SCOTTISH EXECUTIVE

Building Regulations Note No 4/2000

FITNESS OF MATERIALS, FITTINGS AND COMPONENTS; AND WORKMANSHIP

Contents

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1. REQUIREMENTS OF PART B

Regulation 10

Fitness of materials

"Materials, fittings, components and other manufactured products used to meet a requirement of these Regulations shall be suitable for the purpose for which they are so used and shall be used so as to comply with the requirements of these Regulations."

Technical Standards

Application of Part B
B1.1 This Part sets out the required standards for Regulation 10.

B1.2 The standards apply to all *buildings*, but only to those materials, fittings, components and other manufactured products which are subject to a particular requirement of these Regulations.

Selection and use of materials and components
B2.1 Materials, fittings, components and other manufactured products or parts thereof must be supported by evidence of suitability or, when installed by an established method, must have recognised qualities and properties of suitability.

B2.2 Materials, fittings, components and other manufactured products or parts thereof whose suitability depends upon proper maintenance or periodic renewal must be readily accessible, or positioned so that replacement is *reasonably practicable.*

Note 'Materials' is intended to include both naturally occurring and processed or manufactured materials and unspecified materials used as backfilling for excavations in connection with building work.

2. METHODS OF ESTABLISHING THE FITNESS OF MATERIALS FITTINGS AND COMPONENTS

2.1 The Technical Standards and the Deemed to Satisfy Specifications contain references to materials or products covered by British or European Standards, by certificates issued by European Technical Approval issuing bodies, or by other technical specifications. These references are not exclusive and other materials or products may be suitable in the particular circumstances.

2.2 There are a number of ways in which the suitability of a material for use for a specific purpose may be assessed. The following are aids that may be used for establishing this.

British and European Standards

2.3 The material conforms to the relevant provisions of an appropriate British Standard.

2.4 It should be noted that nearly all British Standards (BSs) relating to construction products will become the British "transposition" of the new European Standards (ENs) presently being drafted. Traditionally, where an EN has been transposed and has replaced a BS on the same product (but possibly a radically changed technical content), it has taken the previous BS number. The British Standards Institute (BSI) numbering policy now is to adopt the EN numbering, prefaced with BS. Again, each title may contain different characteristics and requirements from the superseded BS.

2.5 Because it is impossible to change everything simultaneously, there will be a period during which the old BSs will have to be recognised in regulations and will have to co-exist with the new. Some will be "withdrawn" but remain available for work which has already commenced; some will be retained as "obsolescent" where, for example, they are called up in documents not yet revised; some will co-exist for some years, fully maintained alongside the new transposed European standards (as with some of the structural codes).

2.6 Detailed enquiry will have to be made as to applicability in each context. Where the old standard retains applicability, it may reasonably be presumed that relevant products comply with Part B. Where there is a new standard, it may again be necessary to check applicability during the transitional period. After the transitional period compliance with the new standard may reasonably be assumed as suitable.

2.7 The ENs will have specifically identified clauses, those which relate to the "harmonised" requirements containing the (largely health and safety) requirements relevant to the Technical Standards, and "non-harmonised" requirements containing additional matters relating to trading requirements of concern to the construction industry.

Other national and international technical specifications

2.8 The product conforms to the national technical specifications of other Member States which are contracting parties to the European Economic Area (EEA), as long as such specifications provide in use at least an equivalent level of performance to the relevant BS. Where necessary, it is up to the person intending to carry out the work to provide translations and to demonstrate equivalence. It should be noted that the technical specifications of other Member States will also be in a process of change paralleling that of BSs.

Past experience

2.9 The material can be shown by experience, such as in a building in use, to be capable of performing the function for which it is intended.

Technical approvals

2.10 The product is covered by a certificate issued by a European Technical Approvals issuing body, and the conditions of use are in accordance with the terms of the certificate. Compliance with Part B will be achieved if the European Technical Approval (ETA), issued in accordance with the Construction Products Directive (CPD) (89/106/EEC) as amended by (93/68/EEC), indicates a suitable class of performance to meet the requirements of the Technical Standards. Where necessary it is up to the person

intending to carry out the work to provide translations and to demonstrate equivalence.

CE marking

2.11 The material has CE marking (see Diagram 1). The CE marking gives a presumption of conformity with the stated minimum legal requirements when placed on the market, as set out in the Construction Products Regulations 1991. These requirements include compliance with a harmonised EN as formally announced in the Official Journal of the European Communities (or with part of an EN) or with an ETA, coupled with the appropriate attestation procedure.

