WORKSHOP ON EXTERNAL SULFATE ATTACK.
FIELD ASPECT AND LAB TESTS

SPAIN • MADRID • IETcc-CSIC
May 24-25, 2018

Programme
Organized by:

INSTITUTE EDUARDO TORROJA
OF CONSTRUCTION SCIENCE

RILEM
TC-251-SRT

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Esperanza Menéndez
Veronique Baroghel-Bouny

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Yuri Andres VILLAGRAN ZACCARDI
24 May

Inscription & Coffee 10,00h to 10,45h
Opening session 10,45h to 11,00h

Introductory presentation 11,00h to 11,30h
Chair: Esperanza Menéndez

Veronique Baroghel-Bouny
France
OBJECTIVE AND ACTIVITIES IN THE RILEM TC-251-SRT ON SULFATE RESISTANCE TESTING

Session 1. Combination of actions 11,40h to 12,30h
Chair: Manu Santhanam

Rim Ragoug, Othman Omikrine Metalssi, Jean-Michel Torrenti, Fabien Barberon, Loïc Divet,
Nicolas Roussel and J.B. d’Espinose de Lacaillerie
France
DURABILITY OF CEMENT PASTES EXPOSED TO EXTERNAL SULFATE ATTACK AND LEACHING: PHYSICAL AND CHEMICAL ASPECTS

Maria Cruz Alonso, Kristina Villar, Dirk Qvaeschning, Sara Irico and Gloria Perez
Spain
INVESTIGATION ON THE COMBINED INTERACTION OF SULFATE AND ACIDIC ATTACK ON CONCRETES EXPOSED TO AGGRESSIVE ENVIRONMENTS

Lautaro Santillan, Yury Villagrán Zaccardi and Claudio Zega
Argentina
EXTERNAL SULPHATE ATTACK ON RECYCLED CONCRETE: ASSESSMENT OF THE INFLUENCE OF RECYCLED AGGREGATE

12,30h – 15,00h Lunch

Visit to the IETcc-CSIC & Photo of the group
Session 2. Mitigation
Chair: Klaus Lipus

Diego Jesus De Souza, Marcelo Medeiros, Juarez Hoppe Filho and Leandro Sanchez
Canada/Brazil
THE USES OF FINELY GROUNDED MATERIALS TO MITIGATE THE EXTERNAL SULPHATE ATTACK ON CEMENTITIOUS MATERIALS

Cristina Argiz, Esperanza Menéndez and Miguel Ángel Sanjuán
Spain
DAMAGE EVOLUTION IN CEMENT MORTAR WITH AND WITHOUT GROUND COAL BOTTOM ASH DUE TO SULFATE ATTACK

15,00h to 15,40h
Coffee

Session 3. Field aspects
Chair: Veronique Baroghel-Bouny

Ashlee Hossack, Ted Moffatt and Michael Thomas
Canada
FIELD PERFORMANCE OF PORTLAND LIMESTONE CEMENT CONCRETES EXPOSED TO COLD-TEMPERATURE SULFATE SOLUTIONS

Esperanza Menéndez, Ricardo García-Roves
Spain
REVIEW OF THE INCIDENCE OF THE EXTERNAL SULFATE ATTACK IN SPAIN. EVALUATION OF FIELD CONCRETE CASES

15,40h – 16,10h
16,10h to 16,50h
25 May

**Sessions 4 and 5**

**Session 4. Testing & parameters of testing I**

Chair: Mª Cruz Alonso

**Klaus Lipus**  
Germany  
NEW APPROACH FOR TESTING SR CEMENTS

**Fathima Suma and Manu Santhanam**  
India  
INFLUENCE OF SPECIMEN SIZE ON THE EXPANSION OF PORTLAND CEMENT MORTARS IMMERSED IN SODIUM SULPHATE SOLUTION

**Federico M. Aguayo, Olvin J. Funez, Thano Drimalas, Kevin J. Folliard and Racheal D. Lute**  
United States  
AN ALTERNATIVE METHOD TO EVALUATE THE SULFATE RESISTANCE OF CEMENTITIOUS BINDERS

**Johannes Haufe, Anya Vollpracht**  
Germany  
TESTING THE SULFATE RESISTANCE OF CONCRETE BY TENSILE STRENGTH MEASUREMENTS

10,50h – 11,20h  **Coffee**

**Session 5. Testing & parameters of testing II**

Chair: Federico Aguayo

**Sonia Boudache, Emmanuel Rozière, Ahmed Loukili and Horacio Colina**  
France  
INFLUENCE OF THERMAL PRECONDITIONING ON THE MECHANISM OF EXTERNAL SULFATE ATTACK

**Samuel Meulenyzer, Houssam Raqen, Nam Nghia Bui, Fabienne Begaud, Bruno Huet, Matthieu Vandamme and Jean-Michel Pereira**  
France  
A FAST TESTING METHOD FOR DISCRIMINATING HARDENED CEMENT PASTE REACTIVITY WITH EXTERNAL SULFATE

**Esperanza Menéndez, Beatriz Aldea, Sergio Ruiz, José de Frutos, Mónica Formoso and Esther Puerto**  
Spain  
INFLUENCE OF TEMPERATURE AND AGGRESSIVE SOLUTIONS IN THE FORMATION OF THAUMASITE AND ETTRINGITA IN STANDARD AND COMMERCIAL MORTARS
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