The EUROCODES and Cooperation in the Euro-Mediterranean Area

Eurocodes

EUROPEAN COMMISSION
DIRECTORATE-GENERAL
Joint Research Centre

EUROMED

ipsc
Institute for the Protection and Security of the Citizen

The EUROCODES and Cooperation in the Euro-Mediterranean Area

Eurocodes

Construction of a zone of shared prosperity through an economic and financial partnership and the gradual establishment of a free trade area by the target date of year 2010 is one of the main objectives of the Euro-Mediterranean Partnership established in Barcelona in 1995.

The harmonization of the legislative and regulatory frameworks of the Mediterranean Partners with those of the European Union in areas such as standards and technical and environmental regulations is of central importance to facilitate their access to the enlarged market.

EUROPEAN COMMISSION
DIRECTORATE-GENERAL
Joint Research Centre

EUROMED

ipsc
Institute for the Protection and Security of the Citizen

This booklet was produced by the JRC in the framework of

the Administrative Arrangement
between
the Enterprise and Industry Directorate General (DG ENTR)
and
the Joint Research Centre (JRC)

regarding support to the implementation, harmonization and further development of the Eurocodes

This booklet is available to download from: http://eurocodes.jrc.ec.europa.eu

for more information:
Commission Recommendation 2003/887/EC of 11 December 2003 on the implementation and use of Eurocodes for construction works and structural construction products

Eurocodes – Building the future	http://eurocodes.jrc.ec.europa.eu
European Commission	http://ec.europa.eu
CEN	www.cen.eu
EOTA	www.eota.be
EFTA	www.efta.int

CONTENTS

1. THE EUROCODES

1.1. Why the Eurocodes were developed?

The objective of the European Commission is for "*the Eurocodes to establish a set of common technical rules for the design of buildings and civil engineering works which will ultimately replace the differing rules in the various Member States*".

1.2. What are the Eurocodes?

The EN Eurocodes are a set of unified European codes of practice for the design of buildings and other civil engineering structures and construction products. They embody the experience and research output of the National Members of the Comité Européen de Normalisation (CEN) and of International Technical and Scientific Organisations and represent a world-class standard for structural design.

The Eurocodes cover in a comprehensive manner all principal construction materials (concrete, steel, timber, masonry and aluminium), all major fields of structural engineering (fire, geotechnics, earthquake, etc.) and a wide range of types of structures and products (buildings, bridges, masts, silos, etc).

The structural reliability approach is based on the limit state concept used in conjunction with partial safety factors. The Eurocodes allow also for design based on probabilistic methods as well as for design assisted by testing, and provide guidance for the use of these methods.

A European Standard (EN) is published by one of the European Standards Organisation, i.e. CEN, CENELEC and ETSI, and must be adopted as an identical national standard by the National Standards Bodies.

The European Committee for Standardization (CEN) is a technical organisation composed of 29 National Members that vote for and implement European Standards, 8 Associate Members and two Counsellors. The EN Eurocodes are produced by CEN/TC250.

1.3. The Eurocodes suite

The Eurocodes suite is made up by 10 European Standards for structural design. Each Eurocode consists of a number of parts that cover particular technical aspects, e.g. fire, bridge design, etc.