2.12 If used appropriately and in satisfactory conditions, a product bearing CE marking shall be presumed by the building control officer to satisfy the relevant requirements unless there are reasonable grounds for suspecting otherwise (see para. 2.14). In this context relevant requirements are defined in relation to the six essential requirements of the CPD, i.e.

- *mechanical resistance and stability*
- *safety in case of fire*
- *hygiene, health and the environment*
- *safety in use*
- *protection against noise*
- *energy economy and heat retention*

2.13 Depending on the intended use of the product and the particular regulatory requirements all, or some, of the essential requirements may be relevant.

2.14 A CE marked material can only be rejected if either its performance does not, in fact, conform to the particular technical specification against which the CE marking has been claimed or, in the case of a declared value or a class of performance, the resultant value does not meet the relevant requirements of the Technical Standards. A building control officer may only reject products bearing a CE mark if he/she suspects non-compliance with a technical standard, or if the accompanying documentation is incomplete. If the building control officer does not accept the product, he/she must notify the Trading Standards Officer. This will enable the UK Government, where necessary, to notify the Commission that they are prohibiting the placing on the market of the product in question or making it subject to special conditions.

DIAGRAM 1 - CE MARKING

CE marking

Important note In relation to CE marked products it is important to be aware that the CE mark alone is not sufficient to allow the use of a product within the construction of a building. The product must also fulfil the requirements of each Member States building regulations. For example a brick may have been awarded a CE mark, but before its use is approved the specifier, and the building control officer, must check the qualities of the product/brick to ensure it has the necessary attributes to comply with the building standards. In the case of a brick the structural strength, density, and durability etc need to be checked. All other product/materials within the construction require to be checked in a similar fashion.

TWO ROUTES TO CE MARKING (SIMPLIFIED FLOW CHART)

2.15 It should be noted that not all materials will necessarily be CE marked under the CPD, and it will not, in any case, be possible for all products to be CE marked until all relevant technical specifications have become available. However, there are some products where CE marking is compulsory under other Directives (e.g. Gas Boilers, which should fully comply with all relevant Directives and should be installed in accordance with the appliance manufacturer's instructions).

Independent certification schemes

2.16 There are many UK product certification schemes. Such schemes certify compliance with the requirements of a recognised document, which is appropriate to the purpose for which the product is to be used. Products which are not so certified may still conform to a relevant standard.

2.17 Many certification bodies which approve such schemes are accredited by the 'United Kingdom Accreditation Service' (UKAS).

2.18 If a product has been tested and certified as complying with a BS by an approved body in another Member State of the European Community, in accordance with the special procedure under Article 16 of the CPD, and if it is used appropriately and in satisfactory conditions, it must be accepted by the building control officer as complying with that standard.

Tests and calculations

2.19 It can be shown by tests, by calculation or by other means that the material will be capable of performing the function for which it is intended. The Accreditation Scheme for Testing Laboratories run by UKAS together with similar schemes run by equivalent certification bodies, including accreditation schemes operated by other Member States of the EEA, and recognised by that State's government, provide a means of ensuring that such tests can be relied on.

2.20 Where testing is carried out in a State within the EEA, such tests shall be carried out by an appropriate organisation offering suitable and satisfactory evidence of technical and professional competence and independence. The requirements shall be satisfied if the organisation is accredited in a State within the EEA in accordance with the following BS ENs: 45001, 45002, 45003, *45004, 45011,* 45012, 45013, and 45014.

2.21 Test methods used to classify products in accordance with the appropriate harmonised EN (hEN) will be standardised across Europe but the levels and classes required by building regulations in Member States will not (with the single exception of fire). The Commission is currently well on the way to completion of draft hENs relating to the fire testing of materials.

Sampling

2.22 Under section 18 of the Building (Scotland) Acts 1959 and 1970, the local authorities have the power to take samples of the materials used in building work to establish compliance with the provisions of the Technical Standards.

3. ATTESTATION OF CONFORMITY OF PRODUCTS

3.1 *"Attestation of conformity"* of products means that the provisions of and procedures laid down in

Articles 13, 14, and 15 and Annex III to the CPD are followed. These provisions aim to ensure that, with acceptable probability, the performance of a product is achieved as specified in the relevant technical specification

3.2 The mandates (instructions from the European Commission (EC) to the Comité Européen de Normalisation (CEN) will include indications concerning the conformity attestation procedures within the framework of Annexe III of the CPD and related provisions to be indicated in the technical specifications and guidelines for ETAs.

