



## Verification of Seismic Resistant Performance of Developed Original Cross-Laminated Timber Core Structure Method by Shaking Table Experiment

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Author: Gunawan, Indra  
Moritani, K  
Isoda, Hiroshi  
Mori, Takuro  
Shinohara, M  
Noda, T  
Hosomi, R  
Kurumada, Shinsuke  
Makita, T

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### Summary:

In recent years, development of wood engineering is gradually increasing. Instead of using many wood columns, cross laminated timber is expected for constructing spacious open space building. Since cross-laminated timber has high rigidity and strength, cross-laminated timber is expected to be used as earthquake resistant wall or floor diaphragm that makes the span of building can be increased and the position of the wall can be adjusted openly. In order to optimize the performance of cross-laminated timber for open space building, original cross laminated timber core structure method was developed. In this paper, the development concept of original cross laminated timber core structure method will be explained. In this method, the joint connection for each element such as joint connection for wall-concrete foundation, wall-beam, and wall to hanging wall was also developed. The experiment to verify the strength and rigidity of each connection has been conducted and the result will be described. The shaking table experiment of 3-story open space building constructed by original cross laminated timber structure using varies earthquake waves was conducted. In this experiment natural period, shear force for each floor, story drift, and building response data is taken. The result shows the structure designed by original CLT core structure method is satisfy the requirement based on Japan cross-laminated panel structure regulation.

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