

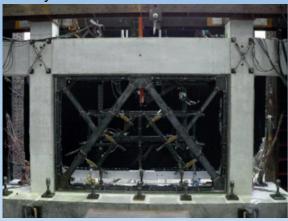
#### Seismic Retrofit Methods for Reinforced Concrete Buildings



### Seismic retrofit methods for exiting RC and SRC building, e.g., schools, apartments and offices

# Retrofit by Internal Brace Internal Direct-Joint Brace System

Retrofit method of directly jointing brace and frame by anchors to beams and columns.



- Wide opening
- · Cost reduction
- Shortened construction period

# Retrofit by External Frame External Hybrid Frame System

Retrofit method of jointing external RC or SRC frame to beams and columns.



- · Same wide opening
- · Construction with using
- Ease-of-use is not affected

#### Retrofit by Internal Brace Self-Installing Brace Method

Retrofit method of directly jointing pre-stressed precast braces to beams and columns.



- Pre-fabricated product shortens construction period
- · Noise reduction by using no anchor
- · Cost reduction

#### Retrofit for Columns and Beams

#### Application of Reinforced Sheets System

Retrofit method of wrapping carbon or aramid fiber sheets around beams or columns.



- Shortened construction period compared with Steel Wrapping Method
- · No welding and water needed
- Noise reduction as no machinery is required