
Investigation of French glass sculptor H. Navarre production technic: a materials and durability study

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Abstract

*PYREX® glass has been first developed at the end of the nineteenth century and it is mostly seen as an industrial glass. Its use by artist is not well known. This study focuses on one particular artwork produce by the French glass sculptor Henri Navarre (1885-1971), untitled *Masque Petit faune* (Little faun mask, inventory number N°81.04.7). A large corpus of his production is currently conserved in Chartres Museum of fine arts. The documentation conserved in the museum archive states that this mask is made of PYREX® glass and an unidentified blue glass layer. Thanks to Raman spectroscopy and PIXE-PIGE (Particle Induced X-ray Emission - Gamma-ray Emission) chemical analyses (AGLAE accelerator), new data have been established on the process and kinds of glass used by the artist. Structural and chemical analyses have been carried out by NMR (Nuclear Magnetic Resonance) spectroscopy, ToF-SIMS (Time of Flight Secondary Ion Mass Spectrometry) and ERDA (Elastic Recoil Detection Analysis) to characterize the durability of these different glasses in acidic and basic media.*

Keywords: Pyrex®, structure, chemical analysis, alteration, technic

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