

ACQUA E SUPERFICI DIPINTE IN TERRA CRUDA: IL DEGRADO DAL SITO AL LABORATORIO.

MARTA CAPPAL^{1,2}, GIANFRANCO CARCANGIU³, GIORGIO PIA^{1,2}, LUDOVICA CASNEDI^{1,2}, MARTA CASTI^{1,2}, PAOLA MELONI^{1,2}

¹ Dipartimento di Ingegneria Meccanica, Chimica e dei Materiali (DIMCM), Università degli Studi di Cagliari, Via Marengo 2, 09123 Cagliari, Italy

² Laboratorio Colle di Bonaria, Università degli Studi di Cagliari, Via Ravenna snc, 09125 Cagliari, Italy

³ Istituto di Scienze dell'Atmosfera e del Clima (ISAC), Via P. Gobetti 101, 40129 Bologna, Italy

Email: marta.cappai@unica.it

Abstract.

Earthen surfaces were among the first supports used by mankind to decorate its architecture and tell its history. Given the extreme sensitivity of the material towards atmospheric agents, it is necessary to find concrete solutions for their conservation and protection. This is why, research needs to be done in laboratory to test new materials on similar surfaces both in terms of materials and in terms of degradation.

This paper presents the case of accelerated ageing of some earthen painted plasters to simulate the painted surfaces of the Templo Pintado in the archaeological site of Pachacamac (Peru). Decay and environmental parameters in the site have been studied: in particular the effect of relative humidity variation, being the most dangerous for painted surfaces. Wet-dry cycles and simulated erosion cycles have been made on samples of painted plasters realised for an experimental campaign. Experimental tests have demonstrated their capability of acting as accelerated ageing methods to reproduce the observed decay *in situ*.

Keywords: *earthen architecture; archaeological site; accelerated ageing.*