

Commission 10 'Construction'

Statusreport May 2010

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Terms of reference

Scope

- The Commission addresses state-of-the-art basic principles of the construction process of concrete structures at site.
- Furthermore the Commission reflects on anticipated developments which could have a significant influence for construction.
- It's the objective to develop awareness regarding aspects which have an impact on safety, serviceability, durability and environmental issues of concrete structures to be build at site, and to provide information as how to handle the basic principles.
- The output will be presented as internationally harmonized reports.

Terms of reference

- **Areas of interest**
- The construction process of concrete structures: basic principles and drivers to success.
- Quality Management
- Materials: packaging, transportation, storage and handling
- Workmanship
- Formwork and scaffolding:
- Curing of Concrete
- Concrete surface: quality and texture.
- Testing, monitoring and control during construction.
- Life cycle management (construction phase aspects only)
- Special materials: high performance concrete: both strength and workability
- Special technologies
- Specifications for materials and workmanship: typicals only
- Training and education.

Chronology

- Kick-off April 2004 in Avignon
- Meeting 16 in May 2010 in Paris
- Regularly, 3 meetings a year

Present members

- **Aad van der Horst**, Netherlands, chairman
- **Philippe Jacquet**, France, vice-chairman
- **Patrice Schmitt**, France, secretary
- **Jean Davy**, France
- **José Emilio Herrero**, Spain
- **Florent Imberty**, France
- **János Magyar**, Hungary
- **Gopal Srinivasan**, UK
- **Oliver Fischer**, Germany
- **Jean-François Klein**, Switzerland
- **Günter Rombach**, Germany
- **Giuseppe Mancini**, Italy
- **Pascal Burtet**, Switzerland
- **Fabrice Cayron**, France
- **Didier Primault**, France
- **Manuel Contreras**, Spain

Corresponding members

- **C.R. Alimchandani**, India
- **Mats Öberg**, Sweden
- **Stuart Roy Curtis**, Australia
- **Mette Geiker**, Denmark
- **Per Elmar Fogh Jensen**, Denmark
- **Manuel Buron Meastro**, Spain
- **Daniel Tassin**, USA

Working programme

- Formwork and Falsework
- Precast segmental bridges

Formwork and Falsework

Guide to Good Practice- published in January 2009

Scope:

- The new Guide presents an overview of formwork and falsework techniques and addresses issues related to the design and application thereof. As such it is the objective to provide both structural engineers as well as site engineers with information to design and apply formwork and falsework in a safe, reliable, and economic way.

Formwork and Falsework- contents

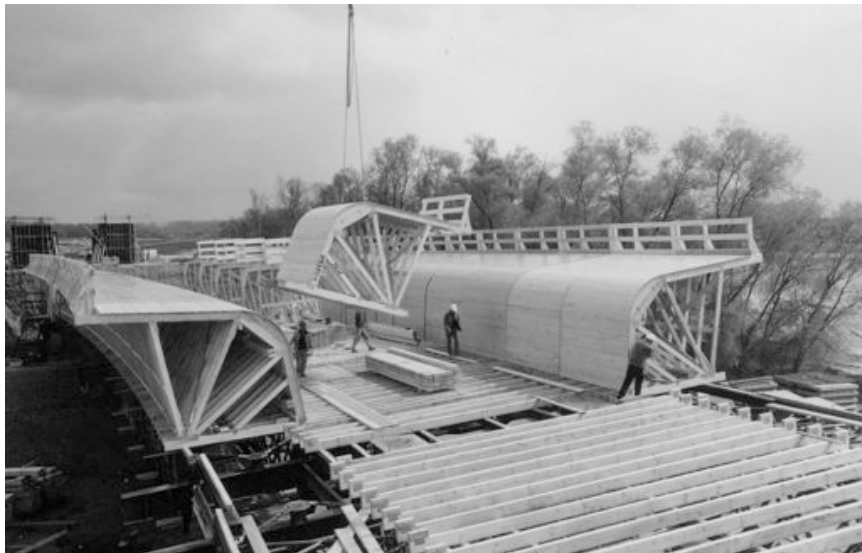
- Chapter 2 presents definitions.
- Chapter 3 addresses General Requirements with due attention to Safety, Durability and Quality of the finished surface.

