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KORBIN MALDONADO

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 A theoretical study was performed to investigate the punching shear strength of interior slab-column connections made of steel fiber reinforced concrete (FRC). In the steel FRC slab-column connection, the shear force applied to the critical section is resisted by both the compression zone and the tension zone at the critical section. Punching shear strength of interior concrete slab-column ... As the name suggest punching shear is the mode of failure that occurs when a column or compression member

'punches through' a flat member such as slab. This is a particularly a big problem in the post tension slab, column footings, flat plates and flat slabs. The punching shear is a type of two-way shear. Punching Shear | How to design against Punching Shear ... In this paper, punching shear strengthening of flat slabs using Carbon Fiber Reinforced Polymer (CFRP) sheets is studied. Fifteen specimens of reinforced concrete slabs were tested. Thirteen of them were strengthened by CFRP sheets and two specimens were kept as control specimens. Punching shear strength of interior slab-column ... A method to evaluate the punching shear strength of reinforced concrete (RC) flat slabs without shear reinforcement at the connection to interior columns is

proposed. The method is based on the assumption that the punching shear strength is controlled by the inclination of a unique punching shear crack that produces a conical failure surface. Punching shear strength of RC flat slabs at interior ... A theoretical study was performed to investigate the punching shear strength of interior slab-column connections made of steel fiber reinforced concrete (FRC). In the steel FRC slab-column connection, the shear force applied to the critical section is resisted by both the compression zone and the tension zone at the critical section. Punching shear strength of interior concrete slab-column ... The purpose of this paper is to demonstrate that the shear design of slabs according to the relevant Canadian CSA A23.3-94 (and U.S. ACI 318-95) design codes can be unsafe under certain conditions, and to propose improved design equations, some of which should be considered immediately for implementation in the Canadian CSA code. Critical review of the CSA A23.3-94 punching shear ... Perform the two-way (punching) shear calculations around the exterior and interior circular columns supporting a two-way flat plate concrete slab. These calculations are widely published in text books for square and rectangular shapes but rarely are discussed in detail for circular columns or column capitals. concrete circular column punching shear For an interior punching shear perimeter this will always be $L/2$ or $L/2$. For edge and corner cases this value is calculated as the moment of area of the shear perimeter/area of the sides. Note: For further discussion and equations refer to Chapter 13-8 of the Reinforced Concrete Mechanics and Design textbook by MacGregor & Wight. Punching Shear - Design Rational

models and design formulas for punching shear, or two-way shear, are based on the results of experimental tests performed mostly on thin slabs ($d = 0.1$ to 0.2 m [4 to 8 in.]). Design codes, however, are generally also applicable to thick slabs and footings (0.4 m [16 in.] and more). Punching Shear Strength of Reinforced Concrete Slabs ... however recommends that due to the empirical nature of its formula, punching shear check should be performed independently for moments about each of the principal axis¹. For a critical section with dimension of b_1 and b_2 and average depth of d , A , l , c , γ and M_u are: 1. Interior column: $A = 2(b_1 + b_2) d$ $2 c = b_1$. Punching shear stress check and reinforcement design based ... For concentric loading, the punching shear capacity, P_u , is (1) $P_u = v_c b_o d$ where v_c is the concrete shear strength at the critical shear plane, b_o is the critical shear perimeter and d is the average effective slab depth. Effect of mid-thickness rebar mesh on the behavior and ... Prediction of punching shear strength of HSC interior slab-column connections Article (PDF Available) in KSCCE Journal of Civil Engineering 17(2) · March 2013 with 957 Reads How we measure 'reads' Prediction of punching shear strength of HSC interior slab ... Critical review of the CSA A23.3-94 punching shear strength provisions for interior columns Article in Canadian Journal of Civil Engineering 23(5):998-1011 · February 2011 with 334 Reads Critical review of the CSA A23.3-94 punching shear ... This study presents a new design formula for estimation of the punching shear capacity of interior fiber reinforced polymer (FRP) reinforced slab-column connections that were developed based on ... (PDF) A NEW PUNCHING SHEAR

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