3.3 The CPD considers a product to be fit for its use if it conforms to a European Technical Specification. That may be an hEN, an ETA, or a Non-Harmonised Technical Approval; (the latter route is not favoured).

3.4 The main route to proof of attestation of conformity, and CE marking, is against an EN, produced by CEN/CENELEC upon a mandate from the Commission. It should be noted that some 40 families of products are the subjects of such a mandated process. When complete, the reference to each EN will be published in the European Community Official Journal. Attestation of conformity to these published standards is the responsibility of the 'notified bodies' (see glossary). An alternative route provided by the CPD is via an ETA. This route is provided for products where it is considered not possible to develop a technical specification via the normal standards route.

3.5 There are two possible options for the granting of an ETA, i.e. with a European Organisation for Technical Approvals Guideline (EOTA), or without. Providing that there is more than one request from a Member State, the normal route would be to mandate EOTA to provide an ETA Guideline (ETAG). The ETAG establishes the evaluation rules for determining the performances of products by all bodies entitled to deliver ETAs. ETAGs are not technical specifications in the sense of the CPD but a tool for the assessment bodies in their assessment job for a particular product family. They are developed on the consensus between those bodies involved in the process, i.e. the ETA bodies. The ETA bodies are not the same bodies as nominated by the Member State in connection with testing, inspection, or certification, although they can be if the Member State gives a double notification as in the case of the BBA. For more information on ETAs please read sections 24 and 25 of Building Regulation Note 2/99.

4. DURABILITY

4.1 The EC is introducing durability requirements into ENs. Durability can be defined as the ability of a building material, fitting, component, or part thereof to perform its required function over a period of time and under the influence of agents. Agents/factors that may affect the durability of a product include: exposure conditions, temperature, humidity, water, UV radiation, abrasion, chemical attack, biological attack, corrosion, weathering, frost, freeze-thaw, and fatigue.

4.2 Subject to normal maintenance, a product should enable a properly designed and executed works to fulfil the Essential Requirements (ERs) for an economically reasonable period of time (i.e. the working life of the product).

4.3 Durability is thus dependent on the intended use of the product and its service conditions. The assessment of durability can relate to the product as a whole or to its performance characteristics, insofar as these play a significant part with respect to the fulfilment of the ERs. In either case, the underlying assumption is that the performance will meet or exceed minimum acceptable values (thresholds) throughout its working life. The durability of construction products may be assessed using

performance-based methods, descriptive solutions or a combination of both.

4.4 Levels of durability can in theory be set only by reference to criteria laid down in the harmonised test procedures. At present most hENs are prescriptive, giving for example a minimum thickness of material rather than a level of performance, e.g. that the product must last at least 10 years. The EC still have the issue under consideration and it is likely that in future there will be a move towards performance standards. In the meantime, until the EC have prepared and issued guidance on this subject, reference can be made to BS 7543: 1992, which covers the durability of building elements, products and components.

5. RECYCLED AND RECYCLABLE MATERIALS / SUSTAINABLE DEVELOPMENT

5.1 The Government White Paper on sustainable development, issued on 17 May 1999, listed as its 4 primary objectives:

- *social progress which recognises the needs of everyone;*
- *effective protection for the environment;*
- *prudent use of natural resources; and*
- *maintenance of high and stable levels of economic growth and employment.*

5.2 The environmental impact of building work can be minimised by careful choice of materials, and where appropriate the use of recycled and recyclable materials should be considered. The use of such materials must not have adverse implications for the health and safety standards of the building work.

5.3 Guidance on this subject can be found in BRE Digest 433; the Department of the Environment, Transport and the Regions (DETR)/Construction Industry Research and Information Association (CIRIA) handbook "*The reclaimed and recycled construction materials handbook*"; and the Government's web site/advisory service for the use of recycled aggregates - (www.bre.co.uk/waste). CIRIA's web site is: www.ciria.org.uk

5.4 Information on the work done by BRE on 'Environmental Profiles' and 'BREEAM' for construction materials and components can be obtained from:

The Centre for Sustainable Construction at BRE

Telephone: 01923 664462, or

E-mail: breem@bre.co.uk

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6. MATERIALS SUSCEPTIBLE TO CHANGES IN THEIR PROPERTIES

6.1 Some materials undergo changes to their properties when they are exposed to certain environmental conditions, which may affect their performance over time. Examples are concrete made with cements containing a high proportion of calcium aluminates (HAC), certain stainless steels, structural silicone sealant and intumescent paints for enhancing fire resistance of building elements.

