

Worachet Pimthaweeapol 2007: Behavior of Confined Column under Uni-Axial Loading by Welded Wire Reinforcement. Master of Engineering (Civil Engineering). Major Field: Civil Engineering, Department of Civil Engineering. Thesis Advisor: Associate Professor Trakool Aramraks, Ph.D. 75 pages.

The objective of this study was to investigate the behavior of confined column under uni-axial loading by welded wire reinforcement (WWR) as transverse tie reinforcement. The results were compared to conventional round bar where volumetric ratios of transverse reinforcement were equal. The varied parameters of test column specimens were the spacing of tie reinforcement and volumetric ratio using different size of round bar and WWR while keeping the same cross section, slenderness ratio for all specimens.

Five types of column specimens classified as two types using tie round bar (RB) and three types using tie welded wire reinforcement (CDR) were tested and compared with the column specimen without tie bar. The test result showed that the strength of CDR columns were the same as the strength of RB columns when their volumetric ratio were equal. The strength of RB and CDR columns increased when the spacing of tie reinforcement decreased. It was found that the test results were greater than theoretical results approximately 6.1%. It was concluded that the confined column's theory could be used to calculate the capacity of confined column by welded wire reinforcement.

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