

ISSUES ASSOCIATED WITH ADHESIVES USED ON ARCHAEOLOGICAL POTTERY

Petronella Nel

*The Centre for Cultural Materials Conservation, The University of Melbourne, Victoria,
Australia, 3010, Email: pnel@unimelb.edu.au, Phone: +61 3 8344 0354*

We aim to preserve archaeological artefacts for future generations. Repair often involves the introduction of an adhesive to the artefact. To minimize damage incurred by the artefact during this process, the adhesive should be reversible and have good ageing properties. Over the years conservation grade adhesives, such as Paraloid B72 have been identified. The aim of this study was to identify issues associated with the use of adhesives on archaeological pottery. A three-pronged approach was used: (1) Consulting archaeologists, conservators and manufacturers; (2) Testing analysis methodologies for identifying adhesives and (3) Identifying and assessing adhesives associated with artefacts.

Consultation revealed that one product that has been used by two participants had undergone a dramatic change in 1997 from a cellulose nitrate (easily reversible with acetone) to a polyurethane-based formulation (which is susceptible to rapid deterioration and can only be removed with great difficulty). Testing of analysis methodologies on known control adhesive samples, revealed the presence of an additional resin that has been added to what is considered to be a conservation grade product since 1995. This formulation change does not appear to have been detected. Adhesive samples were obtained from three Cypriot pottery artefacts. Analysis enabled adhesive identification, which was used to assess performance on the artefacts. Photographic documentation illustrates specific issues associated with particular adhesive types.

This study demonstrated the importance of consulting relevant practitioners, monitoring formulation and identifying and assessing adhesives used in the past. This will prevent the use of formulations that do not meet conservation criteria and that do not perform as expected. For instance, a product may age prematurely, not be easily removable or damage a significant artefact. It is more cost effective to adopt a preventive approach to the preservation of archaeological pottery collections, than to obtain funding for conservation treatments, to reverse the consequences of a product that should not have been applied in the first place.