

International Seminar/Workshop on Precast Concrete in Seismic Regions and International Perspectives

September 29, 2022 Rome, Italy

Dissemination CPI

Holger Karutz

Member COM6: Prefabrication
Publisher Plant INTERNATIONAL
Organizer ICCX



International Seminar/Workshop on Precast Concrete in Seismic Regions and International Perspectives

September 29, 2022 Rome, Italy

Dissemination of fib COM6 content internationally



admedia

It's all about precast and prefabrication

International Know How → disseminated in local languages →



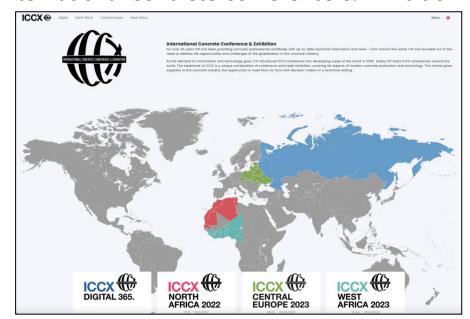




www.cpi-worldwide.com

www.iccx.org

International Concrete Conference & Exhibition



CPI worldwide journals

Family of trade journals in different language editions

Publications in CPI

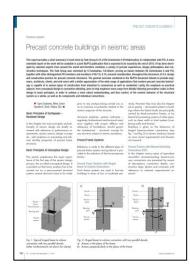
www.cpi-worldwide.com













2005 2009

2014

2022 2015

- related to fib COM6 activities

and very often available in several languages



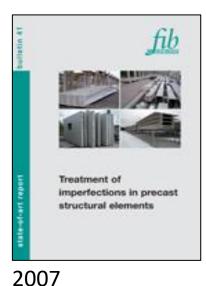




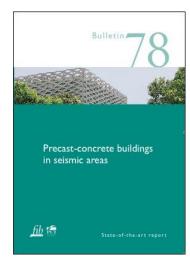


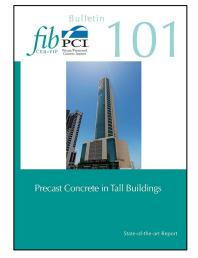






fib Planning and design handbook on precast building structures





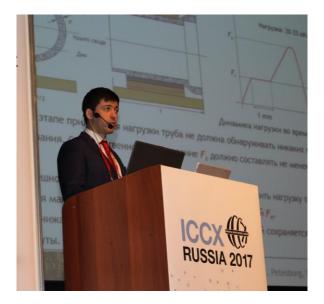
2014

2016 2021

Presentations at ICCX events



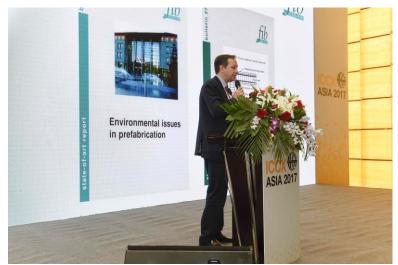




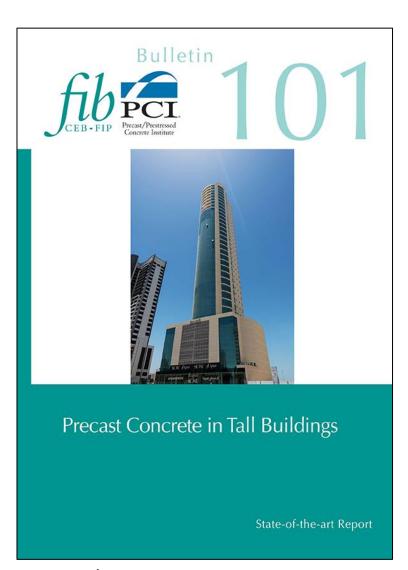








PDF sample download links included in PPT slides



Introduction to fib Bulletin 101

Precast Concrete in Tall Buildings

■ George Jones, BSc C.Eng MICE MIEI, Commercial Design Concepts, UK

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 and all other resources 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.