6.2 *Such materials can be used in works where these changes do not adversely affect the performance of the built works.* They will meet the requirements of the regulations provided that their final residual properties, including their structural properties, can be estimated at the time of their incorporation in the work. It should also be shown that these residual properties would be adequate for the building to perform the function for which it is intended for the expected life of the building.

7. SHORT-LIVED MATERIALS

7.1 Some materials, in the absence of special care, may be considered unsuitable because of their rapid deterioration in relation to the expected life of the building. It is not possible to set down any specific criteria from which the length of life of a material can be considered against the requirements of the regulations.

7.2 A short-lived material which is readily accessible for inspection, maintenance and replacement may meet the requirements of the regulations provided that the consequences of failure are not likely to have a serious affect on the health or safety of persons in and around the building.

7.3 Where a short-lived material is not readily accessible for inspection and maintenance or replacement or the consequences of failure are likely to be serious for health or safety, it is most unlikely that the material will be suitable.

8. RESISTANCE TO MOISTURE

8.1 Any material likely to be adversely affected by condensation, by moisture from the ground or by rain or snow will meet the requirements if:

- the construction will resist the passage of moisture to the material, or
- the material is treated or otherwise protected from moisture.

9. REACTION AND RESISTANCE TO FIRE

9.1 The following paragraphs do not cover all aspects of reaction and resistance to fire; they relate only to Part B of the Technical Standards and its relationship with the CPD and its interpretative documents.

9.2 The link between the CPD and its provisions in relation to fire safety is covered by Essential Requirement number 2, *"Safety in case of fire*". The requirements are defined in relation to construction works, by Annexe 1 of the Directive as follows:

The construction works must be designed and built in such a way that in the event of an out break of fire:

- *the load bearing capacity of the construction can be assumed for a specific period of time,*
- *the generation and spread of fire and smoke within the works are limited,*
- *the spread of the fire to neighbouring construction works is limited,*
- *occupants can leave the works or be rescued by other means,*
- *the safety of rescue teams is taken into consideration..*

9.3 In terms of the CPD, products are considered to be 'fire safe' if they satisfy the six Essential Requirements. The Essential Requirement "Safety in Case of Fire" as set out above and as detailed by the Interpretative Document (ID2), supports that requirement.

9.4 Reaction to fire can be defined as "the extent to which a product will burn and contribute to the development of a fire". Resistance to fire can be defined as "the ability to prevent the spread of flame and/or smoke and where relevant, to maintain mechanical stability".

Reaction to Fire

9.5 The Commission Decision establishing the Euroclasses system for reaction to fire was formally adopted on 8 February 2000 and published in the Official Journal on 23 February 2000 (Decision 2000/147/EC: ref. OJ L 50, 23.02.2000, p.14). This new system will replace in excess of 30 different national tests currently used by Member States.

9.6 The five Reaction to Fire test methods which have been developed by CEN TC127 are as follows:

- *Non combustibility test (all products)*
- *Determination of gross calorific potential (all products)*
- *Radiant panel test (flooring only)*
- *Ignitability when subjected to direct impingement of flames (not for floorings)*
- *Single burning item test (not for floorings).*

9.7 As a general principle, the larger the size of the test, the better the realism and reliability. For this reason the defining parameters of the classification system are based on the larger ISO 9075 Room Corner test, which measures the time to flash over. However because of the cost and complexity of the Room Corner test the new medium scale "Single Burning Item" (SBI) test has been developed. This leaves the Room Corner test to be used as a safety net in cases where doubt exists regarding credibility of data. In practice the SBI test will be the main test with the Room Corner test only being used in exceptional circumstances.

9.8 In conjunction with the advent of the new fire tests mentioned above the system of Euroclasses has been devised to enable the classification of products for the purposes of fire. The new system is part of the Commission's overall objective to remove barriers to trade between Member States by introducing a CE mark for construction products. The information supporting the CE mark will show to which of the seven Reactions to Fire Classes- (Al, A2, B, C, D, E, and F) a product belongs. The safest products will

be in Classes Al, A2, or B and the more fire hazardous will fall into C, D, or E. Class F denotes products that have not been tested.

9.9 Agreement on a list of construction products that can be considered to be Class 'A' (i.e. no contribution to fire) without the need for testing, can be found in EC Decision 96/603/EC. This Decision allows an important range of construction products such as concrete, bricks, glass, metals, etc to be able to obtain a CE mark without waiting for the various fire standards to be approved, voted and transposed. For further information regarding the harmonised fire tests, the transitional periods for the implementation of same, and "levels and classes", please see sections 3 and 4 of Building Regulation Note 5/99.

