

JOURNAL OF THE LATIN-AMERICAN ASSOCIATION OF QUALITY CONTROL, PATHOLOGY AND RECOVERY OF CONSTRUCTION.

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With great satisfaction, we present the second issue of the seventh year of the ALCONPAT journal.

The aim of the journal is to publish case studies within the scope of the Association, namely quality control, pathology and recovery of constructions, including basic and applied research, reviews and documentary research.

The V7 N2 issue begins with a research from **Brasil**, in which A. P. Brandão Capraro et al evaluate how different levels of sulfide contamination interfere with the microstructural and mechanical characteristics of the cement pastes when they are submitted to two exposure conditions: wetting and drying cycle and aerated tank. At the end of the study period (84 days) it was noted a relationship between the auxiliary assays and the considered mechanism but that is just at an early stage.

The second paper comes from **México**. C. A. Juárez-Alvarado et. al investigate the mechanical behavior of fiber-reinforced cementitious composites using moderate to high contents of fly ash (FA) as a replacement for cement; their goal was to create primary building elements with low environmental impact. As expected, their results indicated that it is feasible to use fiber-reinforced concrete composites as an alternative for low-environmental impact primary construction.

In the third paper from **Brasil**, A. C. Lordsleem Jr. and H. Batista Faro discussed the detachment of ceramic tile and natural stone from building facades that are a recurring cause of concern to users and construction professionals. This paper describes a facade pathology case study of ceramic and stone coverings on a 30-year-old residential building, identifying occurrences and assessing the situation. The results showed a deficiency in adhesive strength in 57% of the tests and 13% of tiles inspected that had a hollow sound. The pathology description and the sequence of diagnostic definition activities are the main contributions of this study, which can help to solve several problems with buildings of similar age, materials, and construction techniques.

The fourth paper, by D. Cardoso Parente et al from **Brasil**, presents an alternative and new procedure to identify the surface pathological manifestations in asphaltic pavement of a stretch of highway TO-050, in Palmas - TO. An unmanned aerial vehicle (UAV), flight plan and image processing software, orthophotos and Digital Surface Model (MDS) of the study area were used as tool. By means of the visual interpretation of the generated products it was possible to identify the pathological manifestations in its

variety, comparing data obtained through the images with in loco inspection data. Even though it presents a high potential for recognition of compromised areas, it is important to highlight that the instability of the aircraft interferes considerably with the quality of the images generated.

One of our first papers from Asia is that from P. W. Kubde and K. K. Sangle from the **India**. They discuss about the use of cold-formed steel (CFS) structures which is increasing due to the advances in manufacturing, construction technologies and relevant standards. CFS has many advantages. However, the design of CFS structures is complex because of their thin walled open sections making them vulnerable to torsional-flexural buckling and local buckling. Direct strength method (DSM) is the method available for individual beam and column, with certain limitations. To overcome one such limitation this paper attempts to find a formula as an extension to DSM. An already experimented frame was used to validate software model and same frame with different heights was analysed by Finite Element Method and DSM and a formula is obtained as an extension to DSM.

The last but not least paper from **Brasil** was authored by A. Hahnemann et. al. With the aim of proposing the legalization of the use of buildings that are subject to restrictions on fire safety legislation in Pernambuco, Brazil, some performance-based fire assessment methods have been described and one of them has been chosen to be applied to two buildings in the city of Recife, proving its effectiveness. As a result, safe and viable solutions have been envisaged, given the restriction for buildings considered as historical heritage or constructed based on previous laws that have been updated. Gretener's method, if implemented, could become an interesting practice, as it proposes some low cost and safe alternatives without structural interventions, given the international verification of its effectiveness.

We are confident that the papers in this number will become a reference for those readers involved in cases and research related to properties, structures and durability of materials and structures. We are grateful to all authors of this number for their effort to prepare high quality papers.

It is noteworthy that the commitment and efforts from authors, reviewers, and editorial board during these past six years, have positioned the Alconpat journal within the Indexes of Conacyt (National Council of Science and Technology of Mexico), Latindex and Scielo. A new effort is being made to include Alconpat Journal in WOS and Scopus. More news will be available on the next issue

On behalf of the Editorial Board

Pedro Castro Borges
Editor in Chief