

Conservazione in situ del patrimonio archeologico sommerso: tecniche di restauro e materiali innovativi

RICCARDO MANCINELLI ; ALFREDO BONACCINI

C.S.R. Restauro Beni Culturali sas di Riccardo Mancinelli; Tecno Edile Toscana Srl
info@csrrestauro.it

Abstract.

This study deals with using innovative materials and technologies for conservation of different architectural typologies in submerged archaeological sites, considering deterioration increase and fragility of constituent materials.

The research team has worked in laboratory and in underwater sites to find a good mortar composition which could be used for the restoration of submerged ancient walls or pavements. Considering critical elements, a suitable compatible mortar, with respect to the original surface, has been developed. The steps to the development of the new mortar is based on applying tests (by simulating real operative conditions) to find the perfect resistance against being washed out as well as solidification rate of mortar which provides enough time for applying it and doing the surface finishing. Furthermore, other items such as hydraulicity, adhesion on inclined surfaces saturated with water and with biological patina, absence of pollutants etc.. have been tested. The successful implementation of the mortar during the restoring process of submerged roman ancient Villa, the so called “villa of the dolia” in Epidauro (Greece) verified the laboratory results, confirming that the product shows extraordinary characteristics, being surprisingly effective. Successful results obtained during the project can lead to a host of applications whether in conservation of submerged sites or wherever there’s a danger of water deterioration. Future research could be done with the concentration on the instruments which can make the process automatic helping restorers to work more efficiently.

Keywords: Underwater cultural heritage; conservation of archaeological submerged architectural structures; mortar; restoration of cultural heritage damaged by water.