Resistance to Fire

9.10 With regard to "Resistance to Fire" the EC are now regularly producing EN Standards (test methods). For example, standards issued so far include:

- EN 1363-1 General requirements
- EN 1363-2 Alternative and additional procedures
- EN 1364-1 Non-Load-bearing walls
- EN 1364-2 Non-Load-bearing ceilings
- EN 1365-1 Load-bearing walls
- EN 1365-2 Floors and roofs
- EN 1365-3 Beams
- EN 1365-4 Columns
- EN 1366-1 Ducts
- EN 1366-2 Fire dampers
- EN 1634-1 Fire doors and shutters.

Plate Thermometer

9.11 Along with the recent agreement of CEN TC 127 for the above mentioned fire resistance test methods has come an agreement to use the Plate Thermometer as a means of controlling the rise in temperature within the testing furnace. All future product fire resistance testing throughout Europe will be carried out using the new thermometer. This new system should set aside concerns about the ability of different fire testing laboratories across Europe to provide the same results.

Note. For full details of Essential Requirement No.2 (SAFETY IN CASE OF FIRE) see pages 23-66 of the Interpretative Document (94/C62/01).

10. RESISTANCE TO SUBSTANCES IN THE SUBSOIL

10.1 Any product in contact with the ground or in foundations will meet the requirements if it is capable of resisting attacks by deleterious material in the subsoil such as sulphates.

10.2 Expert advice should be sought regarding the removal of ground contaminants where it is not possible to resist the attack of the subsoil deleterious material.

11. DANGEROUS SUBSTANCES

11.1 Harmonisation introduced by the CPD in relation to dangerous substances falls under essential requirement number 3, "*Hygiene, Health and the Environment*". The requirement is defined in relation to construction works, by Annexe 1 of the Directive, as follows:

The construction works must be designed and built in such a way that it will not be a threat to the hygiene or health of the occupants or neighbours, in particular as a result of any of the following:

- *the presence of dangerous particles or gases in the air,*
- *the emissions of dangerous radiation,*
- *pollution or poisoning of the water or soil,*
- *faulty elimination of waste water, smoke, solid or liquid wastes,*
- *the presence of damp in parts of the works or on the surfaces within the works.*

11.2 Three general principles are applicable in relation to the above:

- Aside from the protection of people (occupants and neighbours), it is only the immediate environment that falls within the scope of the CPD. Wider aspects, such as the destruction of the ozone layer, are not covered. Although the term "immediate" is not defined in the Interpretative Documents, it can be taken to mean those parts of the environment that are influenced by direct effects of the products or works in question.
- To conform with the scope of the CPD the harmonised approach relating to dangerous substances is limited to "works in use". Other phases in the life cycle of a product, i.e. its acquisition or production stages, during the building process, during demolition, waste disposal, incineration or waste reuse (except where reuse is as a construction product in the sense of the CPD) are not considered for harmonisation under the CPD. In addition, activities such as maintenance, replacement or other construction activities carried out during the normal life of a building might cause dangerous substances to arise from products already installed in the works. These activities are considered to be outside the scope of the CPD. Of course, any construction products used, for example, for replacement remain within the scope of the CPD.
- The requirement on products is expressed as emission or migration of dangerous substances or radiation during normal (i.e. foreseeable) use. It is therefore, when possible, the release of these substances that is the characteristic to be controlled. However, even if it is not the content of the dangerous substance itself in the product that should be controlled, controlling this aspect might be the only practicable solution in some circumstances.

11.3 Communications of the Commission in connection with the Interpretative Documents of the CPD and in particular number 3 thereof, indicate that the requirements are developing in specific aspects i.e. indoor environment, water supply, outdoor environment. Also one must remember to take into consideration the protection of workers.

11.4 Descriptive solutions, such as limits on the content of dangerous substances where a clear relationship between content and release exists in end-use conditions, or the specification of a special surface treatment, may be used if it is not possible (no method), or it is very expensive, to determine the

rate of release or emission of a dangerous substance. However, it is recognised that a relationship between content and release cannot be established for some substances and thus a declaration of content can be acceptable to accompany the CE marking. In particular this is applicable for substances and preparations for which there are restrictions on the marketing and use, as laid down in Council Directive 76/769/EEC. This document in turn refers to two other documents:

- *The Aerosol Dispensers (EEC Requirements) Regulations 1997*
- *Dangerous Substances and Preparations (Safety) (Consolidating) Regulations 1994.*

11.5 It is the producer's responsibility to make sure that all legal requirements on dangerous substances for the materials, components, and/or raw materials have been fulfilled.

