Editor's remarks

Volumes 1, 2 and 3 of the second edition of *Structural Concrete Textbook on behaviour, design and performance* were recently published in *fib* Bulletin 51 (*Design of concrete structures, Conceptual design, Concrete, reinforcement and composite behaviour*), *fib* Bulletin 52 (*Structural analysis, Design format, Serviceability and ultimate limit state principles, Anchorage and detailing principles*) and *fib* Bulletin 53 (*Design of durable concrete structures*).

This *fib* Bulletin 54 is Volume 4 of the Textbook. A forthcoming Volume 5 on *Through life care and management of concrete structures – Assessment, protection, repair and strengthening* will be published as a separate bulletin.

Volume 4 of the *Structural Concrete Textbook* includes the following three areas:

Chapter 6 Design of concrete buildings for fire resistance was originally written by Karl Kordina. Regretfully, he passed away just after submitting his ideas about improvements for Chapter 6; nevertheless based on his guidance we were able to finalize this chapter. Serious cases of fire remind us again and again the importance of fire design. Chapter 6 includes guidance on progress of fire, modifications of material properties as a function of temperature (concrete, non-prestressed steel, prestressing steel), general design rules, design concept, robustness, spalling, thermal expansion, importance of joints, compartmentation, cooling and design examples for fire resistance.

Chapter 7 Design of members includes examples for linear members, slabs as well as deep beams and discontinuity regions.

The first example by Giuseppe Mancini in Chapter 7 gives all design details of a *box-culvert under crossing a railway line* for high speed trains. Particular attention is taken to the analysis and design of corner zones, detailing of reinforcement, anchorages, crack control and control of deformations. The second example also by Giuseppe Mancini gives the design of *a two dimensional prestressed concrete slab (a railway bridge deck)* that is a continuous slab on three supports with longitudinal and transverse prestressing. Details are included for the structural model, layout of prestressing reinforcement, analysis of initial or time dependent losses of prestressing, verification of serviceability and ultimate limit states and verification of bursting forces in the anchorage zones by using the symmetric prism analogy. A separate section was prepared by Giuseppe Mancini on reinforcement layouts of some typical elements. *Deep Beams and discontinuity regions* are presented by Kurt Schäfer including definition of D (discontinuity) regions, design of deep beams and discontinuity regions by strut-and-tie models with design examples.

Volume 4 is concluded by *Chapter 8 Practial aspects* by Konrad Zilch and Angelika Schießl. Details are included on definition of tolerances, effects of tolerances on durability, on serviceability, on appearance, on erection of precast structures. Quality requirements are given in the form of control methods of variation of material properties. Quality management, quality assurance plans, quality control, control levels, and influences on erection by the formwork and prestressing are also addressed.

Finally, I would like to express my thanks to the authors of the *Textbook* for their very valuable work in preparing their contributions. In addition, my special thanks are directed to Laura Thommen-Vidale in the *fib* secretariat in Lausanne for her careful work in finalizing the manuscripts, as well as to Dr. Éva Lublóy at my university in Budapest for her assistance to me.

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