EVALUATION OF THE EFFECTIVENESS OF MASONRY CONSOLIDATION TREATMENTS BASED ON A SCRATCHING TEST

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A challenge in the restoration of historical buildings is the correct identification of materials which need to be strengthened in order to guarantee their durability and the validation of consolidation treatments which may be applied during their repair. Rare are the methods which make possible such a complex characterization. This paper presents an investigation which has been carried out at the University of Mons (Belgium) in collaboration with the Technical Support and Control Unit, Restoration Directorate, of the Walloon region, aiming to evaluate the effectiveness of consolidants used to strengthen them. The characterization of the materials is based on a novel semi-destructive scratching methodology which allows tomographic representation of the strength of the damaged and treated areas. The paper describes the experimental methodology, presents results from laboratory experiments and a field application.

Keywords: Consolidation treatment, ethyl silicate, lime wash, scratching test, bricks, stones

Theme: Research and testing