11.6 To make the system workable a list of dangerous substances and the related legislation have been put into a database, which is available on the Internet site of the Commission, i.e. the construction site CREATE:

(http://europa.eu.int/comm/dgo3/directs/dg3d/d3/construc/index.htm).

12. WORKMANSHIP

Methods of establishing the adequacy of workmanship

12.1 Where suitability depends on the construction being carried out with adequate workmanship, for example the sound proofing of separating walls, it may be useful to consider the following aids for establishing the adequacy of workmanship:

Standards

12.2 The method of carrying out the work is included in the recommendations of a British Standard Code of Practice. BS 8000: Workmanship on Building Sites which also contains guidance from other BSI Codes and Standards.

12.3 The method conforms to an equivalent technical specification, which may include a national standard of other Member States that are contracting parties to the EEA.

Technical approvals

12.4 The workmanship is specified for a material covered by a national or European certificate issued by a European Technical Approvals issuing body, and the conditions of use are in accordance with the terms of the certificate.

12.5 Alternatively the workmanship may be covered by an equivalent technical approval (including a technical approval of any other member of EOTA), that provides an equivalent level of performance, and the conditions of use are in accordance with the terms of the technical approval. It is up to the person who intends to carry out the work to convince the building control officer that the method of workmanship proposed will provide the equivalent level of protection and performance. This should be done by submitting to the building control officer sufficient information that will allow the workmanship to be assessed. Please consult sections 24, 25, and 26 of Building Regulation Note 2/99, which give more information regarding ETA's and test methods.

Management systems

12.6 The workmanship is covered by a scheme that complies with the relevant recommendations of BS EN ISO 9000: Quality management and quality assurance standards. There are a number of such UKAS accredited schemes. These relate to products and processes for which there may also be a suitable British or other technical standard.

12.7 There are also independent schemes for accreditation and registration of installers of materials, products and services that provide a means of ensuring that the work has been carried out by knowledgeable contractors to appropriate standards e.g. Council Of Registered Gas Installers (Corgi).

Past experience

12.8 It can be shown by experience, such as in a building in use, that the method of workmanship is capable of performing the function for which it is intended.

Tests

12.9 Under section 18 of the Building (Scotland) Acts 1959 and 1970, local authorities have the power to carry out tests in connection with building work to ensure compliance with the Building (Scotland) Regulations. The cost of such investigations will initially have to borne by the Local Authority. If the exploration and the subsequent findings lead to the service of a notice under section 10, 11, or 13 of the building act then a charging order in terms of the sixth schedule of the act could be pursued. However if the owner of the building is for example pursuing the issue of a completion certificate, then the building control officer may ask the owner to arrange to have the investigation carried out at his/her expense.

13. ABBREVIATIONS AND GLOSSARY

British Board of Agrément (BBA)
P0 Box 195
Bucknalls Lane
Garston
WATFORD
WD2 7NG

Tel: 01923 665300
Fax: 01923 665301
E-mail: bba@btinternet.com

Internet: http://www.bbacerts.co.uk
See European Technical Approval issuing body

British Standards (BSs)

British Standards issued by the British Standards Institution. To achieve British Standard status the draft document is submitted for public consultation and all comments received considered and consensus reached.

BSI
British Standards Institution
389 Chiswick High Road

LONDON
W4 4AL

Tel: 0181 996 9001
Fax: 0181 996 7001
E-mail: info@bsi.org.uk

Internet: www.bsi.org.uk

CE marking
The CE marking is more fully described in Annex II **'Attestation of conformity with technical specifications**' of the Construction Products Directive. The marking may be on the product, a label, the packaging or accompanying commercial documentation. It will be accompanied by a reference to the technical specification to which it conforms, and, where appropriate, by indications to identify the characteristics of the product.

Comité Européen de Normalisation (CEN)
The European standards body recognised by the Commission to prepare harmonised standards to support the CPD. The members comprise the standards bodies of participating members of the EU and of EFTA (European Free Trade Association).

CENELEC
European Committee for Electromechanical Standardisation.

Construction Products Directive (CPD)
The Council Directive references 89/106/EEC dated 2l December 1988 and published in the Official Journal of the European Communities No. L40/l2dated 11.2.89. The CE Marking Directive (93/68/EEC) and the Fixings and Use of CE Marks Directive (93/465/EEC) amend the CPD.

Construction Products Regulations
The Construction Products Regulations 1991 (S11991 No 1620) came into force in the UK on 27 December1991 and implement the Construction Products Directive.

