

鋼骨鋼筋混凝土構造設計規範柱及接合設計之修正研擬

A Study on Column and Beam-Column Connection Design for Revision of SRC Building Design Code

主管單位：內政部建築研究所

周中哲¹
Chung-Che Chou 1

劉郁芳²
Yu-Fang Liu 2

周德光²
Te-Kuang Chow 3

黃司睿³
Szu-Jui Huang

陳蓮安³
Lien-An Chen

¹國立臺灣大學土木工程學系 教授

²國家地震工程研究中心

³國立臺灣大學土木工程學系 學士生

摘要

本研究收集鋼骨鋼筋混凝土(Steel Reinforced Concrete, SRC)柱及梁柱抗彎接頭最新國外設計規範及研究成果，再與臺灣鋼骨鋼筋混凝土規範及近年之研究進行分析比較，其中在 SRC 柱設計方面，對於混凝土強度、鋼骨強度、柱主筋間距、鋼柱寬厚比等在考慮研究及工程實務的可行性，提出設計條文建議修訂。另外鋼筋混凝土柱與鋼梁(Reinforced Concrete and Steel, RCS)之接頭已被美國及日本規範列為一種抗彎接頭，臺灣規範目前尚未有此種接頭設計方法，但學術界及實務界已有一些相關研究供參考，本研究針對 RCS 接頭整合美日規範的設計理論，再與國內外研究的成果彙整成 RCS 接頭剪力設計方法作為規範修訂參考。藉由此次國內外相關規範研究及實驗結果彙整工作，修訂 2011 年版的鋼骨鋼筋混凝土構造設計規範與解說以期更符合現今國內實務應用及國際技術發展。

ABSTRACT

The design specifications and literatures related to SRC columns and beam-column connections in the United States, Japan, and Taiwan were collected for the revision of Taiwan Design Specifications and Commentary of Steel-Reinforced-Concrete Structures. The revision recommendation will be expected to be an essential reference for design and construction of SRC structures in Taiwan. Design of Reinforced-Concrete-Column and steel beam connection (called RCS connection) has been included in the design specifications of United States and Japan. However, this connection type has not been included in Taiwan specifications. This work was focused on revision of SRC code in Taiwan. In terms of SRC column design, concrete strength, steel strength, column reinforcement spacing, and column width-to-thickness ratio are revised based on AISC 341 (2016). Integrating the design theories of U.S. and Japan, as well as the research results in Taiwan, a new section of RCS design was recommended to the updated SRC code.