

## **Investigation of the Effects of Clay/Sand Ratio on the Performance of Earth Plasters via Simple Field Tests**



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### **ABSTRACT**

Clay plasters are one of the oldest, renewable and essential construction materials of the civilization (humanity) history. This widespread usage of the plasters in the past is the lack of diversity of construction materials compared to present. However, recent studies showed that the usage of clay plasters have increased since their moisture balancing, breathing etc. characteristics. Main composition of the clay plaster contains natural materials such as clay, sand and water. To determine optimum rates of all these components are important. In this study, water contents of the mixture are determined with the Atterberg limits. So the water content was chosen as 36.18% according to Atterberg limits test results. The clay/sand ratio was determined with “Simple Field Tests” used for analysis of the composition of earth building materials. Also observational shrinkage analysis was performed on the brick surfaces plastered with different clay/sand compositions. As a result optimum clay/sand rate was observed between 0.43 and 1.00 by weight.

**Keywords:** Clay plasters, simple field tests, Aatterberg limits.