

Action C25

Sustainability of Constructions

Integrated Approach to Life-time Structural Engineering



Participating countries: AT, BE, CY, CZ, DE, DK, FI, GR, HR, HU, IT, LT, LU, LV, MK, MT, NL, NO, PL, PT, RO, SE, SI, TR, UK, YU + EU JRC

Chair of the Action: Luís Bragança, PT, Braganca@civil.uminho.pt

Vice-chair of the Action: Heli Koukkari, FI, Heli.Koukkari@vtt.fi

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<http://www.cmm.pt/costc25>

Luís Simões da Silva, PT

Criteria for sustainable constructions

Chair: Rijk Blok, NL; Vice-chair: Helena Gervásio, PT

- Global methodology for the assessment of sustainability
- State-of-the-art on LCA and LCC methodologies
- Databases for LCA and LCC

Eco-efficiency

Chair: Milan Veljkovic, SE; Vice-chair: Zbigniew Plewako, PL

- Application of new materials and new technology
- Improvement of the overall performance of constructions

Life-time structural engineering

Chair: Raffaele Landolfo, IT; Vice-chair: Viorel Ungureanu, RO


- Life-cycle performance
- Monitoring of life-cycle performance

Common activities

Coordination: Core Group (Chairs and Vice-chairs of MC & WGs)

- Case-studies: 1) Virtual Office Building (Rijk Blok)
2) Replacement of an Existing Composite Bridge (Christian Schaur)
3) Integral Abutment Bridge (Milan Veljkovic)
4) Light Steel Frame Residential Building (Dan Dubina)
5) Concrete Structure Multifamily House (Mauritz Glaumann)
6) Three-span motorway viaduct (Helena Gervásio)
- Conclusions of the global methodology for Sustainable Design and Construction

Objectives:

- Harnessing science-based advancement of sustainable construction in Europe.
- Focus on life-time structural engineering and integrated approach to deal with the end-products of construction. 
- Targeted at the development of methodologies of R&D and engineering that incorporate holistic understanding
- Provide the construction sector with a new framework and ideas based on the integration of approaches and results of ongoing research and development projects
- Creation of a broad network of European universities and other research centres in the field of sustainable structural engineering.

Main Achievements:

- The Lisbon Workshop "Sustainability of Constructions" Sept. 2007 is the outcome of the 1st year's activity. The Proceedings covers a wide range of up-to-date issues and the best practices in the Sustainable Construction field. The main outcomes were presented also in the international conference SB07. Members produce collaborative papers to conferences and publications.
- Case-study publication, with recommendations and guidelines are expected to be published on the Midterm Seminar, to be held in Oct. 2008 in Dresden.
- The Action's Website is fully operational.
- Six MC and WG meetings have been held in several European countries.
- Four STSM have been completed and another two are planned in the near future.
- A successful Training School on LCA was organised, with 16 members.
- Contribution of young scientists has been active in Work Packages, Case Studies and papers. Their share of the members is about one third.
- A Student Competition for the design of a Sustainable Office Building launched
- Each Member has assigned to multidisciplinary groups and case-studies.
- New initiatives for common activities inside the Working Groups and for the Action
 - Collaborative studies to support preparation of guidelines and case-studies
 - Gathering and providing information on educational material
 - Gathering information on Climate Change issues affecting life-time engineering