

Conference Poster

Lateral load bearing characteristics of light gauge steel and lightweight concrete shear walls

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Introduction

Light Gauge Steel and Lightweight Concrete (LSLC) structure :

used lightweight concrete as structural material in composite way with cold-formed steel

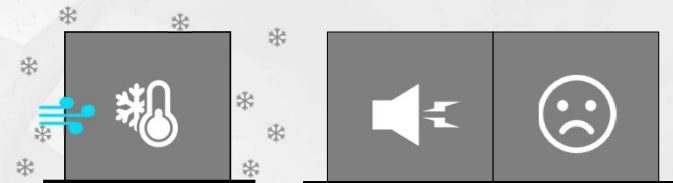
Cold-formed Steel Structure : ease of construction



Lightweight Concrete : excellent performance on thermal insulation
and sound absorption



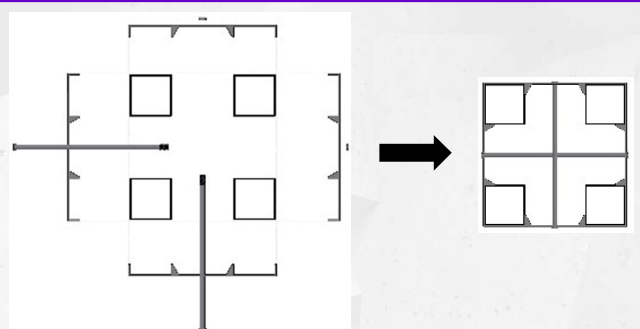
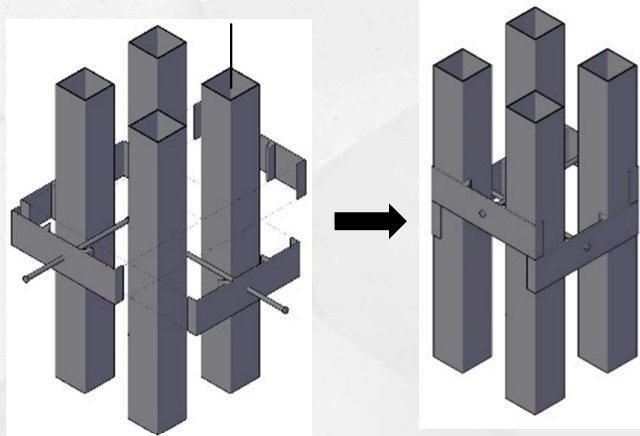
Light Gauge Steel and Lightweight Concrete Structural System



Seismic performance and lateral load bearing characteristics of LSLC shear walls are discussed based on static cyclic lateral loading test results

Configuration of LSLC shear wall

Square Steel Tubes



Installation of Batten Plates
in Lattice Column

Horizontal Braces (W-shaped Steel, Connected by Self-drilling Screws)

