

RILEM State-of-the-Art Reports

RILEM STATE-OF-THE-ART REPORTS

Volume 26

RILEM, The International Union of Laboratories and Experts in Construction Materials, Systems and Structures, founded in 1947, is a non-governmental scientific association whose goal is to contribute to progress in the construction sciences, techniques and industries, essentially by means of the communication it fosters between research and practice. RILEM's focus is on construction materials and their use in building and civil engineering structures, covering all phases of the building process from manufacture to use and recycling of materials. More information on RILEM and its previous publications can be found on www.RILEM.net.

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It is RILEM's hope that this information will be of wide use to the scientific community.



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Lars-Olof Nilsson
Editor

Methods of Measuring Moisture in Building Materials and Structures

State-of-the-Art Report of the RILEM
Technical Committee 248-MMB



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Preface

Properties and performance of building materials and structures are to a large extent influenced by the moisture conditions in the materials. Obvious examples are heat conductivity, shrinkage and creep, transport properties, most types of deterioration, discolouration, etc. For research and applications, the moisture conditions must be quantified, by measurements in the laboratory or under field conditions. The methods being used today are very different in different countries, very different for different materials and very different for different applications. Also, researchers within the same topic use different methods. No consensus whatsoever does exist. For the construction industry, it is important to be able to quantify the moisture conditions in an accurate way in various applications.

RILEM TC 248-MMB was established in 2012 with the main aim to improve and distribute knowledge related to moisture measurement in construction materials in various scientific and industrial applications. The scope of the TC was concentrated on publishing a state-of-the-art report.

The committee came together for the first time in Lund, Sweden, in July 2012 with subsequent meetings held in Cape Town, Dresden, Paris, Alicante, Minho, Bordeaux, Bologna, Munich, Lille and Kongens Lyngby. A small Round Robin Test series on specimens for calibrating moisture measurements was organized. The final TC-meeting in Kongens Lyngby, Denmark, was accompanied by a two-week PhD course on Moisture in Materials and Structures and a three-day conference on Moisture in Materials and Structures, which was attended by delegates from around the world.

The main outcome of RILEM TC 248-MMB is this state-of-the-art report, which is divided into two parts, A Principles and B Applications, with altogether 28 chapters on various moisture measuring principles and a number of applications. Each chapter had a main author. All TC members who made contributions to a chapter were made co-authors of that chapter, in alphabetic order. The final structure and layout of the chapters were discussed and approved in the last meeting and via email correspondence.

The editor thanks all TC members who have actively contributed to this report through meeting attendance, direct input to the various chapters and participating in the discussions.

Lund, Sweden

Lars-Olof Nilsson

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