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**Cob, a vernacular earth construction process in the context of modern sustainable building**

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**Abstract**

The will of reducing environmental and social impact of building industry has led to a renewed interest in earth construction. Most of earth construction literature dealt with rammed earth or adobe techniques, but very little with cob. Yet, cob participates in the diversity of vernacular earth construction processes that value local materials and is an alternative to rammed earth and adobe in specific geographical conditions. Conservation of cob heritage also requires a better knowledge of this vernacular construction process. This bibliographical analysis gathered extensive data on cob process and summarized the different cob process variations, attempting to take into account their diversity. This analysis allowed us to provide novel data on cob process, and more specifically, (1) a clear definition of cob with regard to other earth construction processes, (2) a first summarized description of cob process that clearly distinguished its variations, (3) a list of fibres traditionally employed, (4) values and, if possible, average and standard deviation for fibre length, fibre content, manufacture water content, drying times, lift heights and wall thicknesses, (5) a summary of the strategies to manage shrinkage cracks, (6) a criterion on the quality of implementation and/or earth for cob, based on slenderness ration of lifts and (7) a discussion on the evolution of cob process with regard to societal evolutions.

**Highlights**

- A clear definition of cob is proposed.
- A first summarized description of cob process is proposed.
- First order of magnitude of characteristics of cob process is proposed.
- A summarization of the strategies of management of shrinkage is proposed.
- A criterion on the quality of implementation and/or earth for cob is proposed.

**Key Words:** cob; vernacular; earth construction; process; sustainable building.

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