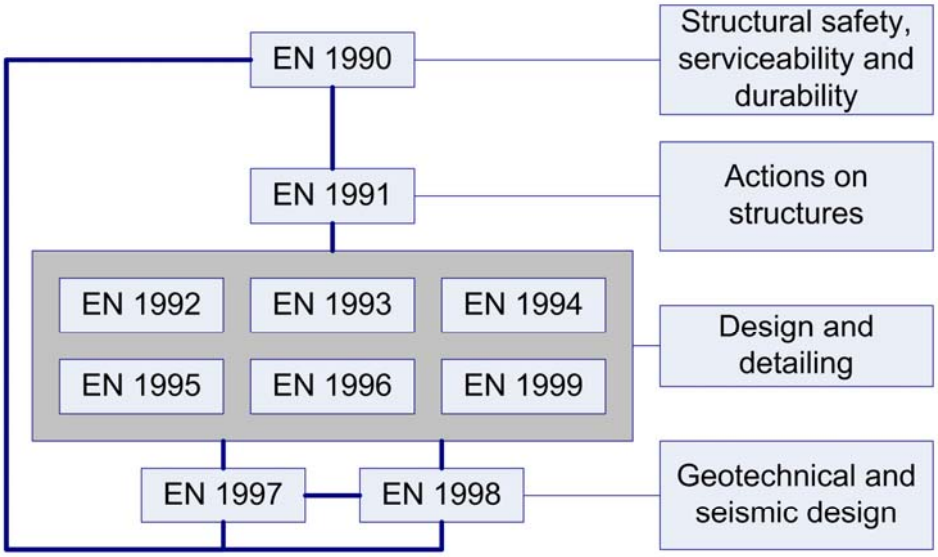
EN 1990	Eurocode: Basis of structural design
EN 1991	Eurocode 1: Actions on structures
EN 1992	Eurocode 2: Design of concrete structures
EN 1993	Eurocode 3: Design of steel structures
EN 1994	Eurocode 4: Design of composite steel and concrete structures
EN 1995	Eurocode 5: Design of timber structures
EN 1996	Eurocode 6: Design of masonry structures
EN 1997	Eurocode 7: Geotechnical design
EN 1998	Eurocode 8: Design of structures for earthquake resistance
EN 1999	Eurocode 9: Design of aluminium structures

EN Eurocodes contents

All of the 58 Eurocode parts will be available early in 2007. Following CEN rules, the Eurocodes will be used in parallel with National Standards until 2010, when all conflicting National Standards will be withdrawn.

1.4. The role of EN 1990: Eurocode – Basis of structural design

EN 1990: Eurocode – Basis of structural design was the first Eurocode to be published in 2002. It is the first operational material-independent design code and provides the principles and requirements for safety, serviceability, durability and robustness of structures. It also gives the values of factors to establish the relevant combinations of actions.



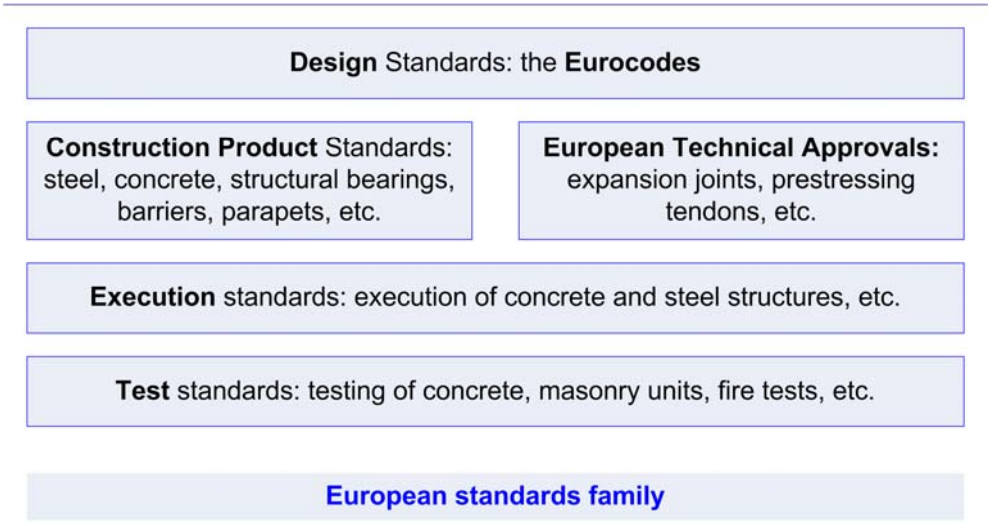
Links between the EN Eurocodes

EN 1990: Eurocode – Basis of structural design provides the material-independent information required for the design of buildings and other civil engineering works for the Eurocodes suite. For the design of buildings and other civil engineering works every Eurocode Part from EN 1991: Eurocode 1 – Actions on structures and the design Eurocodes EN 1992 to EN 1999 has to be used based on EN 1990.

