

SCOTTISH EXECUTIVE

BUILDING REGULATION NOTE Note No. 2/99

Building Standards (Scotland) Regulations 1990 (as amended)

European Matters

The Issues

1. This note is intended to provide guidance to local authorities on CE marked construction products and the introduction of European Standards (ENs) as a replacement for British Standards (BSs) together with the implications for the Technical Standards and Eurocodes. The note also touches on the mutual recognition of European professional qualifications.

EC Directives

2. Council directives of the European Community (instructions to Member States) now apply to many aspects of life, and a few are directly relevant to the construction industry. The directives are usually implemented by regulations within each member state.

3. For construction products, the Construction Products Directive (CPD) (89/106/EEC) has been implemented in the UK through the Construction Products Regulations that came into force in December 1991. These regulations have so far had little practical effect as the CPD requires harmonised product standards to be produced before it can operate effectively. Drafting of these harmonised standards has been slow due to the problems of achieving Europe wide agreement on fire tests. The stalemate has been resolved and the directive will soon have a considerable impact on building control. Other directives, such as the Gas Appliances Directive (90/396/EEC) and the Low Voltage Directive (73/23/EEC), have also been adopted and they too may need to be considered when trying to assess a CE marked product.

4. CE marking of construction products stems from the CPD. The use of CE marking is causing confusion because of the complexity of achieving a mark, and with the meaning and status of the mark. Unfortunately there are still some questions that the European Commission itself is unable to answer. Nevertheless a few CE marked products now exist, so this note records the current position, of which building control officers should be aware.

5. There are also directives governing the mutual recognition of most construction professionals' qualifications (see paragraph 34 below). This is now leading to requests to permit self-certification by structural engineers from the EU and Building Control Officers should be aware of the implications of these directives.

Background

6. The European Union is made up of 5 main institutions each with its own role and responsibilities. At the head is the Council of Ministers which negotiates and adopts community legislation. The directly elected European Parliament legislates and scrutinises proposed legislation, budgetary issues and executive decisions. The European Commission is the executive wing of the European Union and is firmly at the centre of the policy making process. It is the Commission that produces proposals and presents new legislation with the sole interests of the Community at heart. There is also the Court of Justice and the Court of Auditors.

7. It is important to appreciate that the CPD is concerned purely with the placing of construction products on the market. The CPD does not require national building regulations to be amended. However several Parts of the Technical Standards will require to be totally re-written to take account of the different methods of classifying and identifying products in the European Standards. Regulation 10, 'Fitness of Materials', which refers to 'materials suitable for the purpose' will have specific relevance and further clarification of the deemed to satisfy clauses in Part B is being considered

8. To implement CE marking, product standards are being prepared at a European level. Over the next 5 years CEN (the European Organisation for Standards) has promised approximately 600 harmonised product standards⁽¹⁾ and 1400 horizontal standards in support of the CPD (e.g. test methods)⁽²⁾. There will also be a small number of standards from CENELEC (the European Organisation for Electro-technical Standards). As these European Standards are adopted, the British Standards Institution (BSI) will be required to withdraw the conflicting British Standards. The time scale for withdrawal has not been finalised yet but is expected to be anywhere up to 3 years depending on the particular standard, although 6 months was the original intention of the Commission. A transition period will exist when both Standards could be in use. Throughout this transition period, the BS will be declared 'obsolescent' meaning that it can be kept as a valid document but will not be amended.

(1) Harmonised product standards (hEN), agreed at European level and will lead to CE marking;

(2) Supporting (test method) standards (EN), agreed at European level but will not, in themselves, lead to CE marking.

Eurocodes

9. Eurocodes are structural design standards for building and civil engineering works, equivalent to UK Codes of Practice, which they are intended ultimately to replace. Many Eurocodes are now available as ENVs (voluntary codes) and the European Commission has recently issued a mandate for their conversion to full ENs. It was envisaged that there would be a period of 5 years of co-existence with the current national codes before they were withdrawn, but this time span is now doubtful.

10. It must be said that there is still some disagreement among Member States over the adoption of Eurocodes. One country for instance has flatly refused to accept them while another has already transposed its design guidance. Many Eurocodes have been adopted in the UK by BSI as DD (draft for development) but for various reasons there is some reluctance among Engineers to accept them. There is therefore some doubt as to their present and future status.

