



COMPOSITION, PRESERVATION AND PRODUCTION TECHNOLOGY OF AUGUSTA EMERITA ROMAN GLASSES FROM THE FIRST TO THE SIXTH CENTURY AD

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ABSTRACT

This paper presents the results derived from an archaeometric study undertaken on glass samples from the Roman town of Augusta Emerita (Mérida, Spain). The main goal of the research was to provide for the first time some compositional and technological insights into the glass finds unearthed in this town. Glass samples from different sites and chronology, either from inside or from outside the perimeter of the ancient town and from the first to the sixth century AD, were analyzed and characterized through optical microscopy (OM), scanning electron microscopy (SEM), energy dispersive X-ray microanalysis (EDS), X-ray fluorescence (XRF) spectrometry and VIS spectrophotometry. Resulting data indicated that all the samples studied were natron-based soda lime silicate glasses, even though two chronological and compositionally distinct groups were distinguished. One composed of Early Empire glasses and a second one composed of glasses from the fourth century AD onward, which was characterized by the presence of the so-called HIMT (high iron, manganese, and titanium) glasses. Comparison with coeval glasses suggested that Augusta Emerita shared the same trade glass circles than other contemporary Roman towns, within the frame of a secondary production scale. Finally, some outstanding differences connected to composition and chronology were found, since Late Roman glasses presented a higher and distinct degree of alteration than Early Empire ones.

KEYWORDS: Roman glass, Augusta Emerita, Archaeometry, Chemical composition, Degradation