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Abstract

The dissertation work on the subject of "Non-metallic fibers and their influence on selected properties of fiber-cement boards" provides an overview of current developments and achievements in the field of knowledge of the fiber-cement boards especially in the Czech Republic. Types and properties of fiber-cement boards, fiber types, which reinforce these boards, as well as the function of fibers itself in the cement matrix degradation and their effects on the lifetime of boards are described in the theoretical part. The experimental part of the work is focused on the experimental research. It shows the progress of the work and it gives the summary of the outputs of experiments evaluating the effects observed on the strength of the proposed formulas for fiber-cement boards. The basic aim of the work was to find the optimum recipe of fiber-cement boards with regard to dangerous asbestos compensation. The conclusions of the dissertation work, which is based on the results of experimental measurements, can be summarized in the sense that the polyvinyl alcohol fibers are suitable as a replacement of asbestos fibers.