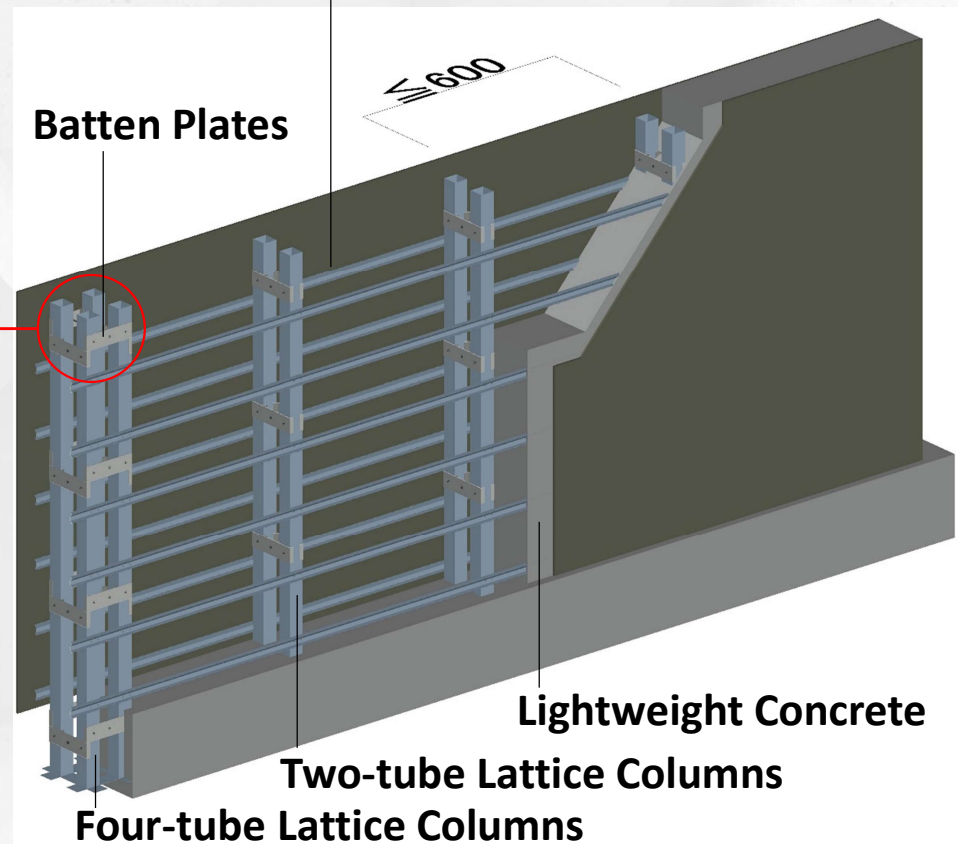
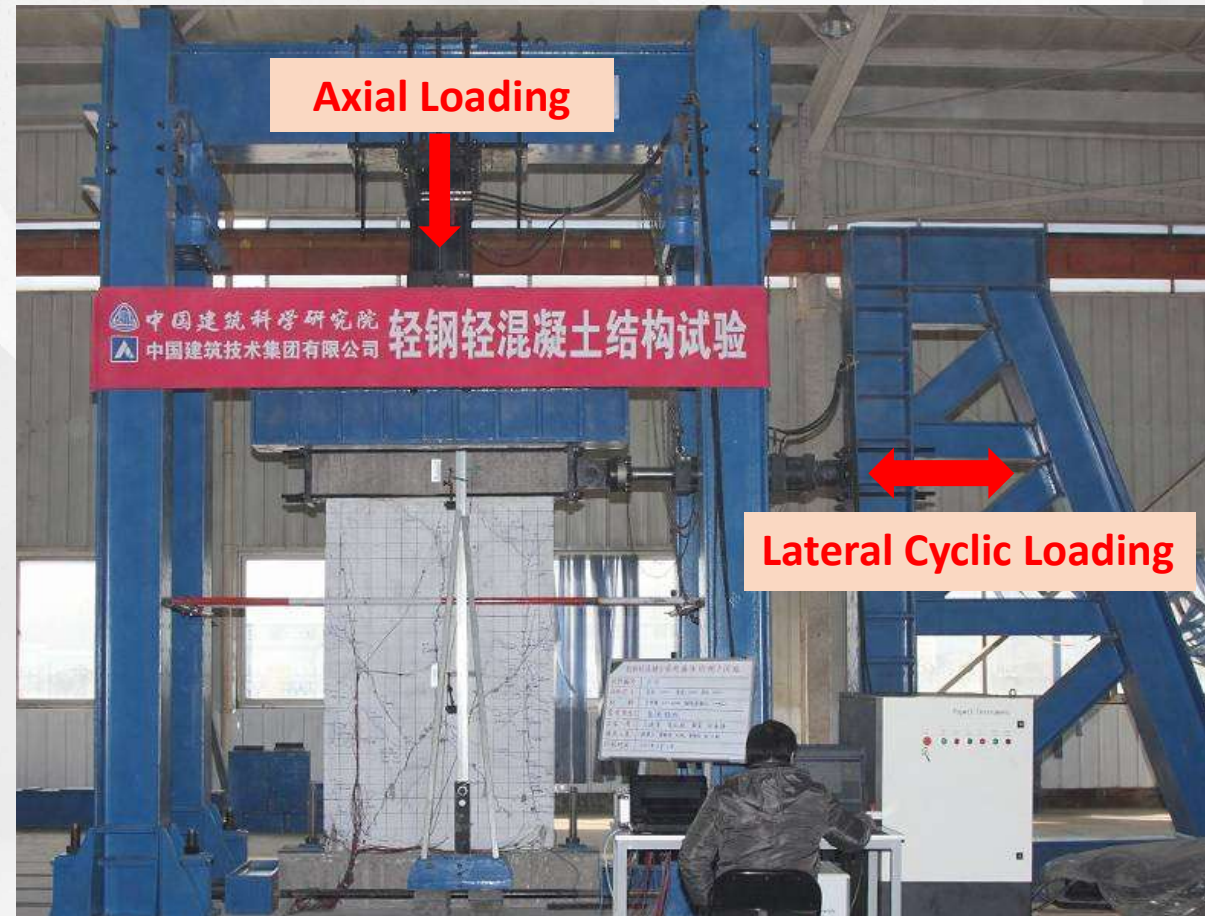
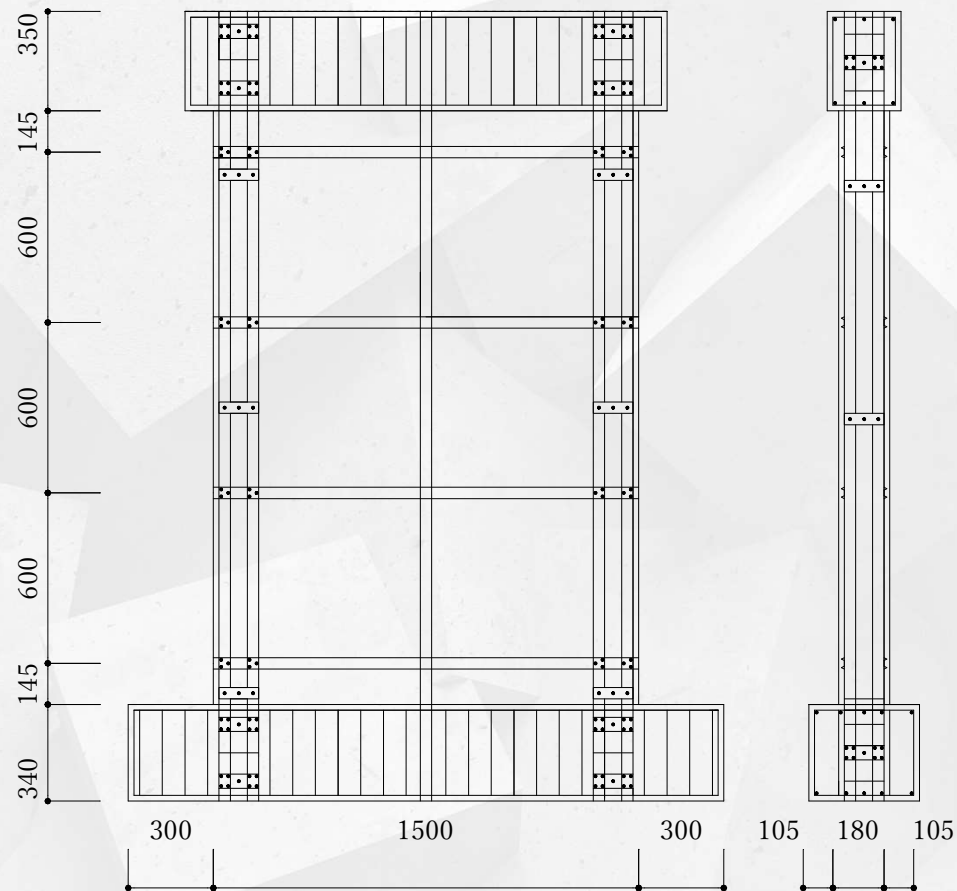
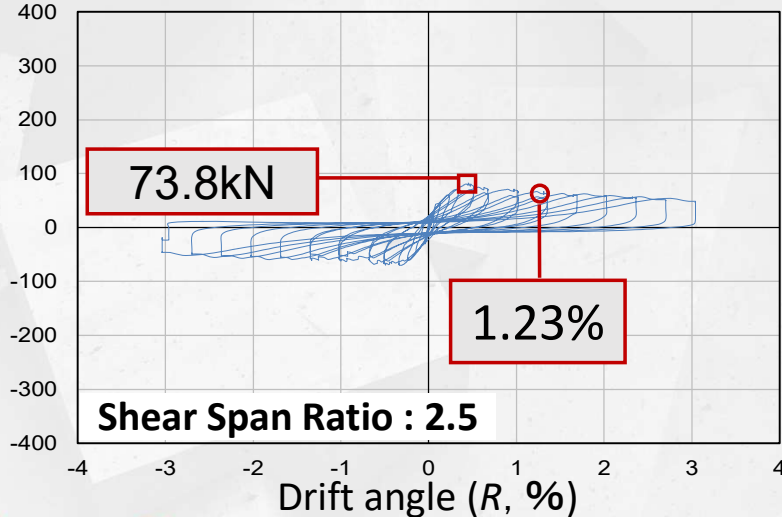
