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Jianzhuang Xiao

# Recycled Aggregate Concrete Structures

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# Preface

The re-use and recycling of building waste have been very important in helping to realize the saving of building materials, economic and sustainable development in the building industry. In recent years, the Chinese building industry has seen revitalization in rapid growth, and it also has strengthened the requirements for reduction in Construction and Demolition Waste emissions.

This has enabled the author to conduct systematic research and make some achievements in the research on recycled concrete materials, structures and applications. This book contains the initial and advanced research achievements by the author's research group on recycled concrete materials, structures and actual applications in engineering projects. The author with a very good understanding of the Chinese building industry (including the amount of cement used in construction, the amount of construction and demolition waste) and its influence on the environment, has been searching for ways in which to tackle all these issues. The recycled concrete research has helped to solve these issues to a greater extent. The government has also been involved in editing guidelines to enable proper conduct by various parties in society, thereby having a set of rules to follow in the handling of building construction and demolition waste in general, and waste concrete in particular.

This book contains 15 chapters, which are the introduction, reclaim of waste concrete, recycled aggregates, recycled aggregate concrete, modeled recycled aggregate concrete, strength of recycled aggregate concrete, constitutive relationship of recycled aggregate concrete, long-term properties of recycled aggregate concrete, bond-slip between recycled aggregate concrete and rebars, structural behavior of recycled aggregate concrete elements, seismic performance of recycled aggregate concrete columns, seismic performance of recycled aggregate concrete structures, seismic performance of recycled aggregate concrete block structures, products and constructions with recycled aggregate concrete and lastly the guidelines for recycled aggregate concrete materials and structures.

It is the author's hope that after reading this book, not only will he/she have an understanding of recycled concrete, but will also understand the importance of its application in modern and sustainable society.

The author may have omitted some content or due to the limited knowledge on certain aspects, the readers are welcome to point out the errors they may come across in the book, and the author is hereby thankful in advance.

Shanghai, China  
May 2017

Jianzhuang Xiao

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May 2017

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## About the Author



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