Method for Calculating of the Design Shear Capacity of Reinforced Concrete Members with Continuity of Ratio of Shear-span to Effective Depth

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The safety of RC structures for shear force is verified by confirming that the shear force does not reach the design shear capacities (V_{yd} , V_{dd}). V_{yd} and V_{dd} are determined on the basis of experimental results and are expressed as a function of the ratio of shear span to effective depth (a/d). Therefore, there may be a significant difference between V_{yd} and V_{dd} at a/d = 2.0 in the case of RC beams with larger shear reinforcement ratios. This is due to the fact that the contribution of large amounts of stirrups to the shear capacity of RC beams has not been clarified. Based on experimental results, this research has investigated the contribution of stirrups and load plates to the shear capacity of rectangular cross section RC beams. Finally, a method for calculating the design shear capacity of RC beams with continuity of a/d has been proposed.