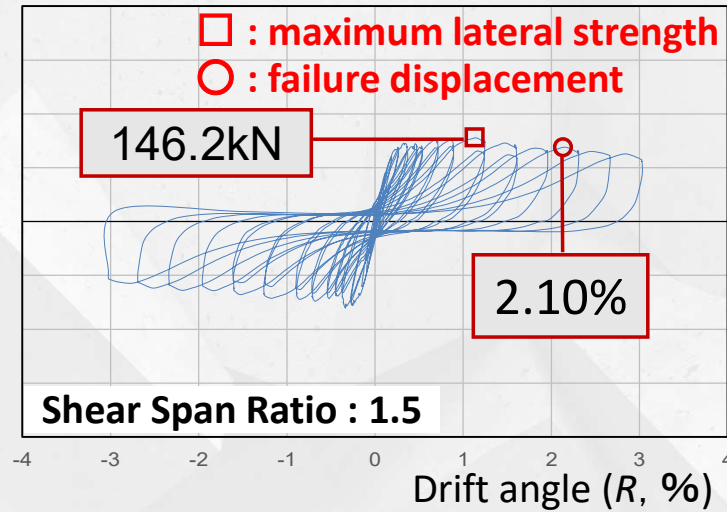
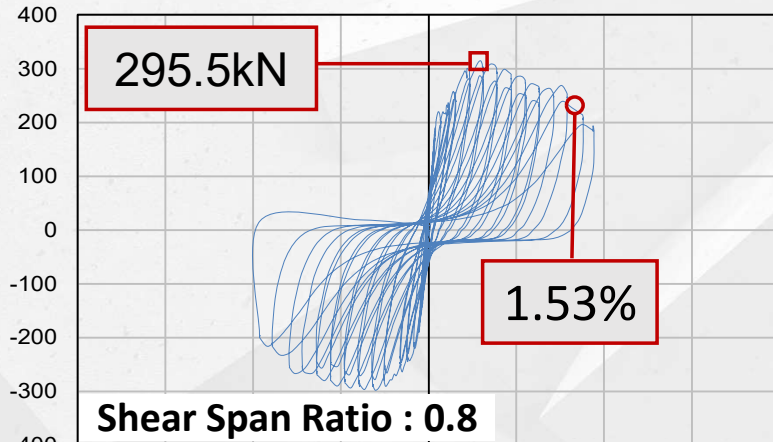


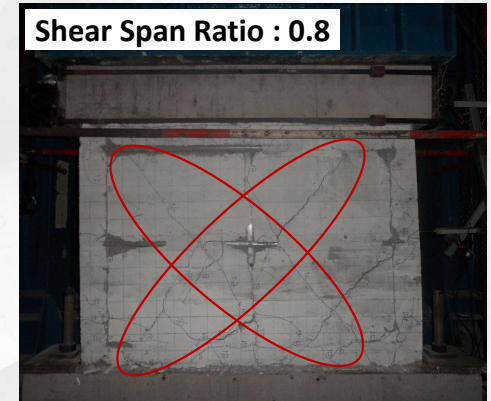
Illustration of specimen details & Test setup



Test results



Shear Span Ratio ↑
Shear Failure → Flexural Failure



Shear Span Ratio ↑
↓
Maximum Lateral Strength ↓
Failure Displacement
(difficult to determine the internal relationship)