1.5. The European standards family

The European standardisation system relating to construction is a comprehensive system of standards that comprises the Eurocodes, standards for construction products as well as execution and test standards. A set of European Technical Approvals complements the family of European Standards.

The European system for standardisation and attestation is made up of Standards and Technical Approvals. Standards related to construction are produced by the European Committee for Standardization (CEN). Technical Approvals related to construction are issued by the European Organisation for Technical Approvals (EOTA).

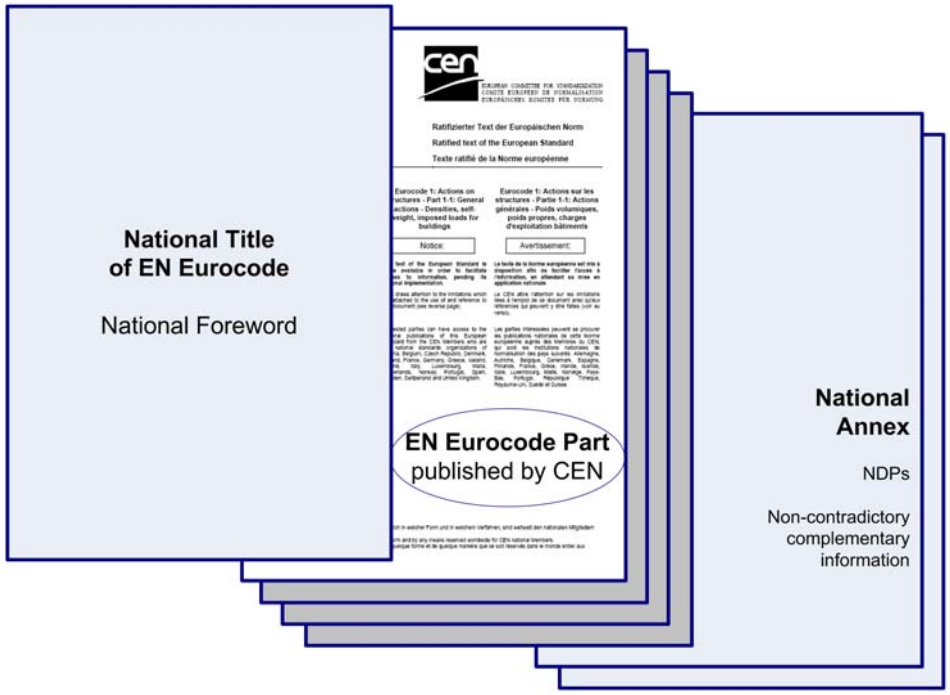


Construction products may be structural materials and constituent products as well as prefabricated structural components and kits consisting of structural components.

1.6. National implementation of the Eurocodes

Each EN Eurocode Part, published by CEN, contains a number of parameters which are left open for national choice, called Nationally Determined Parameters (NDPs). Recommended values for the NDPs are also provided in the Eurocodes and the European Commission urges the Member States to use the recommended values.

However, Eurocodes "*recognise the responsibility of regulatory authorities in each Member State and have safeguarded their right to determine values related to safety matters at national level where these continue to vary from State to State*". This is achieved through the National Annex.



National publication of EN Eurocode

The National Annex may contain directly, or by reference to specific provisions, information on the Nationally Determined Parameters to be used for the design of buildings and other civil engineering works to be constructed in the country concerned.

The Nationally Determined Parameters (NDPs) account for possible differences in geographical or climatic conditions, or in ways of life, as well as different levels of protection that may prevail at national, regional or local level.

The European Commission urges the Member States to use the recommended values of the NDPs provided by the Eurocodes, unless geographical, geological or climatic conditions or specific levels of protection make that necessary. (Commission Recommendation of 11 December 2003).

2. THE EURO-MEDITERRANEAN PARTNERSHIP

2.1. The Barcelona Process

The Euro-Mediterranean Conference of Ministers of Foreign Affairs, held in Barcelona in 1995, marked the starting point of the Euro-Mediterranean Partnership, a wide framework of political, economic and social relations between the Member States of the European Union and Partners of the Southern Mediterranean. The Partnership comprises the Political and Security Chapter, the Economic and Financial Chapter and the Social, Cultural and Human Chapter.

