

Conservation of historical reinforced concrete structures

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ABSTRACT

Part of European architectural heritage is made with reinforced concrete structures. The epoch of the reinforced concrete affirmation started in the 19th century when opened large fields of its application.

Due to its special qualities, there is a large competition in finding various forms of using reinforced concrete. During the 20th century, reinforced concrete brought back into the modern time historical structural systems, transposing into high-performance structures. The reinforced concrete cupola of the Hungarian Theater of Cluj, Romania was built at the beginning of the century, as the earliest structure of this type. During the interwar period, Villa Tataru designed as a duet, by Gio Ponti and Elsie Lazar was build in Cluj, with ribbed slabs, poured in ceramic formwork. Several such reinforced concrete structures from the Cluj region have been granted to Romanian national monuments list.

In this work, structural analysis and strengthening of the hundred years old, “new” historical structures are presented. The conservation is governed by repairs that will not alter the aesthetics, preserving the original materials as much as possible, similar to restoration works, but considering also the evolution achieved in reinforced concrete technologies and materials. As general demand, assuring the structural reliability of the historical construction should not interfere with its creator belief that architecture results in the harmony of form and function [2].

REFERENCES

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