

POSTER

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Characterisation of islamic ceramics from the X-XIII<sup>th</sup> centuries: “cuerda ceca” from Mértola archeological site

Cuerda seca is characterized by a black line surrounding the draws, used to separate the different colors of the glaze and to prevent their mixing. The line is made of a mixture of manganese oxide and a fat that burns during firing, leaving the black mark.

Studies have already been conducted on the cuerda seca, but many areas remain to be explored. In this study, the aim is to contribute to identification of origin and fabrication process of a set of six pieces by the characterization of composition and microstructure of pastes and glazes. Several techniques of characterization were used; Scanning Electron Microscopy to determine the morphology and the elemental composition of the glaze and X-ray diffraction to give information about the composition of the ceramic body. UV-spectroscopy and colorimetric analyses were also used.

The samples often showed important amounts of phosphorous. Phosphorous may lead to a phase separation in the glazes: silicates versus phosphorous/lead/calcium phases. The phosphorous phases are characterized by a specific ratio and two types of morphology were identified.

In this matter, it is generally accepted that the phosphorous is coming from runoff water. However, from the results obtained one may wonder if bone ashes as raw material for low melting point ceramic glazes were already being used. From such perspective, the distinction between technical phosphorous and phosphate sediment could be made. Indeed, phosphorous in the liquid phase could also be used to give a red taint to the ceramic matrix

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[1] Claire Déléry, « Dynamiques économiques sociales et culturelles d'al-Andalus à partir d'une étude de la céramique de cuerda seca (seconde moitié du Xesiècle-première moitié du XIIIe siècle) », PhD Thesis, Université de Toulouse, Tome III (2006)

[2] Susana Gomez Martinez, “New perspectives in the study of Al-Andalus Ceramics, Mértola (Portugal) and the Mediterranean Maritime Routes in the Islamic Period”, *Al-Masaq*, Vol. 21 (april 2009), No. 1.

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