

fib BULLETIN NO. 101

TITLE: PRECAST CONCRETE IN TALL BUILDINGS

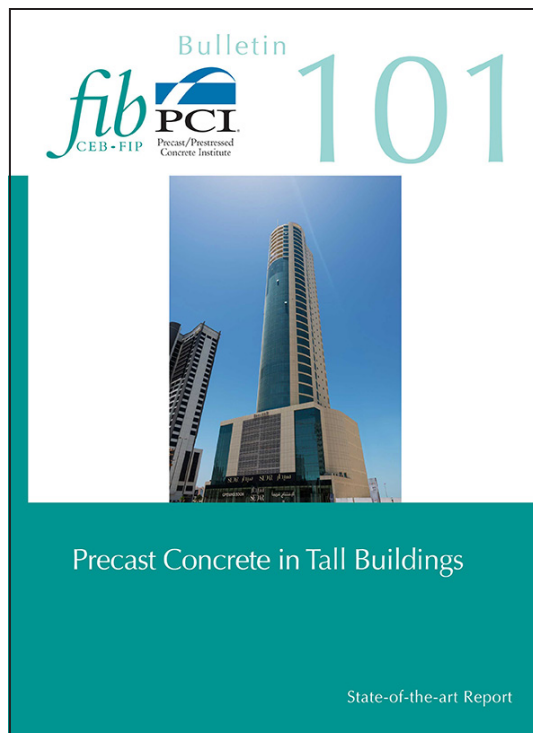
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Abstract:

There has been continued global growth in tall building construction over recent years. The variation in the use of such buildings is remarkable, from lavish hotels and apartments to socially affordable units. As the world struggles to cope with growing numbers of people, dwindling resources and movements from rural to urban habitats it is unavoidable that population densities will increase, and more efficient use of scarce land will be needed. Taller buildings are the inevitable consequence.

Tall buildings can use several different types of material to form their framework and envelope. Those materials are mixed to provide an optimum building solution to suit client requirements such as structure, occupancy, vision, affordability, timing, sustainability and quality. Precast concrete is one of those materials, and has been used from whole frameworks to facades, and elements mixed with structural steelwork and cast in place concrete.

This state of the art report shows how precast concrete can be effectively integrated into tall buildings using modern materials and techniques, drawing on the experience and expertise that is currently available in the global precast concrete industry. The report is aimed at not only building professionals and students, but also at contractors, investors, owners, public bodies and any other parties interested in the possibilities for use of precast concrete in tall building construction. Extensive case studies at the end of the Bulletin illustrate the benefits and applications discussed in the earlier chapters.



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TITLE: GUIDE FOR PROTECTION AND REPAIR OF CONCRETE STRUCTURES

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Abstract:

The idea of preparing a technical document for the repairs and interventions upon concrete structures goes back to the former fib COM5: Structural Service Life Aspects, being the goal of the then TG5.9. After a long period of reduced activity, and taking into account the reorganization of fib commissions that meanwhile took place, on June 2017 a different approach was proposed to push forward the task of TG8.1 (formerly TG5.9).

The (new) goal of TG 8.1 was to deliver a 'how-to-do' guide, gathering together protection, repair, and strengthening techniques for concrete structures. Chapters are intended to provide both guidelines and case-studies, serving as support to the application of fib MC2020 pre-normative specifications.

Each chapter was written by an editorial team comprising desirably at least a researcher, a designer and a contractor. Templates have been prepared in order to harmonize the contents and the presentation of the different methods. Following the writing process, chapters were reviewed by experts and, after amendments by the authors, they underwent a second review process by COM8 and TG3.4 members, as well as by different practitioners.

For each protection, repair and strengthening method addressed in this guide, readers have a description of when to adopt it, which materials and systems are required, which techniques are available, and what kind of equipment is needed. It then presents a summary of stakeholders' roles and qualifications, design guidelines referring to most relevant codes and references, the intervention procedure, quality control measures and monitoring and maintenance activities. Due to the extent of the guide, it was decided to publish it as bulletin 102, addressing protection and repair methods, and bulletin 103, addressing strengthening methods.

We would like to thank the authors, reviewers and members of COM8 and TG3.4 for their work in developing this fib Bulletin, which we hope will be useful for professionals working in the field of existing concrete structures, especially those concerned with life-cycle management and conservation activities.

As noted above, this Bulletin is also intended to act as a background and supporting document to the next edition of the fib Model Code for Concrete Structures, which is currently under development under the auspices of TG10.1 with the working title of "fib Model Code 2020".

