



**KLOKNER
INSTITUTE
CTU IN PRAGUE**

Abstract

The presented work is focused on the evaluation of reliability of individual structural elements of existing reinforced concrete structures, with a special focus on industrial skeleton structures. These buildings, the oldest of which have been built at the beginning of the 20th century, were designed and built in the past according to various, now surpassed building regulations and standards. In the design preparation of necessary repairs, reconstructions and redevelopments of these structures, according to today's regulations, these have to be assessed according to currently valid standards from the system of so-called Eurocodes. Many issues result from the fact that existing buildings do not comply with many important requirements of currently valid standards.

The task of the thesis is therefore to analyze particular reinforced concrete structural elements, designed according to various historical design regulations, in the perspective of today's requirements for the reliability of load-bearing building structures and to map (at least approximately) the level of their reliability.

Marginally, the thesis involves other problems related to evaluation of existing concrete structures - the questions of commissioning and execution of structural engineering surveys, the questions of evaluation of tests of material strength carried out in the framework of structural engineering surveys and questions of checks of reinforced concrete structures.