

Analysis of the connection of the timber-fiber concrete composite structure

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Abstract. This paper deals with an implementation of the material parameters of the connection to complex models for analysis of the timber-fiber concrete composite structures. The aim of this article is to present a possible way of idealization of the continuous contact model that approximates the actual behavior of timber-fiber reinforced concrete structures. The presented model of the connection was derived from push-out shear tests. It was approved by use of the nonlinear numerical analysis, that it can be achieved a very good compliance between results of numerical simulations and results of the experiments by a suitable choice of the material parameters of the continuous contact. Finally, an application for an analytical calculation of timber-fiber concrete composite structures is developed for the practical use in engineering praxis. The input material parameters for the analytical model was received using data from experiments.