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BEHAVIOR OF HOLLOW I-BEAMS REACTIVE POWDER CONCRETE WITH OPENING FOR PURE TORQUE

ALI SABAH AHMED ALAMLI[1] & SARMAD HAITHAM ABDULAMEER[2]

[1]*Assistant Professor, Civil Engineering Department, AlMustansiriyah Engineering College, Almustansiriyah University, Baghdad, Iraq*

[2]*M.Sc. Student, Civil Engineering Department, AlMustansiriyah Engineering College, Almustansiriyah University, Baghdad, Iraq*

ABSTRACT

A series of nine, I section reinforced concrete hollow beams, by use of Reactive Powder Concrete (RPC), with square and circular web opening. The geometry and main reinforcement of all specimens are same, and was investigated under the effect of pure torsion. The main parameters taking into account, in present paper are hollow beam size, the location of hollow opening geometry and opening size. The torque caused the first crack, that was recorded and the angle of twist generated from this torque, was calculated for different parameters mentioned above. The results indicated that, the crack torques for a first crack decrease in presence of hollow and opening, and the crack torques decrease when the size of hollow and opening increased.

KEYWORDS: Torque, RPC, Hollow Beams, Hollow Beams with Web Opening & I- Section

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