

## CONSTRUCTION AND QUALITY CONTROL GUIDELINE FOR PRESTRESSED CONCRETE BUILDINGS

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### SUMMARY

#### 1. Objectives

A cooperative research project on prestressed concrete (herein after abbreviated as PC) buildings was performed from 1995 to 1998 in Japan. In this project, research on structural behavior of structural members, design concepts, and construction techniques was carried out to propose a seismic design guideline and a construction and quality control guideline for PC buildings.

The construction and quality control guideline for PC buildings was proposed with emphasis on the quality control of construction of precast PC (PCaPC) buildings. And also, the guideline was proposed with discussion on how to ensure the structural performance of buildings required by the seismic design guideline.

#### 2. Methods

This construction and quality control guideline for PC buildings consists three parts, as follows.

##### 1. Required Quality, and Construction and Quality Control Plan

The Concept of structural design of buildings is changing from a specification-based design concept to a performance-based design concept. The structural performance and quality of buildings should be determined and indicated in the structural design phase.

This part emphasizes the concept and methods to plan the structural system, construction method, and quality control process to ensure the structural performance and quality required from the structural design.

##### 2. Construction, Testing and inspection

This part describes the construction methods, and testing and inspection methods, practically to construct Pca-PC buildings. The methods are describes in detail using three models of PCa-PC buildings.

##### 3. Connection Details of PCa-PC structural members.

This part shows details, structural performance, and construction methods of typical PCa-PC structural member connection.

#### 3. Conclusion

The construction and quality control guideline for PC buildings is useful material to construct PC buildings with good structural performance and quality.

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