

# A Guide to Seismic Design & Detailing of Reinforced Concrete Buildings in Australia

## Preview - A new SRIA Publication due for publication early 2015

The original 'Guide on the Seismic Detailing for Reinforced Concrete Buildings in Australia' was published in 1995 by the SRIA. There have been two revisions of AS 3600 Concrete Structures and a new version of AS 1170.4 *Structural design actions Part 4: Earthquake actions in Australia* (2007).

A new updated guide will be published by the SRIA in early 2015. This guide has been written to assist graduate engineers, practicing engineers with limited seismic experience and senior engineers seeking to refresh themselves of the current developments and practical aspects of seismic design and detailing of reinforced concrete buildings in Australia.

It is a collection of simple seismic principles, design advice and fundamentals to advise and help designers in the practice of seismic design and detailing for Australian conditions. There is no other similar document that is available to designers other than overseas texts. It has also been reviewed by a number of major consulting engineers and senior designers from Australia and their input included in the guide.

Since the original guide was published in 1995, there have been significant advances in the analysis software for buildings and earthquake design has improved through advances in research, combined with actual performance of buildings under seismic loads overseas. AS 3600 provides Australian designers with the design rules for earthquake design to meet the typically lower seismicity of Australia. Most commercial buildings in Australia are cast in situ reinforced concrete, designed and detailed in accordance with AS 3600. Complying with the Standard for regions of lower seismicity deems

the structure to have adequate ductility as a life safety measure.

Technology and reduced design times can shift the focus away from the vital reinforcement detailing phase of the project. The overall aim is to enable cost effective, simple design solutions by giving the designer the practical detailing information in order to efficiently determine the requirements for the overall structural performance under seismic loadings.

The new guide will provide an overview of the history and seismicity in Australia, the role of the Building Code of Australia (BCA) and Australian Standards in designing buildings for seismic actions.

The guide also discusses the expectation of clients and examines the lessons learnt from previous seismic events in Australia as well as high seismic events such as the Canterbury earthquakes in New Zealand.

It will show how the requirements of the current Standards can be met through the use of predominantly simple 'seismic' details and general good detailing practice and how an appreciation of structural performance under seismic loads should enable the structure to withstand the anticipated earthquake actions.

### PRE-REGISTER YOUR INTEREST

The SRIA would like to offer graduate engineers, practicing engineers, senior engineers and other interested industry professionals the opportunity to pre-register their interest in obtaining a copy of this publication. **To register, please visit [www.sria.com.au/registration](http://www.sria.com.au/registration) or complete the**



The remains of the CTV building Christchurch NZ

Photo courtesy Peter McBean/Walbridge & Gilbert

Old Newcastle Workers Club NSW - Where the carpark floor was

Photo Courtesy Cultural Collections, The University of Newcastle Australia



## SERVICES SRIA PROVIDES

**Publications:** Written by experts in design, specification and construction SRIA publications are designed specifically for use by practicing engineers, architects, builders and government. Most are provided free of charge and can be downloaded from the website.

**Technical support:** A comprehensive technical advice service is available to the construction industry on the design and use of reinforcing steel in concrete. Activities are coordinated from the National Office in Sydney where professional staff respond to technical enquiries. Further specialised support is accessible through a broad network of experts.

**Office seminars:** SRIA staff regularly visit consulting engineers, specifiers and builders to discuss industry issues, projects and to further develop knowledge on the use of steel reinforcement and construction methods. Free in-house lectures are available on request.

**Special research:** Recent SRIA research projects include reinforcement bond tests and an extensive testing program for Class L mesh slabs. This important research is bringing the latest information and design requirements to practitioners.

**Industry leadership:** SRIA staff present technical papers at major national and international conferences on the latest advances in the use of steel-reinforced concrete. Copies of SRIA papers and presentations are on the website.

**Professional development:** As part of its commitment to the future of Australia's building industry, the SRIA lectures at universities providing up-to-date design and specification materials free of charge to over 3,000 students every year.

**Awarding excellence:** The SRIA presents annual Undergraduate Award for Excellence in Reinforced Concrete Design. This is a cash prize for the student who gains the highest mark in the subject in which the SRIA lecture is delivered.

**Industry linkage:** The SRIA works collaboratively with like associations to develop areas supporting design, education and market development.

For further information the SRIA can be contacted through its national office:

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**Australian Standards:** The SRIA is committed to modern, easy-to-use design standards for steel-reinforced concrete construction in Australia. The SRIA contributes to all related Australian Standards committees. SRIA staff will assist with queries regarding the interpretation of these standards.

## SRIA REGISTRATION FORM

To keep informed of the most recent industry developments, releases and presentations on steel reinforcement and to maintain your professional development, register now for the SRIA website database. Your details will remain highly confidential and we will ensure your reinforcement knowledge remains up-to-date.

You may register online at  
[www.sria.com.au/registration.html](http://www.sria.com.au/registration.html)

or fill out your details below :

Title:  Mr  Mrs  Ms  Dr

First name: \_\_\_\_\_

Last name: \_\_\_\_\_

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Company: \_\_\_\_\_

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Phone number (work): \_\_\_\_\_

Mobile Phone number : \_\_\_\_\_

Email: \_\_\_\_\_

Tick to pre-register for the Guide to Seismic Design & Detailing of Reinforced Concrete Buildings in Australia

and email, fax or post your details to SRIA National Office:

Post: PO Box 418 Roseville NSW 2069

Fax: 02 9499 9471

Email: info@sria.com.au

### Privacy statement:

SRIA will only collect information that is necessary for communication. By submitting your contact details you agree that the measures that SRIA take with respect to privacy and the disclosure of information as expressed in the privacy statement on the SRIA website are reasonable and that you consent to the scope of the disclosure being proposed.