ABSTRAK

Beams are a crucial structural element in buildings, as they are expected to carry the maximum planned loads. To ensure safety, beams must be designed to withstand compressive stresses on the upper fibers and tensile stresses on the lower fibers, in accordance with applicable SNI standards. Recently, a new standard has been introduced for building structure design: SNI 2847:2019, *Structural Concrete Requirements for Buildings*, which updates the previous version, SNI 2847:2013. Therefore, this study presents a comparative analysis of beams designed using SNI 2847:2013 and SNI 2847:2019. The analysis is software-based using SAP2000 v.14 to obtain moment forces for flexural reinforcement design and shear forces for shear reinforcement design.The changes in reinforced concrete design standards, particularly for concrete beams, have significantly evolved from SNI 2847:2013 to SNI 2847:2019. In this context, internal forces acting on concrete beams—including flexural and shear reinforcements—are the main focus. SNI 2847:2019 introduces a more comprehensive approach to internal force calculation, emphasizing structural strength and safety. Flexural reinforcement now must meet stricter criteria to ensure more efficient load distribution. Additionally, updated shear reinforcement guidelines offer clearer direction to prevent shear failure. Thus, a thorough understanding of these changes is essential for engineers and construction professionals to ensure that project design and implementation meet required safety and performance standards. The comparative analysis showed that for flexural reinforcement, under seismic load combinations from SNI 1726:2012, there was no difference in the midspan area, but a 67% increase at the support area due to higher tensile force in the beam section, requiring additional reinforcement to achieve optimal concrete and steel strength. Under SNI 1726:2019 load combinations, again no difference was found in the midspan, but a 100% increase at the support area was observed for the same reason. As for shear reinforcement, while there was no difference in the total reinforcement area, a 41% difference in reinforcement spacing was noted to prevent concrete cracking near the beam ends close to the supports.

Keywords : Standard Changes, Internal Forces, SNI 2847:2013, SNI 2847:2019, Flexural Reinforcement, Shear Reinforcement.