11. A National Application Document (NAD) is a device to facilitate the harmonisation of Eurocodes throughout Member States. Safety factors in the Eurocodes are presented as indicative values and

identified as a 'box' value. They are the minimum required to meet the 'essential requirements' (see paragraph 22 below) in the CPD. While the Eurocodes remain as ENV each country is permitted to assign definitive box values, by reference to the NAD, to correspond with their national regulations. Once ENV are converted to EN, alteration of box values will not be permitted. The Commission however wishes to eliminate box values and set up 'European' classes in terms of safety levels and classification.

12. It is intended that the next amendment to Part C of the Technical Standards will move all reference to British Standards for 'loading' into the deemed to satisfy section. This could allow the use of Eurocodes as alternatives to meet the Part C standards. Until then, should any designers wish to use these documents, it will be necessary to use the codes for both loads and design as a package and therefore a relaxation would be needed for Standard C2.2.

Implementation of the European Standards

13. A large number of European Standards are written as performance standards, as opposed to the 'good practice guidance' provided in many of the British Standards which are about to be replaced. In an attempt to smooth over the transition stages, many European Standards generally will consist of two sections: normative (mandatory) and informative (voluntary, similar to our good practice BS guidance).

14. BSI is the custodian of all standards and presently over 1500 British Standards apply to the construction industry. Over the next 5 years most are programmed to be replaced by European Standards. BSI recognises that straight withdrawal of a BS could damage UK interests in certain areas, particularly if not all the ENs are available at the same time for the product in question.

15. BSI Technical Committees have therefore been instructed to think about the necessary mechanisms for helping users through the transition. Devices such as issuing new standards in related packages and the drafting of advisory documentation similar to the NADs developed for use with Eurocodes (see paragraph 11 above) are being considered.

16. Amending the Technical Standards to take account of the imminent changes that are due will be an enormous task. In the forthcoming European Standards there could be any of the following levels of technical complexity:

- a. EN is very similar to equivalent BS. Only minor editorial changes will be required to the deemed to satisfy clauses.
- b. EN follows similar principles and validation methods to equivalent BS but with different numerical classes or values. All information should be readily available so updating dts clauses should be straightforward but time consuming. (e.g. reference to classes of stainless steel. Although the properties are unchanged, classes of stainless steel are redrafted and require to be checked to ensure compatibility with existing classes)
- c. EN follows similar principles but validation methods significantly different from equivalent BS. Sufficient existing information may not be available and additional research may be required to determine equivalent performance classes. (e.g. the compressive strength tests of bricks is different from the UK model and careful consideration will be necessary to ensure comparable requirements.)
- d. EN adopts an entirely different approach to the equivalent BS. This will present a serious

challenge and will require a review of the UK method of application of the standards. The Construction and Building Control Group (CBCG) will need to identify classes, levels or values in the EN that will be acceptable to meet the building regulations. This will be a complex and time-consuming exercise. (e.g. the European classification for reaction and resistance to fire is different from that presently existing and will require a complete re-write of Parts D and E. Part F standards and deemed to satisfy specifications will also require an extensive re-write as a result of the revised method of classification of chimneys and flue-pipes.)

e. EN may have different coverage (usually narrower) and several EN's may be needed to equate to one BS.

17. Single Market legislation on public procurement requires public bodies and utilities (Directives 93/37/EEC and 93/38/EEC respectively) to cite European Standards where available, including both normative and informative parts. This applies to product and to design, installation and execution standards. The requirements of these public procurement directives fundamentally change the status of standards in the UK, making them effectively mandatory in certain circumstances. How this will affect the Technical Standards is yet to be fully determined and will be considered in the review of the building control system when this is commenced.

18. Throughout the transitional period and until CBCG has made the change over from BS to EN, there will be, undoubtedly, much confusion. Under the Gas Appliance Directive: 90/396/EEC, for instance, all new gas-fired appliances for sale in the UK require to be CE marked. To achieve the mark, appliances must meet the 'essential requirements' (see paragraph 21 below) of the directive. The relevant hEN is a means towards compliance with these 'essential requirements'. In effect these hENs are mandatory. Part F of the Technical Standards has recently undergone a major review but is unlikely to come into force until late 1999/early 2000. Building Control Officers should be aware that gas-fired appliances will not now be tested to the BSs called up in the deemed to satisfy specifications. The ENs to which the appliances are tested have been approved by CEN and must be accepted in the UK as national standards.

