

STUDY EKSPERIMENTAL KAPASITAS *WALL PANEL* PRACETAK BETON BERTULANG BAMBU AKIBAT BEBAN TEKAN AKSIAL

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Abstrak

Panel dinding beton pracetak sebagai salah satu inovasi di dunia konstruksi sebagai bahan alternatif pengganti dinding bata. Bambu merupakan energi terbarukan yang dapat digunakan sebagai bahan alternatif tulangan beton pengganti baja. Penelitian ini bertujuan untuk mengetahui perilaku panel dinding beton praetak bertulang bambu yang dikenai beban tekan aksial merata. Metode ini menggunakan metode eksperimen yang dilakukan di laboratorium teknik sipil universitas muhammadiyah jember. Terdapat empat panel dinding beton pracetak tiga diproduksi di laboratorium dan satu dari pabrik industri lokal dengan ukuran $1200 \times 400 \times 50 \text{ mm}^3$, menggunakan jarak variasi 150 mm dan 200 mm. Hasil penelitian menyatakan bahwa panel beton bertulang bambu menunjukkan karakteristik yang mirip dengan panel beton bertulang baja produk industri lokal. Panel dinding beton bertulang bambu memiliki kapasitas beban aksial tekan 7% lebih besar dibandingkan panel dinding beton bertulang baja produk industri lokal.

Kata kunci: Bambu, Beban Aksial, dan Panel Dinding.

**EXPERIMENTAL STUDY OF THE CAPACITY OF BAMBOO
REINFORCED PRECAST CONCRETE WALL PANEL DUE TO AXIAL
COMPRESSIVE LOAD**

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Abstract

Precast concrete wall panels are one of the innovations in the world of construction as an alternative material to replace brick walls. Bamboo is a renewable energy that can be used as an alternative material for concrete reinforcement to replace steel. This research aims to determine the behavior of bamboo reinforced precast concrete wall panels that are subjected to uniform axial compressive loads. This method uses experimental methods carried out in the civil engineering laboratory at the Muhammadiyah University of Jember. There are four precast concrete wall panels, three produced in a laboratory and one from a local industrial factory with dimensions of 1200 x 400 x 50 mm³, using varying distances of 150 mm and 200 mm. The research results state that bamboo reinforced concrete panels show similar characteristics to steel reinforced concrete panels produced by local industry. Bamboo reinforced concrete wall panels have a compressive axial load capacity that is 7% greater than steel reinforced concrete wall panels produced by local industry.

Key words: Bamboo, Axial Load and Wall Panels