Study on historical value mortars

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ABSTRACT

The rehabilitation of buildings or historic landmarks has gained in importance over the years. It is increasingly important to safeguard the cultural identity and history of a country. In this research the mortars of the Roman city of Conimbriga were studied, being one of the oldest archaeological cities in Portugal.

Conímbriga has its origin in a Celtic Castro of the tribe of the Conii, at the end of the Iron Age. It was occupied by the Romans from 139 BC. It was under the Emperor Augustus Empire, in the second century AD, that the city achieved its splendor, having then been built public baths and a Forum. With the decline of the Empire in the late fourth century, a monumental defensive wall was erected, which did not prevent the assault of the city by the Suevi, in 468, and the consequent decline of the city. Large excavations carried out throughout the 20th century revealed a valuable and complex set of buildings, including thermal baths, an aqueduct that runs more than 3,400 meters from the source, and remains of a Christian basilica, probably from the 6th century.

In this type of rehabilitation works the use of mortars was predominant, hence the importance of their study to know how they behave. In order for a rehabilitation intervention to be successful it is necessary to know the existing support in place to guarantee the compatibility of the materials.

It was necessary to go “in situ” to collect the samples with the proper authorization of the Museum of Conimbriga. These mortar samples were analyzed and characterized by scanning electron microscopy (SEM) for further analysis. The composition of the samples will allow to adjust dosages and to choose a restoration mortar, as close as possible, to the one that was collected in order to preserve the maximum historical identity of the place.

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