

## ABSTRAK

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Program Studi : Teknik Sipil  
Judul : Analisis Struktur Gedung Kayu 6 Lantai Terhadap Beban Gempa Dan Beban Angin.  
Pembimbing : Erma Desmaliana, S.T., M.T  
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Material kayu adalah salah satu bahan konstruksi yang memiliki daya tarik bagi masyarakat dari sudut pandang estetika dan arsitektur, Seiring jaman yang terus berkembang, terdapat beberapa penelitian tentang rekayasa material kayu yaitu teknik laminasi dari beberapa jenis kayu yang di buat per layer menjadi satu elemen struktur. Penelitian ini mengkaji perilaku struktur (deformasi, periode, dan frekuensi natural struktur) serta kapasitas maksimum dari jumlah lantai dari konstruksi bangunan kayu terhadap beban gempa dan beban angin menggunakan analisis program software ETABS 2018. Dari hasil perhitungan preliminary design, diperoleh dimensi elemen struktur yaitu balok ukuran 250 mm \* 500 mm, kolom ukuran 250 mm \* 250 mm. Berdasarkan hasil analisis menunjukkan bahwa gedung kayu 6 lantai (Gedung Pendidikan) telah memenuhi syarat ketahanan gempa seperti batas perioda, simpangan antar lantai ijin, dan nilai minimum ragam alami struktur.

**Kata kunci:** Struktur Kayu (Gedung Pendidikan), Gempa, Teknik Laminasi (Glulam), ETABS 2018, Respon Struktur.

## ABSTRACT

*Name* : Muhammad Nur Taufiequl Akhyar  
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*Title* : *Analysis Of The 6 Storey Wooden Building Structures Against Earthquake Loads And Wind Loads.*  
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*Wood material is one of the construction materials that appealing to the community from an aesthetic and architectural point of view. As time goes, there have been several studies on wood material engineering, namely lamination techniques from several types of wood which are made per layer into one structural element. This study examines the behavior of the structure (deformation, period, and natural frequency of the structure) as well as the maximum capacity of the number of floors of wooden building construction against earthquake loads and wind loads using the ETABS 2018 software program analysis. Based on the preliminary design, the dimensions of structural elements are 250 mm \* 500 mm, while the column size are 250 mm \* 250 mm. Based on the results of the analysis, it shows that the 6-stories wooden building (Educational Facility) has met the earthquake resistance requirements such as period limits, deviation between the permitted floors, and the minimum value of the natural variety of structures.*

**Keywords:** *Wooden Structure (Education Facility), Earthquake, Lamination techniques (Gulam), ETABS 2018, Structure Response.*