reaction to fire

Binders for magnesite screed materials which do not contain more than 1 % of organic material by mass or volume (whichever is the more onerous) are classified A1_{fl} without the need for testing²⁾. All other materials shall be tested and classified in accordance with EN 13501-1.

5 Testing

Testing, except for reaction to fire, shall be carried out as specified in EN 14016-2.

6 Evaluation of conformity

6.1 General

Evaluation of conformity is carried out by declaring conformity of binders for magnesite screeds, caustic magnesia and magnesium chloride, with the requirements of this standard on the basis of:

- ¾ Initial type testing (ITT);
- ¾ Factory production control (FPC).

The conformity criteria and assessment procedure are given in clause 9.

2) See Commission Decision 96/603/EC, as amended.

6.2 Initial type testing (ITT)

An initial type testing shall be carried out to show conformity of the product to this standard. Additionally, an initial type testing shall be carried out at the beginning of production of a new product type. Before starting production and introduction of the product into the market, suitable initial type testing shall be carried out to confirm that the predicted product properties conform to the requirements in this standard and correspond to the declared values.

Initial type tests shall also be carried out if the specification for the binders or the manufacturing method have been changed.

Tests previously performed in accordance with the provisions of this standard may be taken into account provided that product characteristic(s), test method, sampling procedure and system of attestation of conformity are identical.

6.3 Factory production control (FPC)

Factory production control means the permanent internal control of production exercised by the manufacturer or his agent under the responsibility of the manufacturer himself.

The purpose of the factory production control is to ensure that binders for magnesite screeds placed on the market conform to their technical specifications given in clause 4. Sampling and tests shall be carried out as described in EN 14016-2, except as provided for in 6.4.

The manufacturer shall record the results of production control (manufacturer's record). These records shall include at least the following:

- ¾ identification of the product tested;
- ¾ date of sampling;
- ¾ test methods used;
- ¾ test and inspection results;
- ¾ date of tests;
- ¾ identification of the person responsible for the tests;
- ¾ calibration records.

An FPC system conforming to the requirements in EN ISO 9001 and corresponding to the requirements in this standard is considered as a system which fulfils the requirements mentioned above.

6.4 Technical specifications for binders for magnesite screed

The technical specifications and properties specified in this standard are defined in terms of reference test methods (see EN 14016-2), which shall be used to demonstrate the conformity of the products to this European Standard. For factory production control, other test methods may be used provided that:

- a) they can show a relationship to exist between the results from the CEN reference test and those from the alternative test;
- b) the information on which the relationship is based is available for inspection.

7 Designation

Binders for magnesite screeds to be used for the manufacture of floor screeds shall be designated by at least the type and reference to this standard.

EN 14016-1:2004 (E)

EXAMPLE 1 Magnesium chloride conforming to the requirements of this European Standard is designated by:

Magnesium chloride EN 14016-1

EXAMPLE 2 Caustic magnesia conforming to the requirements of this European Standard is designated by:

Caustic magnesia EN 14016-1

8 Marking and labelling

For delivery, the following items shall be provided:

- a) name and address of manufacturer or supplier;
- b) quantity (volume/mass);
- c) designation (see clause 7);
- d) number of charge and, for caustic magnesia, the production week of the charge.

9 Conformity criteria and assessment procedure

9.1 General

Conformity of binders for magnesite screeds to this European Standard is assumed if the conformity criteria specified in 9.2 and 9.3 are met. The evaluation of conformity shall be based on samples which are representative for production and on test results from samples taken during the control period.

9.2 Statistical conformity criteria

9.2.1 General

Conformity on the basis of continuous sampling shall be formulated in terms of a statistical criterion based on:

- ¾ the necessary mechanical, physical and chemical properties as characteristic values defined in clause 4 of this European Standard;
- ¾ the probability P_K on which the definition of the characteristic value is based (in this standard 10 %);
- ¾ the permissible probability of acceptance, CR , of binders for magnesite screeds not conforming to the requirements (in this standard 5 %);
- ¾ an absolute limit value; this limit value may not vary by more than 10 % in comparison with the characteristic value; results beyond this tolerance are not permissible. For the absolute limit value for $MgCl_2$ solid salt, 45 % by mass is specified.

