

**THE EFFECT OF LONGITUDINAL REINFORCEMENT  
RATIO ON SHEAR CAPACITY OF REINFORCED  
CONCRETE BEAMS ROTATED 45 DEGREES**

**UNDERGRADUATE THESIS**

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# THE EFFECT OF LONGITUDINAL REINFORCEMENT RATIO ON SHEAR CAPACITY OF REINFORCED CONCRETE BEAMS ROTATED 45 DEGREES

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## ABSTRACT

The objective of this research is to determine the effect of longitudinal reinforcement ratio on shear capacity of reinforced concrete beams with a square section that rotated 45 degrees. Through this research, it is expected to be able to provide some new references about biaxial conditions and the effects on shear capacity of reinforced concrete beams. The research method used in this research is experimental study. An experimental study is a method to obtain the data from specimens based on an experiment. The data obtained will be studied for the research. This research presents the results of six specimens, three specimens rotated with a total angle of 45 degrees and the results obtained compared with three specimens tested without rotation. The possibility of a biaxial force in a reinforced concrete beam makes the biaxial force must be considered either in shear failure or in bending failure.

**Keywords:** *biaxial loads, experimental study, reinforced concrete beams, shear capacity, flexural capacity*