

RILEM TC-EDM/TG22 - Environmental Design Methods in Materials and Structural Engineering



The second meeting of this Joint RILEM/CIB Group was held at Saint-Rémy-lès-Chevreuse, France on 12th and 13th June 1997.

Guideline and On-Going Tasks

At the meeting, the Chairman Prof. Sarja presented a first proposal for a guideline on environmental design. The title of the guideline is Guide for Integrated Life Cycle Design and it had been distributed to the members of the TC in advance of the meeting. The guideline is subdivided into the following (main) chapters:

- Framework of integrated structural life cycle design
- Life cycle design methods
- Life cycle design procedure
- Description of the design phases
- Examples
- Conclusion and needs for further development

Next, Mr. Müller outlined his ideas as regards Task No. 5 Definitions of the methods for the assessment of the recycling and reuse on different hierarchical levels (buildings, structural systems, modules, components, materials).

Mr. Kümmel introduced his proposals for Task No. 2 Systemising the procedures of the environmental structural design in different phases of the design.

Future Work and Tasks

Following discussion, the members agreed that the Guideline mentioned above would form the basis for future work, which will focus on Chapter 4, whose contents are listed below.

4. - DESCRIPTION OF THE DESIGN PHASES

4.1 - Conceptual design

4.1.1 - Analysis of client's needs and functional requirements

4.1.2 - Definition of performance specifications of the facility

4.1.3 - Definition of technical performance specifications of the structural system

4.1.4 - Modulation of the structural system and creation of alternative solutions of the structural systems on modules level

4.1.5 - Calculation of the life cycle monetary costs and life cycle environmental costs of the alternatives

4.1.6 - Selection of the structural modules for further development applying multiple criteria optimisation

4.2 - Detailed design

4.2.1 - Selection and detailed optimisation of the structural components

4.2.2 - Static and dynamic design

4.2.3 - Hygrothermal design

4.2.4 - Durability design

4.2.5 - Healthy checking

5. - EXAMPLES

Future Meetings

In order to discuss the agreed subreports for the first draft of the "Guide for Integrated Life Cycle Design" it was decided to hold a working meeting of authors in Aachen, Germany, on 30th January 1998. All members of TC EDM/TG22 are of course welcome also to this meeting.

The next Plenary Meeting of TC EDM/TG22 will be held in Gävle, Sweden on Friday 12th June 1998 in connection with the CIB World Congress 1998. If necessary, the meeting will be continued on Saturday 13th June. During the Congress a RILEM/CIB Joint Symposium "Materials and Technologies for Sustainable Construction" is scheduled to be held from 9th - 11th June 1998.