The Euro-Mediterranean Partnership comprises the EU Member States and 10 Mediterranean Partners (Algeria, Egypt, Israel, Jordan, Lebanon, Morocco, Palestinian Authority, Syria, Tunisia and Turkey). Libya has observer status since 1999.

One of the main objectives of the Partnership is the construction of a zone of shared prosperity through an economic and financial partnership and the gradual establishment of a Euro-Mediterranean Free Trade Area (EMFTA) by the target date of 2010. The EMFTA foresees free trade in manufactured goods and progressive liberalisation of trade in agricultural products. Together with EFTA this zone will include some 40 States and 600-800 million consumers, i.e. one of the world's most important trade entities.

The establishment of the Euro-Mediterranean Free Trade Area (EMFTA) is a priority action of the Barcelona Declaration.

The implementation and use of the Eurocodes will favour the following subjects, which are covered by Euro-Mediterranean Association Agreements:

- supply of services
- free movement of goods and industrial products
- industrial, scientific and technical cooperation

Euro-Mediterranean Association Agreements form the main contractual arrangements governing the relations between the EU and its Mediterranean partners.

2.2. Reducing divergences in standardization and certification

The harmonization of the legislative and regulatory frameworks of the Mediterranean Partners with those of the EU in areas such as standards, technical and environment regulations and competition laws is of central importance to facilitate their access to the enlarged market. Cooperation shall be realised by:

- encouraging the use of European technical rules, standards and conformity assessment procedures
- concluding agreements for the mutual recognition of certifications
- providing assistance to the National authorities responsible for the standardisation and quality

3. EUROPEAN LEGISLATION FOR CONSTRUCTION WORKS AND PRODUCTS

3.1. The Construction Products Directive

The Construction Products Directive (CPD) is one of over 20 New Approach Directives whose aim is to breakdown artificial barriers to trade throughout the European Economic Area and is intended for products placed on the market.

According to the CPD, construction products must be suitable for construction works which satisfy six essential requirements:

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

The first two and in exceptional cases the fourth are applicable to the Eurocodes.

A Directive is a legally binding document as to the result to be achieved, but leaves it to the National Authorities to decide how these objectives are to be incorporated into their legal system.

The New Approach to technical harmonization moves from detailed technical requirements to essential requirements for products.

The European Economic Area (EEA) unites the EU Member States, Iceland, Liechtenstein and Norway into an Internal Market, where goods, services, capital and persons move freely.

3.2. The Eurocodes and EU Legislation

The Eurocodes serve as reference documents recognised by authorities of the Member States of the EU and EFTA for the following purposes:

- as a means of compliance of building and civil engineering works with the Essential Requirements set out in the Construction Products Directive (Council Directive 89/106/EEC), particularly Essential Requirement 1: Mechanical resistance and stability and part of Essential Requirement 2: Safety in case of fire.

- as a basis for specifying contracts for public construction and related engineering-service contracts. This relates to the directive on the coordination of procedures for the award of public works contracts, public supply contracts and public service contracts (Directive 2004/18/EC of the European Parliament and of the Council).

- as a framework for drawing up harmonised European Standards (hENs) and European Technical Approvals (ETAs) for construction products.

The European Free Trade Association (EFTA) is an intergovernmental organisation for the promotion of free trade and economic integration to benefit its four Member States: Iceland, Liechtenstein, Norway and Switzerland.

A European Technical Approval (ETA) is a favourable technical assessment of the fitness for use of a product for an intended use.

The European Commission recommends to the Member States to adopt the Eurocodes for designing construction works and to refer to them in their provisions on structural construction products (Commission Recommendation of 11 December 2003).

3.3. European Standards and European Technical Approvals

The Construction Products Directive is based on four elements:

1. A harmonized system of technical specifications which are:

   - European Standards (hEN material or product standards)
   - European Technical Approvals (ETAs or ETAGs)

   The general route is for harmonised EN product standards but where this is not possible, an ETA may be written according to guidelines given in the Construction Products Directive.

