



Adobe construction: examination of mineralogically different clays of Austria regarding their use as construction building materials

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The aim of this project is to find out if mineralogical patterns are correlated with physical parameters such as strength tensile, fluid and shrinking limits etc. The investigation of the material shows properties and advantages of this renewable raw building material and also point out the sustainability of adobe construction. Loam was used as a traditional construction material for more than 10.000 years and nowadays the advantages of this material are used again in many different ways.

The applications of loam range from the preservation of ancient monuments and historical buildings, to sealing compounds and low-energy housing - the so-called passive house. Loam is a sustainable, renewable material that can be recycled and therefore harmonises with nature.

Loam, a fine structured material, consists of sand, silt and clay in similar proportions. Clay as the binding agent with its typical characteristics such as swelling and shrinking, the ability to regulate air humidity, as well as its typical plasticity properties, and adsorption capacity provides reasons for finding out more about this resource.

The question beyond this project is to estimate which analysis can measure the typical properties. Also examined is whether study of the mineralogical composition can reveal the physical properties.

Particle size analysis, bulk and clay mineralogy, and pH measurements on the one hand and typical geotechnical and physical examinations on the other should point out that significant mineralogical patterns influence the physical and mechanical properties.