

ANALISIS *PUSHOVER* PADA GEDUNG KAMPUS INSTITUT TEKNOLOGI DAN BISNIS HAJI AGUS SALIM

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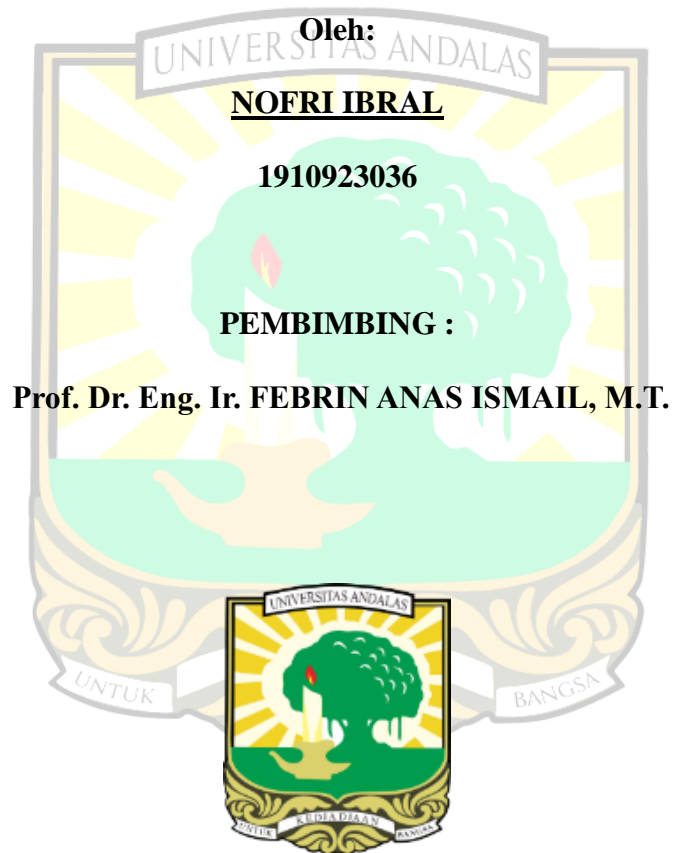
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ABSTRACT

West Sumatra Province, particularly the city of Bukittinggi, is classified as one of the earthquake-prone regions in Indonesia. This is due to its geographical position on the western coast of Sumatra, which lies in close proximity to a subduction zone — a tectonic boundary where two tectonic plates converge, often resulting in large-magnitude earthquakes. The campus building of Institut Teknologi dan Bisnis Haji Agus Salim, located in Bukittinggi, is situated within this high seismic risk area and has the potential to experience strong earthquakes. Therefore, it is necessary to evaluate the structural performance level of the building under seismic and gravity loads. The appropriate method to use is pushover analysis, following the ATC-40 guidelines, to determine the building's performance level after an earthquake event. The structural modeling and analysis were conducted using SAP2000 software. After running the simulation, the pushover curve showed a maximum displacement of 0.359856 meters in the x-x direction and 0.359988 meters in the y-y direction. Based on the maximum total drift and maximum inelastic drift values obtained, the post-earthquake structural performance level according to the ATC-40 criteria falls under the Immediate Occupancy (IO) category. This indicates that the building is considered safe during an earthquake, with minimal risk to life and structural failure, no significant damage, and can be reoccupied immediately after the seismic event.

Keywords: *pushover, SAP2000, performance level, ATC-40*

