

**CODE 333****EVOLUTION OF PHYSICAL AND MECHANICAL PROPERTIES OF BRICKS TREATED WITH DIFFERENT CONSERVATION PRODUCTS APPLICABLE IN THE REPLACEMENT OF EXPOSED BRICKS IN HERITAGE BUILDINGS****Romay Carola<sup>1</sup>; Charbonier, Andrea<sup>2</sup>; Rodríguez de Sensale, Gemma<sup>3</sup>**

1: Mag., Arq. Facultad de Ingeniería - Facultad de Arquitectura, Diseño y Urbanismo, Universidad de la República, Uruguay.

[cromay@fing.edu.uy](mailto:cromay@fing.edu.uy)

2: Arq., Facultad de Arquitectura, Diseño y Urbanismo, Universidad de la República, Uruguay.

[acharbonieretchenique@gmail.com](mailto:acharbonieretchenique@gmail.com)

3: Dra., Arq. Facultad de Arquitectura, Diseño y Urbanismo, Facultad de Ingeniería, Universidad de la República, Uruguay.

[gemma@fing.edu.uy](mailto:gemma@fing.edu.uy)

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**ABSTRACT**

The conservation of exposed brick facades, especially in the case of heritage buildings, often leads to the application of protection procedures whose fundamental objective is to minimize the entry of water and soluble products capable of causing alterations in the material. The effectiveness of these procedures, can be evaluated by studying the physical characteristics of the material related to water permeability, absorption, capillary suction; and especially the color variations.

This article expose the progress achieved in relation to the monitoring over time, of different types of ceramic bricks available in Uruguay to use as a exposed brick and that can be used as restitution pieces in heritage buildings. The work has been carried out following the recommendations of the technical standards developed by the Cultural Heritage Conservation Committee. The present monitoring includes the study of three types of bricks treated with different products, exposed to two different conditions: outdoor direct solar radiation and accelerated exposure to UV radiation in simulation chamber. The study is complemented by results obtained from the evaluation of superficial hardness, resistance to penetration and compressive strength at the end of the exposure period, compared to previous reference determinations.

The results show the differences in the behaviour of the different bricks against the applied products, identifying in a preliminary way that one of the treatments seems to have the most favorable effects on the different analyzed properties. In the same way, these results allow to infer that it is possible to complement the information provided by the different methods and that the non-destructive techniques applied are appropriate for the characterization of the pieces in situ.