2. The European Organisation for Technical Approvals (EOTA), which coordinates all activities relating to ETAs and ETAGs.

   ETAs relate to innovative products that are too early in their life to be covered by a standard. There are two possibilities for ETAs to be based on:

   - European Technical Approval Guidelines (ETAGs) relate to a number of separate manufacturers in several countries of the EU
   - Common Understanding of Assessment Procedures (CUAPs) relate to a single manufacturer

3. An agreed system of attestation of conformity for each product family which involves a third party to assess conformity. The choice of the system of attestation depends upon the consequences of failure of the product and the product characteristics.

The European Organisation for Technical Approvals (EOTA) comprises the Approval Bodies designated by EU Member States and States who have contracted to the EEA Agreement.

An ETA Guideline (ETAG) is a binding document that aims to establish how Approval Bodies should evaluate the specific characteristics and requirements of a product or family of products.

4. CE marking of construction products based on the provisions of the technical specifications for a product. CE Marking follows the successful approval of a product and symbolises the conformity of the product with the applicable Community requirements imposed on the manufacturer and is mandatory for products covered by a Directive. A product bearing the CE Marking may freely circulate within the EEA.

The Eurocodes offer a presumption of conformity with the essential requirements of the Construction Products Directive.

4. EVOLUTION OF THE EUROCODES

The European Commission in the Recommendation of 11 December 2003 advised the Member States to:

- select the Nationally Determined Parameters (NDPs) for their territory using the recommended values given in the EN Eurocodes, unless divergence is essential
- reduce divergence after comparing the NDPs and assessing the impact on any technical differences
- promote instruction on the use of the Eurocodes
- undertake collaborative research relating to the Eurocodes so as to integrate scientific and technical developments, as well as to ensure an ongoing increased level of protection, specifically as regards the resistance to earthquakes and fire.

CEN is responsible for maintenance of the Eurocodes. In response to the needs of the users, an appropriate strategy for revision and updating is foreseen. Maintenance activities will deal with processing comments from the users, resolution of questions of interpretation and technical amendments. Further development of the Eurocodes will also follow CEN rules.

Guidance to competent authorities and the profession is available at national level through:

- education, both by means of continuing training and within universities
- websites
- published information on the implementation procedures
- designer handbooks and manuals
- training and design software

Furthermore, the European Commission in collaboration with CEN has defined an implementation strategy at European level that will assure consistency. Activities within the training programme include the dissemination of printed material on the implementation and use of the Eurocodes and the organisation of courses for transfer of knowledge.

ANNEX 1

OVERVIEW OF

THE EURO-MEDITERRANEAN PARTNERSHIP

[from the European Commission External Relations web page:
http://ec.europa.eu/comm/external_relations/euromed/index.htm]

“

Euro-Mediterranean Partnership / Barcelona Process

The Euro-Mediterranean Conference of Ministers of Foreign Affairs, held in Barcelona on 27-28 November 1995, marked the starting point of the Euro-Mediterranean Partnership (Barcelona Process), a wide framework of political, economic and social relations between the Member States of the European Union and Partners of the Southern Mediterranean.

The latest EU enlargement, on 1st May 2004, has brought two Mediterranean Partners (Cyprus and Malta) into the European Union, while adding a total of 10 to the number of Member States. The Euro-Mediterranean Partnership thus comprises 35 members, 25 EU Member States and 10 Mediterranean Partners (Algeria, Egypt, Israel, Jordan, Lebanon, Morocco, Palestinian Authority, Syria, Tunisia and Turkey). Libya has observer status since 1999.

The Barcelona Process is a unique and ambitious initiative, which laid the foundations of a new regional relationship and which represents a turning point in Euro-Mediterranean relations. In the Barcelona Declaration, the Euro-Mediterranean partners established the three main objectives of the Partnership:

1. The definition of a common area of peace and stability through the reinforcement of political and security dialogue (Political and Security Chapter).
2. The construction of a zone of shared prosperity through an economic and financial partnership and the gradual establishment of a free-trade area (Economic and Financial Chapter).
3. The rapprochement between peoples through a social, cultural and human partnership aimed at encouraging understanding between cultures and exchanges between civil societies (Social, Cultural and Human Chapter).

