

XXXVII IAHS – Renders for ancient buildings: Compatibility of industrial mortars for use in current old buildings

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Abstract

The study of renderings within conservation practice has acquired in recent years major technical and methodological advances. These are important elements of structures: as well as having a protective function, they have a decorative function of great relevance to the image of monuments, representing a value for the history of materials and technology used in each period.

Exterior coatings are particularly exposed to climatic actions and environmental and mechanical impact so they are usually the first elements to suffer damage.

The indiscriminate removal of old renders during the restoration works is still a common practice, however, whenever possible, the conservation and repair should be the first option, for ethical, historic and scientific reasons.

If conservation of renders is not possible, for instance due to the extent and intensity of damage, it is important to use substitution products compatible with the substrate and with pre-existent mortars.

When monuments and classified buildings are concerned, a study of the building should be carried out and the substitution render composition must be selected as similar as possible to the original. On the other hand, for current old buildings, compatibility (physical, chemical and esthetic compatibility) is the most important issue and industrial mortars, specially conceived for old buildings, may be a good option.

In this paper some industrial mortars based on lime, conceived for old buildings' renders, are studied. Their basic composition is described; test results are presented, compared with values obtained for traditional mortars based on air lime and discussed considering compatibility requirements. The influence of conditioning during tests is considered and compared with possible conditions on site. Conclusions are drawn for the application field of this kind of mortars.