

The Ductile Design Concept for Seismic Actions in Miscellaneous Design Codes

Author(s): Ioana Olteanu • Ioan-Petru Ciongradi • Mihaela Anechitei • M. Budescu

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Abstract text:

The concept of ductility estimates the capacity of the structural system and its components to deform prior to collapse, without a substantial loss of strength, but with an important energy amount dissipated. Consistent with the „Applied Technology Council” (ATC-34), from 1995, it was agreed that the reduction seismic response factor to decrease the design force. The purpose of this factor is to transpose the nonlinear behaviour of the structure and the energy dissipation capacity in a simplified form that can be used in the design stage. Depending on the particular structural model and the design standard the used values are different. The paper presents the characteristics of the ductility concept for the structural system. Along with this the general way of computing the reserve factor with the necessary explanations for the parameters that determine the behaviour factor are described. The purpose of this paper is to make a comparison between different international norms for the values and the distribution of the behaviour factor. The norms from the following countries are taken into consideration: the United States of America, New Zealand, Japan, Romania and the European general seismic code.

Key Words:

Ductility; reduction factor; reinforced concrete frames.

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Author(s) Information

Ioana Olteanu

Affiliation: „Gheorghe Asachi” Technical University, Jassy, Department of Structural Mechanics.

Email: ioanaolteanu@ce.tuiasi.ro

Ioan-Petru Ciongradi

Affiliation: „Gheorghe Asachi” Technical University, Jassy, Department of Structural Mechanics.

Email: ciongradi@ce.tuiasi.ro

Mihaela Anechitei

Affiliation: „Gheorghe Asachi” Technical University, Jassy, Department of Structural Mechanics.

Email: mihaelaanechitei@ce.tuiasi.ro

M. Budescu

Affiliation: „Gheorghe Asachi” Technical University, Jassy, Department of Structural Mechanics.

Email: mbudescu@ce.tuiasi.ro

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