NOTE Conformity evaluation by a procedure based on a finite number of test results may only produce an approximate value for the proportion of results outside the characteristic value in a population. The larger the sample size (number of test results), the better the approximation. The selected probability of acceptance CR controls the degree of approximation as achieved by the sampling plan.

Conformity to the requirements of this European Standard shall be verified by variables or by attributes.

9.2.2 Check by variables

Conformity shall be estimated from the totality of the test results on all samples taken during the control period. For this calculation the test results are assumed to be normally distributed.

Conformity is verified when the following equations are satisfied:

$$\bar{X} - k_A s \geq C \quad \text{for the minimum value and} \quad (1)$$

$$\bar{X} + k_A s \leq C \quad \text{for the maximum value} \quad (2)$$

where

\bar{X} is the arithmetical mean of the totality of the test results during the control period;

s is the standard deviation of the totality of the test results during the control period;

k_A is the acceptability constant;

C is the characteristic value.

The acceptability constant k_A depends on the probability P_K on which the definition of the characteristic value is based, and on the number of the test results n . The values for k_A , listed in Table 4, are valid for a probability of acceptance of 5 % for screed mortar which does not fulfil the requirements.

Table 4 — Values for the acceptability constant k_A

Number of test results n	k_A (for $P_K = 10\%$)
10 to 14	2,35
15 to 19	2,07
20 to 24	1,93
25 to 29	1,84
30 to 34	1,78
35 to 39	1,73
40 to 49	1,70
50 to 59	1,65
60 to 69	1,61
70 to 79	1,58
80 to 99	1,56
100 to 199	1,53
200 to 299	1,45
300	1,42

9.2.3 Check by attributes

The number of test results beyond the characteristic value C_D shall be determined by counting and be compared with an acceptable number C_A , calculated from the number of test results n and the percentage P_K given in Table 4.

Conformity is verified when the following equation is satisfied:

$$C_D \leq C_A$$

The values for C_A depend on the percentage on which the characteristic value is based, on the permissible possibility of acceptance C_R and on the number of test results n . The values for C_A are given in Table 5.

Table 5 — Values for C_A

Number of test results n^a	C_A (for $P_K = 10\%$)
20 to 39	0
40 to 54	1
55 to 69	2
70 to 84	3
85 to 99	4
100 to 109	5

^a If the number of test results n is < 20 , a statistical criteria is not possible. In this case C_A is always equal to 0.

9.3 Minimum testing frequencies

Sampling shall be documented. The minimum testing frequencies for each property to be tested are listed in Table 6. The statistical assessment procedure may be either by variables or attributes.

Table 6 — Minimum testing frequencies

Parameters	Testing frequency
magnesium chloride	
magnesium chloride _{solid salt}	1 per production week ^a
magnesium chloride _{aqueous solution}	1 per production week ^a
water-non-soluble substances	1 per production week ^a
alkali chloride	1 per production week ^a
magnesium sulfate	1 per production week ^a
calcium chloride	1 per production week ^a
pH-value	1 per production week ^a
caustic magnesia	
magnesium oxide	4 per year
hydrochloric-acid-insoluble residues + sesquioxides	4 per year
calcium oxide	4 per year
ignition loss	4 per year
loose density	4 per year
fineness of grind	4 per year
setting	4 per year
flexural strength	1 per production week ^a
compressive strength	1 per production week ^a

^a Any week (7 days) when some production took place.

Annex ZA (informative)

Clauses of this European Standard addressing essential requirements or other provisions of EU Directives.

ZA.1 Scope and relevant characteristics

This European Standard has been prepared under Mandate M/132 "Floorings" given to CEN by the European Commission and the European Free Trade Association.

The clauses of this European Standard shown in this annex meet the requirements of the mandate given under the EU Construction Products Directive (89/106).

Compliance with these clauses confers a presumption of fitness of the construction product covered by this European Standard for its intended use(s) under the mandate; reference shall be made to the information accompanying the CE marking.

WARNING: Other requirements and other EU Directives, not affecting the fitness for intended use(s), may apply to the construction products falling within the scope of this European Standard.

