

Life time assessment of biobased insulation materials.

Sandrine MARCEAU

Université Gustave Eiffel, MAST/CPDM, 77454 Marne-la-Vallée Cedex 2, France
sandrine.marceau@univ-eiffel.fr

Abstract.

The knowledge of the lifetime of materials used in the building industry is an essential parameter to guarantee their performance to the end users and to provide reliable data for conducting their life cycle assessments. In the case of plant-based concretes, various studies have already been carried out, using accelerated ageing protocols in laboratory or collecting real data during the natural ageing of instrumented buildings.

The comparison of results obtained at several scales and during accelerated and natural ageing allows the identification of different ageing factors of materials and their degradation mechanisms.

This research allows the development of material formulations and provides recommendations on their implementation and use in order to extend their life time, reduce the environmental impact of biobased insulation materials and generalize their use.

Keywords: durability, degradation mechanisms, accelerated ageing protocol.