

## Participants

Any individual professional interested in training on the Eurocodes and in particular Eurocode 2 may apply for participation. However, an average of four participants from each country will have the possibility to participate.

Priority will be given to participants recommended by National Authorities and/or National Standardisation Bodies on a "first come, first served" policy.

Participants can come from EU Member States, EFTA Member States and EU Candidate Countries.

## Event Registration

The application for participation is individual. Interested participants are requested to register online at:

<https://jrc-meeting-registration.jrc.ec.europa.eu>

Details for the event registration procedure are provided at the Eurocodes website at: <http://eurocodes.jrc.ec.europa.eu>

The **deadline for application** in the workshop registration site is **09 September 2011**.

A confirmation of registration acceptance will be sent to the applicants by the Organising Committee by **16 September 2011**.

## Attendance Fees

No registration/attendance fees are requested from the participants. They are responsible for their own travel, accommodation and subsistence costs, which will not be reimbursed by the European Commission.

The participants may find financial support from their National Administration, industry or from other sponsoring sources.

The participants should take care of their own travel and accommodation arrangements.

## Workshop Material

A "training package" consisting of the presentations handouts and the technical papers with the worked examples plus all other relevant materials will be distributed to the participants.

## Venue

The Hotel, Boulevard de Waterloo 38,1000 Brussels, Belgium

## Language

English (no translation will be provided).

## Organising Committee

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## With the Support of

European Commission  
DG Enterprise and Industry: V. Leoz Argüelles, M. Fuchs  
Joint Research Centre

CEN/TC250: J.-A. Calgaro (Chairman), M. Greenley (Secretariat)  
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## Further Information

Eurocode 2 Workshop Secretariat  
European Commission  
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The European Commission website on the Eurocodes



**EUROCODE 2**  
BACKGROUND & APPLICATIONS

**DESIGN OF CONCRETE BUILDINGS**

WORKSHOP WITH WORKED EXAMPLES

**20 - 21 OCTOBER 2011**  
BRUSSELS, BELGIUM

**ORGANISED AND SUPPORTED BY**

EUROPEAN COMMISSION  
DG ENTERPRISE AND INDUSTRY  
JOINT RESEARCH CENTRE

CEN/TC250  
CEN/TC250 SC2  
CEN MANAGEMENT CENTRE

MEMBER STATES



## Towards the Eurocodes Era

The Eurocodes have reached the final stage of national implementation by the Member States.

The Eurocodes are becoming the European-wide means for structural design of works contributing towards an internal market with free circulation of construction products and services. The potential opportunities stemming from cross-border trade are of interest to the entire industry, the design and construction sectors of the civil engineering and building industries.

To achieve an adequate application of the Eurocodes in the Member States, all involved actors, including National Standardization Bodies, Technical and Scientific Organisations and especially, the design and construction industry, must be prepared and ready to use them. For this purpose, technical training, continuing professional development and university courses should be arranged and encouraged at national and international level. According to Annex A of Guidance Paper L, training of staff is the responsibility of industry, in cooperation with National Authorities and National Standardisation Bodies.

A strategy and a general programme for promotion and training on the Eurocodes have been established through the project: "Support to the implementation and further development of the Eurocodes" (JRC report: <http://eurocodes.jrc.ec.europa.eu/doc/EUR22857EN>). Three levels of training are included in the programme:

- o Level 1 – the policy of Eurocodes implementation, National Annexes, co-existence with National Codes, etc;
- o Level 2 – introductory courses for each individual Eurocode;
- o Level 3 – comprehensive courses with design examples of a number of typical structures using a particular package of Eurocodes.

The European Commission contributes towards consistency in the adoption and use of the Eurocodes in the Member States and to facilitate training and awareness campaigns. The website "Eurocodes: Building the future" (<http://eurocodes.jrc.ec.europa.eu>) serves as a platform for the collection, exchange and dissemination of training and promotional material and information.

## Objectives

This workshop (Level 2/3) with emphasis on **worked examples** intends to contribute towards the transfer of background knowledge and expertise of Eurocode 2 (EN 1992 Design of concrete structures) writers (CEN/TC250 Sub-Committee 2) to potential trainers at national level and Eurocode users.

The principal objectives of the workshop are to:

- o transfer knowledge and information to representatives of key organisations/institutions, industry and technical associations in Member States;
- o provide state-of-the-art training material, background information and worked examples to Eurocodes trainers and users;
- o facilitate exchange of views, networking and cooperation.

## Preliminary Programme

The workshop will commence in the morning of October 20 and conclude in the afternoon of October 21. The workshop sessions will present step-by-step the design of a reinforced concrete cast on site building following Eurocode 2. Each session will focus on a different step in the design process: conceptual design, structural analysis, limit states design and verification, detailing of reinforcement and members and foundation design. There will also be an dedicated session on design for fire.

More details on the workshop sessions and program can be found at the Eurocodes website at: <http://eurocodes.jrc.ec.europa.eu>

<http://eurocodes.jrc.ec.europa.eu>

The European Commission website on the Eurocodes

## Programme

20 OCTOBER 2011		
9:00 – 9:30		Participants registration
9:30 – 10:00		Welcome address
10:00 – 10:45	G. Mancini F. Biasioli	<ul style="list-style-type: none"> <li>• Durability</li> <li>• Materials</li> <li>• Actions</li> </ul>
10:45 – 11:00		Discussion
11:00 – 11:30		Coffee
11:30 – 13:15	G. Mancini F. Biasioli	Conceptual design: <ul style="list-style-type: none"> <li>• Slabs</li> <li>• Columns</li> <li>• Shear walls</li> <li>• Structural regularity</li> </ul>
13:15 – 13:30		Discussion
13:30 – 14:30		Lunch
14:30 – 15:15	M. Curbach	Structural analysis: <ul style="list-style-type: none"> <li>• Load combinations and arrangements</li> <li>• Linear analysis (actions effects)</li> <li>• Redistribution of moments</li> </ul>
15:15 – 15:30		Discussion
15:30 – 16:00		Coffee
16:00 – 17:15	J. Walraven	Ultimate limit states design: <ul style="list-style-type: none"> <li>• Bending</li> <li>• Shear</li> <li>• Axial force</li> <li>• Punching</li> </ul>
17:15 – 17:30		Discussion
21 OCTOBER 2011		
9:00 – 9:45	J. Walraven	Serviceability limit states design: <ul style="list-style-type: none"> <li>• Deflections</li> <li>• Crack width</li> </ul>
9:45 – 10:00		Discussion
10:00 – 10:45	J. Arrieta	Detailing of the reinforcement: <ul style="list-style-type: none"> <li>• Anchorage and lap splicing</li> <li>• Slabs, columns, beams, walls</li> </ul>
10:45 – 11:00		Discussion
11:00 – 11:30		Coffee
11:30 – 12:30	R. Frank	Geotechnical design: <ul style="list-style-type: none"> <li>• Foundation of a column: bearing capacity, sliding resistance and assessment of settlements</li> <li>• Principles of diaphragm retaining wall design</li> </ul>
12:30 – 12:45		Discussion
12:45 – 13:30	Fabienne Robert	Conceptual Fire Design and assessment
13:30 – 13:45		Discussion
13:45 – 14:00		Closure of the workshop