

# THE INFLUENCE OF TEMPER ON PERFORMANCE CHARACTERISTICS OF COOKING WARE CERAMICS

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Mechanical properties of archaeological ceramic vessels have long formed the core of discussion examining issues of functional requirements and the suitability of pottery for its varied uses in the past. Strength, toughness and thermal shock resistance, have all been considered with regard to minimum requirements of vessels, but our current understanding of these properties are still far from complete.

The present study assesses the influence of different parameters which are under the potter's control on the mechanical performance characteristics of cooking ware pottery. Based on the petrographic study of cooking ware pottery from Bronze Age Akrotiri, Thira in the Cycladic Islands of Greece, granitic and phyllitic tempers were chosen for the manufacture of briquettes that were subjected to material tests. Emphasis was placed on the examination of the influence of the *temper shape* (platy vs. angular) on strength, toughness and thermal properties of both calcareous and non calcareous pottery, over a range of firing temperatures. The behaviour of the material is discussed, based on the differences observed in the microstructures of the respective fabrics, which cause different mechanisms of failure.

The results of the study elucidate the significant effect of temper shape on the performance of the ceramics. Furthermore, they will be used to interpret and assess different manufacturing techniques that are observed in the production of cooking vessels during the Aegean Bronze Age.