

## COLLAPSE SIMULATION OF BUILDING CONSTRUCTIONS

The physical reasons for building structures destruction are both the forces arising at stress-strain state of construction elements and external influences arising at emergency situations, as well as their moments, impulses and periodic impulses with the frequencies close to of fluctuations frequencies of construction elements. We shall call the mathematical calculation models for the parameters-reasons of destructions the basic models.

The basic models of destruction of building structures elements allow not only providing necessary level of reliability and survivability of the elements and the construction as a whole already at the stage of their design, but also giving the chance, at their corresponding completion, to provide rational decisions on the general need of recovery works and their volume depending on destruction level. Especially important for rational design decisions development, which ensure the demanded constructional safety of building structures, is library creation of the basic mathematical models of standard processes of bearing elements destructions for standard construction designs for the purpose of the further forecast (assessment) of the level and probabilities of standard destructions. Some basic mathematical models of destructions processes of the standard elements of building structures are presented in the present article. A model of accounting for construction defects and a model of obtaining requirements to probabilities of partial destructions of a construction are given. Both of these models are probabilistic.

**Key words:** mathematical model, destruction of constructions, construction defects, static load, dynamic load.

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