The CE Marking Directive came into force on 1 January 1995, and was implemented in the UK by the Construction Products (Amendment) Regulations 1994 (SI 1994 No 3051).

European Economic Area (EEA)
The European Economic Area, which consists of those states that signed the Agreement at Oporto on 2 May 1992 together with the Protocol adjusting that Agreement signed at Brussels on 17 March 1993. The states are Austria, Belgium, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Liechtenstein, Netherlands, Norway, Portugal, Spain, Sweden, United Kingdom.

European Organisation for Technical Approvals (EOTA)
The umbrella organisation for bodies issuing European Technical Approvals for individual products. Operates over the same area as CEN. EOTA complements the work of CEN in that the guidelines it produces are for products for which standards do not exist as yet, possibly due to the innovative nature of the product.

General Secretary based in Brussels

Tel: 003225026900
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European Commission
The executive organisation of the EU, based in Brussels. It ensures implementation and observance of Community rules, has the sole power to propose legislation based on the Treaties, and executes the decisions taken by the Council of Ministers.

European Standard (EN)
European standards are implemented as identical national standards in each of the Member States, and in the United Kingdom as BS ENs. The British Standard will include additional guidance about its relationship with other standards in the family and possibly about the use of the standard. An EN does not have a separate existence as a formally published document.

If a manufacturer chooses to comply with a hEN as his route to a CE mark then the compliance with of the normative part of the hEN is mandatory. ENs contain two sections plus one or two annexes. The two sections are known as *"normative",* which is mandatory/compulsory, and *"informative",* which is for guidance only.

"Annexes" to hENs come in two types:

- "Annexes that are country specific". This type of annexe is prepared by the individual Member State concerned for their own use. If they so choose, all Member States can have their own "country specific annexe" to cover issues that they feel are relevant to their state and not covered elsewhere in the EN.
- "Annexe Z". This annexe is always found in a hEN, it relates back to the harmonised section of the hEN and it sets out the criteria in the normative part of the EN, which must be complied with to meet the CPD to obtain a CE mark.

European Technical Approval (ETA)
A favourable technical assessment of the fitness for use of a construction product for an intended use, issued for the purposes of the CPD by a body authorised by a Member State to issue ETAs for those purposes and notified by that Member State to the EC.

An ETA is issued by an *Approved body* e.g. BBA or Wimlas. At the present time (until all ENs are available) a manufacturer must apply to the EC for an ETA. The EC will then decide whether or not to give permission for that manufacturer to approach a "Testing Body" to commence the ETA procedure to CE marking. It is important to note that an ETA will not be considered for issue if there is an EN for the product in question in existence or in preparation.

Approval Bodies are members of EOTA and it is they that set the standards and issue ETAs.

Procedure used for *"Attestation of Conformity*

a). *Product specification*-is level '1' and this is done by *"Certification Bodies"*
b). *Certification of factory control*-is level '2' and is done by *"Inspection Bodies".*
c). *Initial type testing*- is level '3' and is done by *"Testing Bodies".*

Please note certification bodies, inspection bodies, and testing bodies all come under the heading of

"NOTIFIED BODIES" because they have been notified to the EC by their country/state of origin as being acceptable for the task.

European Technical Approval issuing body
A body notified under article 10 of the Construction Products Directive. The details of these institutions are published in the "C" series of the Official Journal of the European Communities. At the present time the list for the UK has only the BBA and WIMLAS Ltd.

ETAG
This is an ETA with Guidelines (see section 24 of Building Regulation Note 2/99 for further details).

European Union (EU)
The 15 countries of the European Union, namely Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, Netherlands, Portugal, Spain, Sweden, United Kingdom.

European Pre-standard (ENV)
These documents are issued prior to ENs coming into force. They are put out as drafts for development for comment and are used on a voluntary basis.

Harmonised European Standards (hENs)
Unlike Eurocodes, which are issued for design purposes, hENs are issued in relation to products and are harmonised product standards, which are used for assessing products which are subject to the CPD. Compliance with an hEN is voluntary unless a manufacturer decides to use it as a route to CE marking, then it becomes compulsory to meet the standards within the hEN.

International Standards Organisation. (ISO)
The world wide standards organisation, some of whose standards may be adapted for use with the CPD. Standards are identified by 'ISO' and a number. These may be transposed into the UK as BS ISO, or adopted as ENs and implemented as BS EN ISO. ISO standards are separately published standards (unlike ENs).