The Euro-Mediterranean Partnership comprises two complementary dimensions:

- **Bilateral dimension.** The European Union carries out a number of activities bilaterally with each country. The most important are the Euro-Mediterranean Association Agreements that the Union negotiates with the Mediterranean Partners individually. They reflect the general principles governing the new Euro-Mediterranean relationship, although they each contain characteristics specific to the relations between the EU and each Mediterranean Partner.

- **Regional dimension.** Regional dialogue represents one of the most innovative aspects of the Partnership, covering at the same time the political, economic and cultural fields (regional co-operation). Regional co-operation has a considerable strategic impact as it deals with problems that are common to many Mediterranean Partners while it emphasises the national complementarities.

The multilateral dimension supports and complements the bilateral actions and dialogue taking place under the Association Agreements.

The existing MEDA programme is the main financial instrument for the Euro-Mediterranean Partnership. From 1995 to 2003, MEDA committed € 5,458 million in co-operation programmes, projects and other supporting activities, the regional activities comprising around 15% of this budget. The other important source of funding is the European Investment Bank that has lent € 14 billion for developing activities in the Euro-Mediterranean Partners since 1974 (€ 3.7 billion in 2002-2003).

”

[from the European Commission External Relations web page:
http://ec.europa.eu/comm/external_relations/euromed/free_trade_area.htm]

“

The Euro-Mediterranean Free-Trade Area

Set to become the world's biggest marketplace

In the Barcelona Declaration (1995), the Euro-Mediterranean Partners agreed on the establishment of a Euro-Mediterranean Free Trade Area (EMFTA) by the target date of 2010. This is to be achieved by means of the Euro-Mediterranean Association Agreements negotiated and concluded between the European Union and the Mediterranean Partners, together with free trade agreements between the partners themselves. Turkey signed in 1995 an Association Agreement establishing the definite phase of a customs union with the EU.

Together with EFTA this zone will include some 40 States and 600-800 million consumers, i.e. one of the world’s most important trade entities

Implementing free trade through Association Agreements

The European Commission, being in charge of trade and economic cooperation with the South and Eastern Mediterranean, is responsible for preparing, negotiating and implementing Association Agreements. The new generation of Euro-Mediterranean Association Agreements provides for the gradual implementation of bilateral free trade. The Euro-Mediterranean Free-Trade Area foresees free trade in manufactured goods and progressive liberalisation of trade in agricultural products.

Negotiations for Agreements already concluded include those with Tunisia (1995), Israel (1995), Morocco (1996) , Jordan (1997), Egypt (2001), Algeria (2002), Lebanon (2002) and Syria (2004). Those with Tunisia (1998), Morocco (2000), Israel (2000), Jordan (2002) and Egypt (2004) have been ratified and are in force. These agreements, cover a large variety of CFSP, economic, social, cultural and financial co-operation themes as well as free trade.

Interim Euro-Mediterranean Association Agreements signed with Israel (1995) and the PLO (1997) and Lebanon (2003) concerning trade related matters are in force.

The tasks of the Mediterranean Partners

As well as bilateral "vertical" trade liberalisation with Europe, the Mediterranean Partners are committed to implement free trade among themselves ("horizontal" or South-South integration). As for example the Arab Maghreb Union (Morocco, Algeria, Tunisia, Mauritania and Libya) and more recently the Agadir Agreement signed in February 2004 by Morocco, Tunisia, Egypt and Jordan.

Pan-Euro-Mediterranean cumulation of origin

Pan-Euro-Mediterranean cumulation of origin refers to the initiative launched by the Euromed Trade Ministers to extend the system of pan-European cumulation of origin to all Mediterranean partners. The initiative is aimed at reinvigorating trade and economic cooperation among Barcelona partners and other European Countries.