NOTE In addition to any specific clauses relating to dangerous substances contained in this standard, there may be other requirements applicable to the products falling within its scope (e.g. transposed European legislation and national laws, regulations and administrative provisions). In order to meet the provisions of the EU Construction Products Directive, these requirements also need to be complied with, when and where they apply. An informative database of European and national provisions on dangerous substances is available at the Construction web site on EUROPA (CREATE, accessed through <http://europa.eu.int/comm/enterprise/construction/internal/dangsub/dangmain.htm>).

The scope of this annex is the same as clause 1 of this standard and is defined in Tables ZA.1.1 and ZA.1.2.

This annex establishes the conditions for the CE marking of the binders intended for the uses indicated in Tables ZA.1.1 and ZA 1.2 and shows the relevant clauses applicable.

Table ZA.1.1 — Relevant clauses for caustic magnesia

Product: Caustic magnesia			
Intended use: See clause 1			
Essential characteristics	Requirement clauses in this European Standard	Levels and/or classes	Notes
Reaction to fire	4.3	A1 _{fi} to F _{fi}	Including products of Class A1 _{fi} in accordance with Commission Decision 96/603/EC, as amended
Mechanical resistance			Threshold values
¼ compressive strength	4.2.6		60 N/mm ²
¼ flexural strength	4.2.6		9 N/mm ²
Durability			
¼ chemical composition	4.2.2		
¼ setting	4.2.5		

Table ZA.1.2 — Relevant clauses for magnesium chloride

Product: Magnesium chloride			
Intended use: See clause 1			
Essential characteristics	Requirement clauses in this European Standard	Levels and/or classes	Notes
Reaction to fire	4.3	A1 _{fi} to F _{fi}	Including products of Class A1 _{fi} in accordance with Commission Decision 96/603/EC, as amended
Chemical composition	4.1		

The requirement on a certain characteristic is not applicable in those Member States (MSs) where there are no regulatory requirements on that characteristic for the intended use of the product. In this case, manufacturers placing their products on the market of these MSs are not obliged to determine nor declare the performance of their products with regard to this characteristic and the option “No performance determined” (NPD) in the information accompanying the CE marking (see ZA.3) may be used. The NPD option may, however, not be used, where the characteristic is subject to a threshold level.

ZA.2 Procedure(s) for attestation of conformity of binders for magnesite screed materials

ZA.2.1 System(s) of attestation of conformity

Table ZA.2 — Systems of attestation of conformity

Product(s)	Intended use(s)	Level(s) or class(es)	Attestation of conformity systems
Caustic magnesia and Magnesium chloride	For uses in indoor areas subject to reaction to fire regulations	(A1 _{fi} , A2 _{fi} , B _{fi} , C _{fi} , D _{fi} and E _{fi}) ^a	3
		A1 _{fi} ^b and F	4
	For uses in indoor areas subject to regulations for dangerous substances		3
	For uses not mentioned above		4

^a Products/materials requiring testing

^b Products/materials that do not require to be tested for reaction to fire (i.e. products/materials of Class A1 according to Commission Decision 96/603/EC, as amended)

The attestation of conformity of the binders in Tables ZA.1.1 and ZA.1.2 shall be based on the evaluation of conformity procedures indicated in Tables ZA.3.1 and ZA.3.2 resulting from the application of the clauses of this European Standard indicated therein.

Table ZA.3.1 — Assignment of evaluation of conformity tasks for binders for magnesite screeds under system 3

Tasks		Content of the task	Evaluation of conformity clauses to apply
Tasks for the manufacturer	Factory production control (FPC)	Parameters related to all relevant characteristics of Tables ZA.1	6.3 and 9
	Initial type testing	All relevant characteristics of Tables ZA.1 except reaction to fire and dangerous substances	6.2 and 9
Tasks for the notified body	Initial type testing	Reaction to fire (A _{1fl} , A _{2fl} , B _{fl} , C _{fl} , D _{fl} and E _{fl}) ^a Release of dangerous substances	6.2 and 9
^a See Table ZA.2			

Table ZA.3.2 — Assignment of evaluation of conformity tasks for binders for magnesite screeds under system 4

Tasks		Content of the task	Evaluation of conformity clauses to apply
Tasks for the manufacturer	Factory production control (FPC)	Parameters related to mechanical resistance and durability (see Table ZA.1)	6.3 and 9
	Initial type testing	Mechanical resistance and durability (see Tables ZA.1)	6.2 and 9