Implications of CE Marking

19. CE marking of products has been introduced as a method of removing trade barriers within Member States. The system is about the right to sell goods within the community without countries setting up 'artificial' barriers to trade such as safety issues or building regulations. Whilst CE marking will be mandatory for products sold in most European countries, at present, it will be optional in the UK. (Public Procurement Directives may require compulsory specification of CE marked products - see paragraph 17 above).

20. It is the firm view of UK lawyers that the CPD does not impose a compulsory CE marking regime, but the Commission does not take this view and has often threatened court action. The UK has advised the Commission of its stance but has not yet been challenged. The UK accepts that CE marking is one method by which products can be proven to be acceptable to building control as meeting particular standards, but together with four other Member States, is prepared to accept unmarked products on their merits. In this way, UK building control can be kept open to innovation, particularly by small and medium sized enterprises. However it is anticipated that as the hEN are introduced and become effectively mandatory (as explained in paragraph 17 above) CE marking will also become effectively mandatory as being the only proven method of compliance with the hEN.

21. CE marking however is compulsory under other directives for such products as gas-fired boilers (see paragraph 18 above). However not all directives are clearly set out. There is still some doubt within the Commission, for instance, whether or not a chimney/flue-pipe attached to a boiler is covered by the Gas Appliances Directive. Until further clarification is forthcoming it would be reasonable to assume that a balanced flue supplied as an integral part of the boiler is part of the appliance while a traditional chimney/flue-pipe is not.

22. Products manufactured to a hEN will be permitted to carry a CE mark indicating compliance with one or more of a number of 'essential requirements' (conditions that must be met by the products concerned, generally health, safety and energy economy) specified in the applicable directive(s). It should be noted that, to date, very few hEN have been produced and as yet no products have been CE marked under this method of certification. The CPD is different from other directives in that the 'essential requirements' (ER) do not apply directly to the products themselves but generally to the work in which they are specified. A set of 'interpretative documents' (ID) explains how the ER relate to the products. Products must also comply with the appropriate conformity assessment(s) contained in the directive(s) either by 3rd party certification, by a notified body, or by the manufacturer's declaration.

23. ESSENTIAL REQUIREMENTS UNDER THE CPD

ER1 mechanical resistance and stability

ER2 safety in case of fire

ER3 hygiene, health and the environment

ER4 safety in use

ER5 protection against noise

ER6 energy economy and heat retention

24. Where no harmonised standard exists, products will be eligible to carry a CE mark by the granting of a European Technical Approval (ETA). An ETA could be described as a pan-European Agrément Certificate but limited to consideration of the ER. Because of the time involved in drafting harmonised European Standards, the ETA route to CE marking ([see annex A](#)) is potentially a much faster method. Where a product is manufactured in several different countries, or there are more than three producers in the same country, harmonised guidelines are required. The ETA then becomes an ETAG (ETA with guidelines) and is mandated in a similar way to an EN.

25. Unfortunately ETAs have opened up a serious issue. Timber-framed building kits, for instance, have been submitted to the European Organisation of Technical Approvals (EOTA) for evaluation. This product, if considered for sale in the UK, clearly covers many different regulations that in turn call up a vast range of British Standards. EOTA evaluation of the product will be on a pan-European assessment method with due consideration of the ER included in the CPD (see paragraph 22 above). The figures produced will not relate to BSs, (other than by chance) nor will they be to ENs as the vast majority have not been written yet. Test results will be presented as a series of 'declared values' (or boxed values). Clearly there will be confusion in the interpretation of these 'declared values', which Member States will be free to vary to suit national regulations. This has led to a request for the production of a similar system of national application documents presently in place for Eurocodes (see paragraph 11 above).

26. Test methods used to classify products in accordance with the appropriate 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). A large percentage of construction products have requirements for resistance to fire, reaction to fire and/or stability in a fire. Harmonisation in these issues throughout Member States is therefore crucial if barriers to trade are to be avoided. The Commission is well on the way to completion of draft harmonised European Standards relating to the fire testing of materials.