A "pan-Euro-Mediterranean" protocol on rules of origin was developed in a working group with all partner countries concerned. This protocol was endorsed by the Euro-Med Trade Ministerial meeting in Palermo on 7 July 2003.

The next step is the replacement of the current protocols on rules of origin by the "pan-Euro-Mediterranean" protocol, both in the agreements of the EU with each of the partner countries, and in the agreements between the partner countries.

”

ANNEX 2

COMMISSION RECOMMENDATION ON THE IMPLEMENTATION AND USE OF EUROCODES

L 332/62 EN Official Journal of the European Union 19.12.2003

COMMISSION RECOMMENDATION

of 11 December 2003

on the implementation and use of Eurocodes for construction works and structural construction products

(notified under document number C(2003) 4639)

(Text with EEA relevance)

(2003/887/EC)

THE COMMISSION OF THE EUROPEAN COMMUNITIES,

Having regard to the Treaty establishing the European Community, and in particular the second indent of Article 211 thereof,

Whereas:

(1) The Eurocodes are a series of European standards which provide a common series of methods for calculating the mechanical strength of elements playing a structural role in construction works (hereinafter 'structural construction products'). Those methods make it possible to design construction works, to check the stability of construction works or parts thereof and to give the necessary dimensions of structural construction products.

(2) Council Directive 89/106/EEC of 21 December 1988 on the approximation of laws, regulations and administrative provisions of the Member States relating to construction products [1] concerns the establishment and functioning of the internal market for construction products, as provided for in Article 95 of the Treaty, and applies to products covered by technical specifications, as referred to in Article 4 of Directive 89/106/EEC.

(3) Structural construction products constitute an important part of the construction products market and should therefore be subject to the requirements laid down in Directive 89/106/EEC and, in particular, to the CE marking requirements. In order to enable the producers and notified bodies to assess the mechanical strength of structural construction products, which is necessary for their conformity assessment, the technical specifications should refer to calculation methods developed in the Eurocodes. The mechanical strength should be declared as performance of the product in the documents which accompany the CE marking, in accordance with Directive 89/106/EEC.

(4) The disparities between the various calculation methods referred to in national building regulations hinder the free circulation of engineering and architectural services within the Community. The use of Eurocodes should facilitate the freedom to provide services in the field of construction engineering and architecture by creating the conditions for a harmonised system of general rules.

(5) The majority of structural construction products and construction works are the subject of public contracts. The Eurocodes are to be used by contracting authorities in technical specifications pursuant to Article 14(1) and (2) of Council Directive 92/50/EEC of 18 June 1992 relating to the coordination of procedures for the award of public service contracts [2] and Article 10(1) and (2) of Council Directive 93/37/EEC of 14 June 1993 concerning the coordination of procedures for the award of public works contracts [3]. Those directives provide that the technical specifications for the award of public services contracts and public works contracts are to be given in the general documents or the contractual documents relating to each contract and that, without prejudice to the legally binding national technical rules and in so far as they are compatible with Community law, such technical specifications are to be defined by the contracting authorities by reference to national standards implementing European standards.

(6) The Eurocodes are also to be used pursuant to Article 18(2) of Council Directive 93/38/EEC of 14 June 1993 coordinating the procurement procedures of entities operating in the water, energy, transport and telecommunications sectors [4], which provides that the technical specifications are to be defined by those entities by reference to European specifications, where such exist. Additionally, Article 1(13) of Directive 93/38/EEC specifies that, for the purposes of that Directive, 'European specification' is to mean a common technical specification, a European technical approval or a national standard implementing a European standard.

[1] OJ L 40, 11.2.1989, p. 12. Directive as last amended by Regulation (EC) No 1882/2003 of the European Parliament and of the Council (OJ L 284, 31.10.2003, p. 1).

[2] OJ L 209, 24.7.1992, p. 1. Directive as last amended by the Act of Accession of 2003.

[3] OJ L 199, 9.8.1993, p. 54. Directive as last amended by the Act of Accession of 2003.

[4] OJ L 199, 9.8.1993, p. 84. Directive as last amended by the Act of Accession of 2003.

