



## ***fib* Open Discussion**

### **Critical chloride content for corrosion initiation**

**19 October 2022 2-5.30pm CEST**

#### **Venue**

Virtual Open Discussion

#### **Objectives**

The workshop aim is to better define distributions for the critical chloride content,  $C_{crit}$ , and when they can be applied. Although  $C_{crit}$  is only required for use in chloride ingress models, models themselves will not be discussed as it would broaden the topic too much.

#### **Topic**

The workshop is intended to discuss the following topics:

- Units of  $C_{crit}$ ;
- Measurement of  $C_{crit}$ ;
- Chloride induced corrosion mechanisms;
- Influence of exposure on  $C_{crit}$ ;
- Influence of cement type on  $C_{crit}$ ;
- Influence of carbonation on  $C_{crit}$ ;
- $C_{crit}$  for different steel types.

#### **Speakers**

#### **Session 1. 2.00-3.30pm Chair C.Andrade**

Frank Papworth – Consultant, BCRC – Australia

A discussion paper, prepared as a basis for a fib Bulletin will be presented, including possible  $C_{crit}$  values for different metals, cements and exposures.

Robert Melchers – Prof. University of Newcastle – Australia

Prof. Melchers will show examples on where the  $C_{crit}$  is irrelevant for good quality, well compacted, concretes. He highlights that only in poor quality concrete is chloride a concern and this throws doubt on the use of a general  $C_{crit}$  in modelling.

Federica Lollini – Prof. Politecnico di Milano - Italy

Prof. Lollini will discuss the measurement of  $C_{crit}$  through different types of test and for different supplementary materials.

#### **Session 2. 3.40-5.10pm Chair F.Lollini**

Carmen Andrade – CIMNE Spain. Charlady TG 8.9.2

Prof. Andrade notes that current  $C_{crit}$  values proposed may be conservative but that is appropriate because of uncertainties.

Gro Markeset – Prof. Oslomet - Norway

Prof. Markeset will discuss data on  $C_{crit}$  obtained on existing structures

Matteo Gastaldi- Prof. Politecnico di Milano – Italy

Prof. Gastaldi will discuss the measurement of  $C_{crit}$  for different types of stainless steel rebars.

Presentations will be 20mins with 10mins for discussion. Papers that the speakers will talk to will be issued prior to the event. In most cases these are previous publications of the speakers. The workshop will be recorded.

#### **Discussion 5.10-5.30pm**

Prof. Andrade will chair a discussion aimed at setting a path to completing a fib Bulletin on  $C_{crit}$ . Specific issues include: What limits should be applied to the use of  $C_{crit}$ ; for what materials and exposures can we propose  $C_{crit}$ : how can we establish project  $C_{crit}$ ?

#### **Contact**

For further details and login invite contact:

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