ZA.2.2 EC Declaration of conformity

ZA.2.2.1 Products under system 3

When compliance with the conditions of this annex is achieved, the manufacturer or his agent established in the EEA shall prepare and retain a declaration of conformity, which entitles the manufacturer to affix the CE marking. This declaration shall include:

- ¾ name and address of the manufacturer, or his authorised representative established in the EEA, and the place of production;
- ¾ description of the product (type, identification, use, etc.), and a copy of the information accompanying the CE marking;
- ¾ provisions to which the product conforms (i.e. annex ZA of this EN);
- ¾ particular conditions applicable to the use of the product (e.g. provisions for use under certain conditions);
- ¾ name and address of the notified body(ies);
- ¾ name of, and position held by, the person empowered to sign the declaration on behalf of the manufacturer or his authorised representative.

The above mentioned declaration shall be presented in the official language or languages of the Member State in which the product is to be used.

ZA.2.2.2 Products under system 4

When compliance with the conditions of this annex is achieved, the manufacturer or his agent established in the EEA shall prepare and retain a declaration of conformity, which entitles the manufacturer to affix the CE marking. This declaration shall include:

- ¾ name and address of the manufacturer, or his authorised representative established in the EEA, and place of production;
- ¾ description of the product (type, identification, use ,etc.), and a copy of the information accompanying the CE marking;
- ¾ provisions to which the product conforms (i.e. annex ZA of this EN);
- ¾ particular conditions applicable to the use of the product (e.g. provisions for use under certain conditions);
- ¾ name of, and position held by, the person empowered to sign the declaration on behalf of the manufacturer or his authorised representative.

The above mentioned declaration shall be presented in the official language or languages of the Member State in which the product is to be used.

ZA.3 CE marking and labelling

The manufacturer or his authorised representative established within the EEA is responsible for the affixing of the CE marking. The CE marking symbol to affix shall be in accordance with Directive 93/68/EC and shall be shown on the packaging or on the accompanying commercial documents (e.g. a delivery note). The following information on the product and its essential characteristics shall accompany the CE marking symbol:

- ¾ name or identifying mark and registered address of the producer;
- ¾ the last two digits of the year in which the marking is affixed;
- ¾ reference to this European Standard;
- ¾ material type (i.e. caustic magnesia or magnesium chloride);
- ¾ information on the relevant essential characteristics listed in Tables ZA.1.1 and ZA.1.2;
- ¾ declared values and, where relevant, level or class to declare for each essential characteristic as indicated in "Notes" columns of Tables ZA.1.1 and ZA.1.2;
- ¾ as an alternative, standard designation(s) alone or in combination with declared values as above;
- ¾ "No performance determined" (NPD) for characteristics where this is relevant.

The "No performance determined" (NPD) option may not be used where the characteristic is subject to a threshold level. Otherwise, the NPD option may be used when and where the characteristic, for a given intended use, is not subject to regulatory requirements in the Member State of destination.

Figure ZA.1 gives an example for the information to be given on the packaging and/or commercial documents.

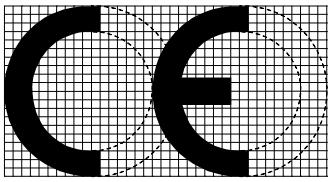
	<p><i>CE conformity marking, consisting of the “CE”-symbol given in Directive 93/68/EEC.</i></p>																
<p>AnyCo Ltd, PO Box 21, B-1050</p> <p>03</p>	<p><i>Name or identifying mark and registered address of the producer</i></p> <p><i>Last two digits of the year in which the marking was affixed</i></p>																
<p style="text-align: center;">EN 14016-1</p> <p>Caustic magnesia for magnesite screed materials</p> <table border="0" style="width: 100%;"> <tr> <td style="width: 60%;">Reaction to fire:</td> <td style="text-align: right;">A1_{fl}</td> </tr> <tr> <td>Flexural strength</td> <td style="text-align: right;">10 N/mm²</td> </tr> <tr> <td>Compressive strength</td> <td style="text-align: right;">65 N/mm²</td> </tr> <tr> <td>Setting</td> <td style="text-align: right;">> 30 min < 180 min</td> </tr> <tr> <td colspan="2">Chemical composition</td> </tr> <tr> <td>MgO by mass</td> <td style="text-align: right;">> 83 %</td> </tr> <tr> <td>CaO by mass</td> <td style="text-align: right;">< 42 %</td> </tr> <tr> <td>Ignition loss by mass</td> <td style="text-align: right;">4 %</td> </tr> </table>	Reaction to fire:	A1 _{fl}	Flexural strength	10 N/mm ²	Compressive strength	65 N/mm ²	Setting	> 30 min < 180 min	Chemical composition		MgO by mass	> 83 %	CaO by mass	< 42 %	Ignition loss by mass	4 %	<p style="text-align: center;"><i>No. of European Standard</i></p> <p style="text-align: center;"><i>Description of product</i></p> <p style="text-align: center;"><i>and</i></p> <p style="text-align: center;"><i>information on regulated characteristics</i></p>
Reaction to fire:	A1 _{fl}																
Flexural strength	10 N/mm ²																
Compressive strength	65 N/mm ²																
Setting	> 30 min < 180 min																
Chemical composition																	
MgO by mass	> 83 %																
CaO by mass	< 42 %																
Ignition loss by mass	4 %																