(7) Member States should take all necessary measures to ensure that structural construction products calculated in accordance with the Eurocodes may be used, and should therefore refer to the Eurocodes in their national regulations on design.

(8) Member States should adopt Eurocodes for structural products and construction works and recognise that the use of those Eurocodes raises a presumption of conformity with the essential requirements referred to in Directive 89/106/EEC.

(9) In order to take into account specific geographical, geological or climatic conditions as well as specific levels of protection applicable in their territory, Member States may need specific parameters and the Eurocodes therefore contain 'nationally determined parameters'. For each nationally determined parameter, the Eurocodes give a recommended value. However, Member States may choose a different specific value as the nationally determined parameter, if they consider it necessary in order to ensure that building and civil engineering works are designed and executed in a way that does not endanger the safety of persons, domestic animals or property.

(10) In order to achieve a higher level of harmonisation, a comparison of the various nationally determined parameters implemented by the Member States should be undertaken and, where appropriate, they should be aligned.

(11) In the absence of technical specifications, as referred to in Article 4 of Directive 89/106/EEC, it is necessary to guarantee the free movement of structural construction products the mechanical strength of which has been assessed using Eurocodes. For that purpose, Member States should include the Eurocodes in the national provisions concerning such products.

(12) The Eurocodes should facilitate the development of common research efforts undertaken by various actors in the Community and dissemination of the results of that research, in particular through professional training. This will result in safer building and civil engineering works in the Community,

HEREBY RECOMMENDS:

1. Member States should adopt the Eurocodes as a suitable tool for designing construction works, checking the mechanical resistance of components, or checking the stability of structures. Member States should recognise that, in the case of construction works designed using the calculation methods described in the Eurocodes, there is a presumption of conformity with essential requirement No 1 'Mechanical resistance and stability', including such aspects of essential requirement No 4 'Safety in use' as relate to mechanical resistance and stability, and with part of essential requirement No 2 'Safety in case of fire', as referred to in Annex I to Directive 89/106/EEC.

2. Member States should lay down the parameters usable in their territory, hereinafter 'the nationally determined parameters'.

3. Member States should use the recommended values provided by the Eurocodes when nationally determined parameters have been identified in the Eurocodes. They should diverge from those recommended values only where geographical, geological or climatic conditions or specific levels of protection make that necessary. Member States should notify the Commission of the nationally determined parameters in force on their territory within two years of the date on which the Eurocodes become available.

4. Member States should, acting in coordination under the direction of the Commission, compare the nationally determined parameters implemented by each Member State and assess their impact as regards the technical differences for works or parts of works. Member States should, at the request of the Commission, change their nationally determined parameters in order to reduce divergence from the recommended values provided by the Eurocodes.

5. In the absence of technical specifications, as referred to in Article 4 of Directive 89/106/EEC, Member States should refer to the Eurocodes in their national provisions on structural construction products.

6. Member States should undertake research to facilitate the integration into the Eurocodes of the latest developments in scientific and technological knowledge. Member States should pool the national funding available for such research so that it can be used at Community level to contribute to the existing technical and scientific resources for research within the Commission, in cooperation with the Joint Research Centre, thus ensuring an ongoing increased level of protection of buildings and civil works, specifically as regards the resistance of structures to earthquakes and fire.

7. Member States should promote instruction in the use of the Eurocodes, especially in engineering schools and as part of continuous professional development courses for engineers and technicians.

Member States should inform the Commission of all national measures taken in accordance with this Recommendation.

This Recommendation is addressed to the Member States.

Done at Brussels, 11 December 2003.

For the Commission
Erkki LIIKANEN
Member of the Commission

The mission of the Joint Research Centre is to provide customer-driven scientific and technical support for the conception, development, implementation and monitoring of EU policies. As a service of the European Commission, the JRC functions as a reference centre of science and technology for the Union. Close to the policy-making process, it serves the common interest of the Member States, while being independent of special interests, whether private or national.

EUROPEAN COMMISSION
DIRECTORATE-GENERAL
Joint Research Centre

Publications Office
Publications.eu.int

2006