

# Minutes of RILEM TC CCC WG4

## August 30 2018, Delft, the Netherland

### In attendance:

1. Yan Yao, China Building Materials Academy (CBMA), China
2. Ling Wang, CBMA, China
3. Juan Li, CBMA, China
4. Philip Van den Heede, Ghent University, Belgium, Belgium
5. Ivan Ignjatovic, University of Belgrade, Serbia

### Discussion topics:

1. Comments on the presentation of Prof. L. Wang in the morning session;
2. Discussion on the WG 4 work plan.

### Remarks:

1. Prof. Ling Wang gave a presentation entitled “ Research Progress on the combined actions of load + carbonation at CBMA and the first ideas on activities of WG4” in the morning session (the PDF versions of the slide is available in the RILEM website in the TC CCC folder). Dr. Philip Van den Heede and Prof. Ivan Ignjatovic gave some some comments on the presentation. The test results of gas permeability and carbonation depth under the combined actions of (Compression + Carbonation) and (Tension+carbonation) finished by CBMA are very usually. The combined action of (Bending + Carbonation) can be included into the WG work. The test specimens and the test rigs can be designed much smaller in order to minimize the carbonation chamber. They will send their related publications to Ling Wang (email 626043162@qq.com).

2. After a serious discussion by five participants, the following items of the WG4 are determined,

#### **(1) Scope**

Mainly regarding the combination of carbonation with load (compression, tension, bending).

#### **(2) Objective**

- To develop test setups for carbonation combined with mechanical loads
- To quantify the effect of mechanical loads on the carbonation resistance of concretes
- To build a transport model of carbonation combined with mechanical loads
- To quantify the effect of mechanical loads on gas permeability of concretes

#### **(3) Schedule**

Table 1 Work plan of WG4

Time	Tasks
2018.9- 2018. 11	<ul style="list-style-type: none"> <li>➤ Invite more members to join WG4</li> <li>➤ Distribute the registration form to members who are interested in WG4</li> </ul>
2018.11- 2019. 3	<ul style="list-style-type: none"> <li>➤ Literature review on the behavior under the combined action of load and carbonation, especially test rig, test method, parameter.....</li> <li>➤ A compilation report will be finished</li> <li>➤ A work platform of WG4 will be established based on website WWW.RILEM.CN</li> </ul>
2019.3- 2019.8	<ul style="list-style-type: none"> <li>➤ Select the most promising test method(s) for comparative testing</li> <li>➤ Prepare the comparative test plan</li> </ul>
2019.9	<ul style="list-style-type: none"> <li>➤ Discuss and determine the comparative test plan during the WG4 meeting in Prague</li> </ul>
2019.9- 2020.4	<ul style="list-style-type: none"> <li>➤ Carry on the first round comparative test</li> <li>➤ Discussion on the test results of the first round comparative test</li> </ul>
2020.5- 2020.6	<ul style="list-style-type: none"> <li>➤ The plan of the second round comparative test</li> <li>➤ The state-of-the-art report on available results</li> </ul>
2020.7- 2020.12	<ul style="list-style-type: none"> <li>➤ Carry on the second round comparative test</li> </ul>
2021.4	<ul style="list-style-type: none"> <li>➤ International seminar in Beijing, China</li> </ul>
2021.5- 2021.12	<ul style="list-style-type: none"> <li>➤ Final report of the comparative test</li> <li>➤ Recommendations of WG4</li> </ul>

#### (4) Expected outcomes

- To improve the knowledge related to durability of concrete under combined actions
- A state-of-the-art report of effect of mechanical loads on the carbonation of concrete
- Recommendations of the test methods of carbonation combined with mechanical loads
- An international workshop and proceedings

#### (5) Members of WG4

A list of members interested in the WG4 according to the Doodle results in March 2018 are shown in Table 2. More members are welcome to join WG4.

Table 2 Members who are interesting in the WG4 working

	<b>Name</b>	<b>Affiliation</b>	<b>E-Mail</b>	<b>Doodle</b>
1	Yan Yao	CBMA, China	yy@cbmamail.com.cn	yes
2	Juan Li	CBMA, China	1770219428@qq.com	yes
3	Ling Wang	CBMA, China	626043162@qq.com	yes
4	Guanbao Tang	CBMA, China	584360038@qq.com	yes
5	Muhammed Basheer	Leeds University, UK	P.A.M.Basheer@leeds.ac.uk	yes
6	Philip Van den Heede	Ghent University, Belgium	Philip.VandenHeede@UGent.be	yes
7	Nele De Belie	Ghent University, Belgium	Nele.DeBelie@UGent.be	yes
8	Siham Kamali-Bernard	Insa-Rennes, France	siham.kamali-bernard@insa-rennes.fr	yes
9	Elke Gruyaert	KU Leuven, Belgium	elke.gruyaert@kuleuven.be	maybe
10	Javier Sanchez	IETcc-CSIC, Spain	javier.sanchez@csic.es	maybe
11	Andrés Idiart	Amphos 21 , Spain	--	maybe
12	Ivan Ignjatović	University of Belgrade, Serbia	ivani@imk.grf.bg.ac.rs	maybe
13	Sree Nanukuttan	Queen's University Belfast, UK	s.nanukuttan@qub.ac.uk	maybe
14	Isabel Martins	LNEC, Portugal	imartins@lnec.pt	maybe
15	Sylvia Kessler	Technical University of Munich, Germany	sylvia.kessler@tum.de	maybe
16	Vagelis G. Papadakis	Univ. of Patras, Greek	vgpapadakis@upatras.gr	Maybe
17	Kolawole Adisa Olonade	Univ. of Lagos, Nigeria	olonade1431ah@gmail.com, makkolawole@yahoo.com	Maybe

#### (6) The next meeting

The next WG4 meeting will be held in September 2019 in Prague, Czech during the ICC2019. The comparative test plan will be determined and fixed in the half day meeting.