

## Behavior of Composite Timber-Concrete Beam with CFRP Reinforcement

**Authors :** O. Vlcek

**Abstract :** The paper deals with current issues in the research of advanced methods to increase the reliability of traditional timber structural elements. It analyses the issue of strengthening of bent timber beams, such as ceiling beams in old (historical) buildings with the additional concrete slab in combination with externally bonded fibre-reinforced polymer. The study evaluates deflection of a selected group of timber beams with concrete slab and additional CFRP reinforcement using different calculating methods and observes differences in results from different calculating methods. An elastic calculation method and evaluation with FEM analysis software were used.

**Keywords :** timber-concrete composite, strengthening, fibre-reinforced polymer, theoretical analysis

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