National Application Document (NAD)
This is a device to facilitate the harmonisation of Eurocodes throughout the 18 Member States and each state/country will produce their own NAD to suit their needs. For example in connection with the UK and the implementation of the Eurocodes, the NADs form part of the introductory pages of the Eurocode and give actual national values, selected to reflect national loading codes and local requirements concerning practice and public safety.

The Eurocodes contain certain safety related numerical values, known as 'boxed values' and these values are only indicative, and the values to be used are left to be fixed by each state/country of the EC. The NADs specify the loading to be used for buildings to be designed and constructed. In other words the NADs collate information regarding the state that prepared the NAD, and it is used to compare the technical content so as to assist those involved in the design of structures in one country that are intended for construction in another country.

Non Harmonised Technical Approval
These are voluntary approvals issued by a body known as the *"Union European pour l' agrément technique dans la construction (UEATc)* ", which predates EOTA and is a rival to it. Its approvals demonstrate compliance with individual Member States' regulations. This body has become much more

active of late and Member States which had withdrawn from it in favour of EOTA are now rejoining (e.g. Germany).

Notified Bodies

Notified bodies are any one of the following:

- *"Certification Body"* (an organisation that have been approved for preparation of product specifications/level 1 conformity);
- *"Inspection Body"* (an organisation that have been approved to carry out certification of factory control/level 2 conformity);
- *"Testing Body"* (an organisation that have been approved to carry out initial type testing/level 3 conformity).

Note They are known as notified bodies simply because they have been notified to the EC by their country/state of origin as being acceptable for the task.

TC
Technical committee

Technical specification
In terms of article 4 of the CPD, standards and technical approvals are both classified as "technical specifications", and this term includes hENs adopted by CEN, CENELEC or both. Technical specifications are the documents which should be checked to prove compliance with the relevant European and national standards and the ERs listed in the CPD.

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United Kingdom Accreditation Service
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Fax: 0181-917-8500

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WIMLAS Ltd
St Peter's House
6-8 High Street
IVER
Buckinghamshire
SLO 9NG

Tel: 01753 737744
Fax: 01753 792321
E-mail: wimlas@compuserve.com

14. STANDARDS REFERRED TO IN THIS DOCUMENT

BS EN ISO 9000: Quality management and quality assurance standards:

BS EN ISO 9001: 1994 Quality Systems, Model for quality assurance in design, development, production, installation and servicing.

BS EN ISO 9002:1994 Quality Systems, Model for quality assurance in production, installation and servicing.

BS 7543: 1992 (1998) Guide to durability of buildings and building elements, products and components

Includes AMD 9854, February 1998

BS 8000: Workmanship on Building Sites:

Part 1:1989 Code of practice for excavation and filling

Part 2: Code of practice for concrete work
Section 2.1: 1990 Mixing and transporting concrete. Includes Amendment AMD 9324, February 1997
Section 2.2: 1990 Site work with in situ and precast concrete

Part 3:1989 Code of practice for masonry, and Amendment AMD 6195, May 1990

Part 4:1989 Code of practice for waterproofing

Part 5:1990 Code of practice for carpentry, joinery and general fixings

Part 6:1990 (1997) Code of practice for slating and tiling of roofs and claddings

Part 7:1990 Code of practice for glazing

Part 8:1994 Code of practice for plasterboard partitions and dry linings

Part 9:1989 Code of practice for cement/sand floor screeds and concrete floor toppings

Part 10: 1995 Code of practice for plastering and rendering, and Amendment AMD 9271, November 1996

Part 11: Code of practice for wall and floor tiling

Section 11.1: 1989 (1995) Ceramic tiles, Terrazzo tiles and mosaics, and Amendment AMD 8623, August 1995

Section 11.2 1990 Natural stone tiles

Part 12: 1989 Code of practice for decorative wall coverings and painting

Part 13: 1989 Code of practice for above ground drainage and sanitary appliances

Part 14: 1989 Code of practice for below ground drainage

Part 15: 1990 Code of practice for hot and cold water services (domestic scale)

Part 16: 1997 Code of practice for sealing joints in buildings using sealant

The Aerosol Dispensers (EEC Requirements) Regulations 1997, Statutory instruments number 1140 of 1977

The Dangerous Substances and Preparations (Safety) (Consolidating) Regulations 1994

SCOTTISH EXECUTIVE

Building Regulations Note No4/2000

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Royal Incorporation of Architects in Scotland
Royal Institution of Chartered Surveyors in Scotland
Royal Society of Health

Scottish Association of Chief Building Control Officers
Scottish Building Control Organisation
Scottish Building Employers' Federation
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