

Evaluation of Coupled Partial Models for the Assessment of Restraint Effects in Concrete Structures

Bewertung von gekoppelten Partialmodellen für die Beurteilung von Zwangsbeanspruchungen in Betonstrukturen

Numerical simulations are common for the design process of structures and the assessment of existing buildings. In the design process, several physical phenomena are represented by partial models. These models are coupled together to predict the behavior of the observed structure. Engineers have to decide which phenomena should be considered in the structural model. This process is often made by engineering judgement. In most cases, such models include some amount of inaccuracy and incompleteness. Therefore, the integrative assessment method is established here to quantitatively evaluate the entire structural load-bearing behavior, which can significantly reduce the uncertainty in model predictions. The probability of occurrence of structural damages during lifetime can be clearly reduced.



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