

**Evaluation of using Nanocomposite polymers in treatment of ancient Egyptian faience.
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INTERNATIONAL JOURNAL OF ADVANCED STUDIES IN WORLD ARCHAEOLOGY

ISSN: 2785-9606 VOLUME 5, ISSUE 1, 2022, 220 – 238.

Abstract:

Ancient Egyptian faience is a significant object which have enormous technical and historical information about Egyptian civilization. The recent discovered faience is exposed to many deterioration factors, which have serious impact on its components and its physical and mechanical properties leading to poor structure, broken parts and separated glazing layer.

The current study aims to stop the continuous undesired effect of the deterioration factors and consolidate the recent discovered faience objects by using four different nanocomposite (Nanosilica SiO_2 with Waker OH100 and TEOS as well as nano calcium hydroxide $\text{Ca}(\text{OH})_2$).The chosen consolidants (Polymer- nanomaterials) have been applied on a simulated Egyptian blue faience object samples depends on analytical study of recent discovered ancient faience objects at Tepla hill, Egypt using XRD, and SEM_EDX.

Porosity, water absorption, density, compressive strength, colorimetric measurements, water contact angle and Scanning electron microscope (SEM) were used to evaluate the efficiency of the selected consolidants, the result revealed that composite of Nano silica with Waker OH100 and TEOS were provide notable protection for the deteriorated faience.