In view of their current popularity several references have been written on the design of tall buildings in steelwork and structural concrete. However, it was felt in fib Commission 6 for Prefabrication that there was not an up to date reference available for the use of precast concrete in tall buildings, that brought together in a single document the modern applications of precast concrete in tall building construction. Task Group 6.7 was therefore set up to address this issue and to prepare a "State of the Art Report" on the subject. This report would focus on how to integrate precast concrete into tall buildings and aims to capture the interest and influence professionals and all parties involved in tall building construction through a single reference without being unduly theoretical in approach. We are also pleased to have had close cooperation with PCI throughout the drafting process and that the Bulletin will be published by both fib and PCI.

Bulletin 101 is divided into four parts. The first four chanter introduce the reader to the benefits that can be achieved with precast concrete and how it can be integrated into any build ing as individual elements either mixed with other construction forms or as precast systems themselves. Shafts, stair and service cores, division walls, floors and facades are all parts of any functioning tall building and can be provided in precast concrete to act as the structural framework also.

Benefits that can be achieved through using precast concrete in tall building construction, in addition to those from using traditional cast in place concrete, include:

- Offsite dependability
- · Higher strength and more advanced materials
- · The capability to produce components outside the site cycle in advance of construction
- · Greater speed of construction resulting in reduced floor cycle times (critical in tall building construction).
- Time and budget certainty (site climatic and logistica effects are mitigated).
- · Assured and improved quality
- . Less clutter on congested floor areas during construc-
- · Fewer site personnel with resultant health and safety
- · Ease of demountability and reuse.
- · Enhanced performance in earthquakes · Automated production processes with great accuracy
- . Moulding of complex shapes in factory conditions to realise architectural visual intentions more easily.

The next four chapters cover the individual "building blocks" in precast concrete, i.e. floors, columns, walls and stairs. Their application to tall building construction is described with particular attention given to design and detailing and production methodology. There are then three chapters on areas of specific interest. These are building facades, precast in seismic zones and construction itself.

The Bulletin concludes with numerous case studies. The Group particularly wanted to use case studies from as many different regions as possible, and we believe this has been achieved with examples from Europe, North and South America, Australia, Japan, the Middle East and China. Sample case studies illustrating the application and benefits of precast

Breaker Tower, Bahrain - Fully Precast Framed

This structure has a full precast concrete framework comprising wall panels, columns, beams and hollowcore floor slabs. The building has 35 storeys and is 165m tall. It has two basic volumes. The high-rise volume has the shape of a vertical "cvlinder lock". Apartments occupy 28 storeys and are situated in the round part of the high rise footprint. Each storey has a free height of 4.2m and apartment residents have an exceptional view of the surroundings. The rectangular part of the high-rise functions as the stabilising "backbone" of the build-



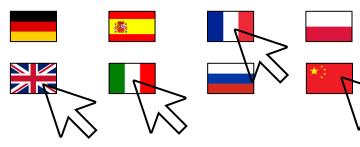
George Jones is a graduate of the University of Manchester, Chartered Engineer and a member of both the Institution of Civil Engineers and Engineers Ireland. He has been involved in the precast concrete industry since the 1980s, and set up his own engineering consultancy, Commercial Design Concepts Ltd (www. cdcltd.net), in 1996 to specialise in the engineering design and

development of precast concrete. He has been a member of fib Commission 6 since 2009 and is the convener of TG6.7, "Precast Concrete in Tall Buildings".

george@cdcltd.net

Free download available from CPI websites

Click on your flag to download the article in the language of your choice:



December 2021

CPI June 2022

10 CPI - Concrete Plant International - 3 | 2022

Sample journals in different language editions



















All language editions on the USB sticks!



International Seminar/Workshop on Precast Concrete in Seismic Regions and International Perspectives

September 29, 2022 Rome, Italy

CPI journals / ICCX events

Holger Karutz h.karutz@cpi-worldwide.com