27. Building Control Officers may only reject products bearing the CE mark if they suspect non-compliance with the Technical Standards or if accompanying documentation is incomplete (see paragraph 29). Provided a specified product therefore, has a CE mark and complies with national regulations, it cannot be rejected. However this does not mean that a CE marked product will necessarily be specified (see paragraph 17 above regarding the Public Procurement Directives). In most cases the performance of the product will determine whether or not it is fit for use in regulated works. Where an unfamiliar product is proposed, it will be the responsibility of the person carrying out the work to demonstrate that the product being used is of an equivalent level of performance to the relevant British Standards presently called up in the deemed to satisfy specifications.

28. If a product is covered by more than one directive it must in theory comply with all directives before the CE mark may be affixed. However a transitional arrangement (presumably until all relevant harmonised standards have been issued) allows a CE mark to be affixed if compliance is to one of several directives, only if it is clearly indicated that compliance is with that one directive only.

29. Other than the specified CE mark, further information must be provided as follows:

- a. the identification of the notified body;
- b. the name or identifying mark of the producer;
- c. the last 2 digits of the year in which the marking was affixed;
- d. where appropriate, the number of the EC certificate of conformity;
- e. where appropriate, indications to identify the characteristics of the product on the basis of the technical specification. (e.g. reference to the hEN or ETA approval would be the minimum requirement)

30. Quality marks are not precluded by the use of the CE mark. Such marking however must be affixed in such a way that it can be distinguished clearly from the CE marking.

31. The CE mark is not a quality mark and it should not be implied that a CE marked product is superior to a non-marked product. The CE mark only advises that a product meets the minimum legal requirements necessary to be placed on the market and demonstrates a presumption of conformity with Community legislation (see paragraph 22 above).

32. Policing of the CE marking falls within the remit of the Institute of Trading Standards Administration. Trading Standards Officers (TSO) enforce and advise on legislation relating to consumers, fair-trading and market control. Although a Building Control Officer may reject building products, as described in paragraph 27 above, it is the TSO who will bring any case to court.

33. The CPD is potentially applicable to all products manufactured for permanent use in construction work, but two other conditions must be met before a manufacturer or supplier must comply with the directive:

- a. at least one of the essential requirements must apply to the product in use;
- b. the works in which it is intended to be used must be subject to regulations on health, safety or energy economy (e.g. the Technical Standards).

Implications of mutual recognition of professional qualifications

34. With structural self-certification, the First General Directive on Mutual Recognition of Professional Qualifications (89/48/EEC) is the one that will most affect the work of the BCO. The Note therefore provides guidance on this directive only with particular reference to Structural Engineers. Further directives however relating to other professionals may be relevant:

85/384/EEC: Architect's Directive

85/614/EEC: Amending Architect's Directive

86/176/EEC: Amending Architect's Directive

92/51/EEC: Second General Directive on Mutual Recognition of Professional Qualifications

35. The system is founded on the premise that an individual qualified to carry out a particular profession in one Member State should be treated as qualified to carry out the same profession in another Member State without having to re-qualify. Harmonised training throughout Member States is not required but requires mutual trust in the validity of the professional training. There are mechanisms to resolve problems where it is apparent that substantial differences exist between education and training in Member States.

36. Because professional activities are structured differently in different Member States, the directive only applies to the same profession. It is simply not enough for the name of the profession to be the same. The profile of professional activities must broadly correspond.

37. A structural engineer from a Member State who wishes to practise in the UK must apply for recognition to the Institution of Structural Engineers (ISE) as being the competent authority in the UK. The ISE will consider the application and arrange an interview then is obliged to inform the applicant within 4 months if his/her application is acceptable. All being well, the applicant is entitled to become a corporate member of the ISE. The Scottish Office is not aware of any other arrangement that might give comfort to BCO regarding professional qualifications and it would seem reasonable for the BCO to request confirmation of membership of the ISE prior to acceptance of any self-certified work.

38. Each Member State is required to appoint a National Co-ordinator for each directive and set up procedures to monitor and provide information on the mutual recognition of foreign professionals. More information together with a guidance document may be obtained from:

Department of Trade and Industry
Kingsgate House
66-74 Victoria Street

London SW1E 6SW

Tel: 0171 215 4405

Fax: 0171 215 4489

Other useful addresses:

FOR CE MARKING

British Board of Agrément
PO Box 195
Bucknalls Lane
Garston
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**FOR EUROPEAN
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