

EVALUATION OF KEMAPOXY150 3D IN RESTORATION OF ARCHAEOLOGICAL GLASS

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Abstract

This research discusses an important topic related to the restoration of archaeological glass in museums and excavation sites, as well as in antiquities stores. Egypt abounds in many glass monuments dating back to different eras, starting from the ancient Egyptian era and the beginnings of the modern era (the era of Muhammad Ali's family). Due to the nature of the glass, that is easy to break, we often find the glass traces extracted from the excavations being in a state of fragmentation, in addition to the possibility of being exposed to breakage inside museums and archaeological stores, whether this resulted from the wrong handling of them, a mistake during the restoration, or a false display style of the glass antiques in the museum. We find that the basic restoration process in this case is represented in the assembly and completion phases, and here the primary material used in the restoration process is the adhesive material. The epoxy is the most used material in the collection and completion of the glass antiques. This research aims to identify the efficiency of the Kemapoxy150 3D epoxy material for use in restoring glass antiques, which is easily available for use in museums and archaeological sites in Egypt as it is made in Egypt. The research deals with the study of Kemapoxy150 3D in terms of identifying its physical and mechanical properties, and in terms of the result of different aging (thermal, UV, moisture). Results are evaluated by identifying the extent of color change of samples after aging by a colorimeter, as well as identifying changes in functional groups of samples after aging by analyzing the ATR infrared spectroscopy.