

Perilaku struktur komposit bangunan gedung kuliah terhadap respon analisa pushover = College building composite structure behavior due to pushover analysis response

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Deskripsi Lengkap: <https://lib.ui.ac.id/detail?id=20248558&lokasi=lokal>

Abstrak

Skripsi ini membahas tentang perilaku struktur bangunan gedung kuliah 9 lantai dengan menggunakan material komposit baja beton (Rectangular Hollow Section). Analisis yang digunakan adalah analisis statik nonlinier / analisis pushover, berdasarkan prinsip performance-based design. Performance-based design merupakan perencanaan berbasis performa yang dilakukan dengan menetapkan berbagai tingkat kinerja. Saat ini terdapat tiga metode evaluasi kinerja dengan analisis statik nonlinier, yaitu metode spectrum kapasitas ATC-40, metode koefisien perpindahan FEMA 356, dan metode koefisien perpindahan yang diperbaiki FEMA 440.

Penelitian ini adalah penelitian simulasi numerik dengan bantuan program komputer SAP 2000 v14.0.0. Hasil penelitian menunjukkan bahwa perencanaan berbasis kinerja dapat memberikan informasi sejauh mana suatu gempa akan mempengaruhi struktur. Dengan demikian sejak awal pemilik bangunan, perencana maupun pemakai mendapat informasi bagaimana bangunan tersebut berperilaku bila ada gempa.

This thesis discusses the behavior of a college building with nine floors using steel concrete composite material (Rectangular Hollow Section). The analysis method is a nonlinear static analysis / pushover analysis, based on the principle of performance-based design. Performance-based design is a performance-based planning is done by assigning different levels of performance. Currently there are three methods of performance evaluation by nonlinear static analysis, namely the capacity spectrum method ATC-40, FEMA 356 method transfer coefficient, and an improved method of transfer coefficient FEMA 440. This research is a numerical simulation with the aid of a computer program SAP 2000 v14.0.0. Results showed that performance-based planning can provide information on the extent to which an earthquake will affect the structure. Thus, since the beginning of building owners, planners and users get information on how to behave when there is earthquake.