## *Abstract*

*The mural painting, the sculptural reliefs and the architectural coatings are part of the brilliant artistic manifestations that the ancient Mayan culture bequeathed to us. Through the use of colour, form and texture, they modelled the stucco pastes with great prodigy, adorning their monumental constructions. But these works, which are a valuable testimony to the lives of their former inhabitants, are often in an advanced state of deterioration after archaeological excavation, due to harsh environmental conditions, abandonment, burial and exposure to the weather, where they were found for hundreds of years.*

*In addition, the excavation and exposure to light, involves a sudden change of those conditions in which they had been kept in balance, so that the mechanisms of deterioration are triggered quickly. To mitigate it, the tasks of protection, cleaning and reinforcement are essential to ensure its conservation.*

*In the middle of the last century, synthetic products began to be used in the Mayan area, which had worked successfully in some interventions in Europe. A decade later, the negative effects derived from the use of these substances became evident, and the incompatibility of these materials with the environmental conditions of the archaeological sites of the Maya area was confirmed. From these experiences and the interest in recovering traditional techniques and related materials, began the study and characterization of Mayan stuccos, also the experimentation on their elaboration process; applied later to the field of conservation and restoration.*

*The present research is developed under "Proyecto La Blanca" and specifically focuses its objectives on the archaeological site with that name, located in the department of Petén, Guatemala. In the Acropolis of this ancient city, a large part of the stucco coatings covering the rooms have been found and they have been periodically intervened in successive work campaigns. From the in situ experience arose the need to find materials compatible with the composition of the stuccos wich can guarantee an effective intervention, but also sustainable.*

*Used methodology focuses on the bibliographic review of materials, processes and techniques of Mayan manufacture for the subsequent adaptation and practical reproduction of stucco, in form of mortar test, which have been studied both in laboratory and in field. Tests carried out in laboratory (at the facilities of the University Institute of Heritage Restoration) focus on the physic-mechanical characterization of the different mortar groups, primarily in determination of water behaviour; as well as in determination of its stability through durability tests. On the other hand, in field studies mortar tests have been applied on stone support and their exposure to natural aging in the actual climatic conditions of the site.*

*With both ways of study, comparisons have been made and the results have been discussed, which have allowed selecting the mortar whose behaviour adapts with greater affinity to the original materials, to the climatic conditions and to the dispositions of natural environment. Once mortar has been selected, an adequate intervention proposal for the stucco coatings of La Blanca has been made, indicating the intervention criteria and the actions to be carried out, and hoping that the accessibility to the materials in the enviroment of the site can in the future facilitate its long-term maintenance, as well as be applied to other archaeological sites in the area.*