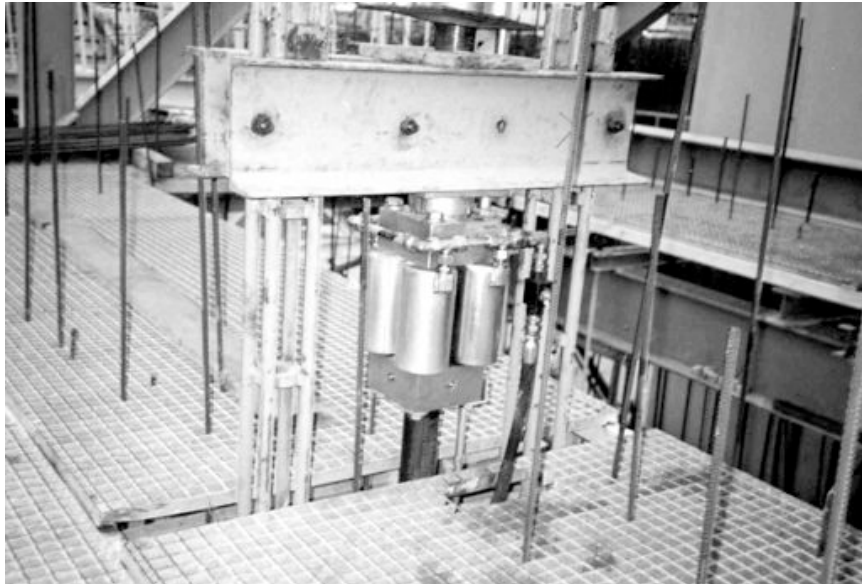
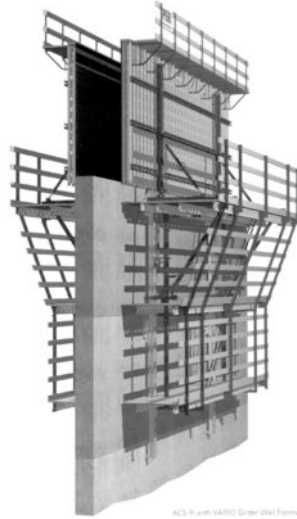


Formwork and Falsework- contents

- Chapter 4 covers design considerations in a broader context. Management and Control addresses issues related to coordination between disciplines, safety aspects, and classification of temporary structures. The design criteria section addresses fundamental issues related to structural scheme, load path analysis, design strategies, including design by testing, eccentricities, deflections, connections, foundations and settlements, redundancy and the striking of formwork and falsework.

- Chapter 5 briefly addresses Control issues related to design, erection, and the foundation.
- Chapter 6 gives a general overview of different types of formwork: traditional formwork, panels, climbing formwork and slipforming. Apart from the descriptions, also recommendations have been given both for design, site works, and disassembly





- Chapter 7 is an extensive part of the report and deals with specialized formwork, falsework and centrings. Both fixed structures as well as travellers are presented.

- 7.1 Specially manufactured forms.
- 7.2 Bridge shoring.
- 7.3 Travelling Formwork. General aspects.
- 7.4 Travelling Formwork for deck slabs.
- 7.5 Tunnel vault formwork.
- 7.6 Travelling Formwork. Movable shuttering system.
- 7.7 Travelling Formwork for balance cantilever bridge construction.
- 7.8 Apartment formwork.
- 7.9 Self-launching gantries.
- 7.10 Ready-for-use falseworks.
- 7.11 Heavy duty towers.
- 7.12 Sacrificial formworks.





- Appendix 1 deals with fresh concrete pressures and gives an overview of governing factors, theories and codes

Precast segmental bridges



Precast segmental bridges

- The document is split into three parts:
 - conceptual design
 - detailed design
 - construction

Precast segmental bridges

- The work is split between two task groups, with designers and contractors in each group:
- **design:** Gopal Srinivasan (leader), Emilio Herrero, Giuseppe Mancini, Günter Rombach, Oliver Fischer
- **construction:** Jean Davy (leader), JF Klein, Philippe Jacquet, Florent Imberty, Pascal Burtet
- Drafts are discussed in the full commission meetings

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