Figure ZA.1 — Example for CE marking information

In addition to any specific information relating to dangerous substances shown above, the product should also be accompanied, when and where required and in the appropriate form, by documentation listing any other legislation on dangerous substances for which compliance is claimed, together with any information required by that legislation.

NOTE European legislation without national derogations need not be mentioned.

Bibliography

EN 13813, *Screeed materials and floor screeeds — Screeed material — Properties and requirements.*

BSI — British Standards Institution

BSI is the independent national body responsible for preparing British Standards. It presents the UK view on standards in Europe and at the international level. It is incorporated by Royal Charter.

Revisions

British Standards are updated by amendment or revision. Users of British Standards should make sure that they possess the latest amendments or editions.

It is the constant aim of BSI to improve the quality of our products and services. We would be grateful if anyone finding an inaccuracy or ambiguity while using this British Standard would inform the Secretary of the technical committee responsible, the identity of which can be found on the inside front cover.
Tel: +44 (0)20 8996 9000. Fax: +44 (0)20 8996 7400.

BSI offers members an individual updating service called PLUS which ensures that subscribers automatically receive the latest editions of standards.

Buying standards

Orders for all BSI, international and foreign standards publications should be addressed to Customer Services. Tel: +44 (0)20 8996 9001.
Fax: +44 (0)20 8996 7001. Email: orders@bsi-global.com. Standards are also available from the BSI website at <http://www.bsi-global.com>.

In response to orders for international standards, it is BSI policy to supply the BSI implementation of those that have been published as British Standards, unless otherwise requested.

Information on standards

BSI provides a wide range of information on national, European and international standards through its Library and its Technical Help to Exporters Service. Various BSI electronic information services are also available which give details on all its products and services. Contact the Information Centre.
Tel: +44 (0)20 8996 7111. Fax: +44 (0)20 8996 7048. Email: info@bsi-global.com.

Subscribing members of BSI are kept up to date with standards developments and receive substantial discounts on the purchase price of standards. For details of these and other benefits contact Membership Administration.
Tel: +44 (0)20 8996 7002. Fax: +44 (0)20 8996 7001.
Email: membership@bsi-global.com.

Information regarding online access to British Standards via British Standards Online can be found at <http://www.bsi-global.com/bsonline>.

Further information about BSI is available on the BSI website at <http://www.bsi-global.com>.

Copyright

Copyright subsists in all BSI publications. BSI also holds the copyright, in the UK, of the publications of the international standardization bodies. Except as permitted under the Copyright, Designs and Patents Act 1988 no extract may be reproduced, stored in a retrieval system or transmitted in any form or by any means – electronic, photocopying, recording or otherwise – without prior written permission from BSI.

This does not preclude the free use, in the course of implementing the standard, of necessary details such as symbols, and size, type or grade designations. If these details are to be used for any other purpose than implementation then the prior written permission of BSI must be obtained.

Details and advice can be obtained from the Copyright & Licensing Manager.
Tel: +44 (0)20 8996 7070. Fax: +44 (0)20 8996 7553.
Email: copyright@bsi-global.com.