ANALYSIS ABILITY of OVERREINFORCED CONCRETE BEAM WHICH REPAIRED WITH EPOXY INJECTION METHOD

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Abstract

At reinforced concrete structure, overreinforced condition used many for the element of structure which detaining axial and flexure load, at this condition have larger power ones but this condition cause destruction of beam later then bars avalanche. To prevent undesirable things require to be repair to crack beam before the happening of ruination of beam so ability of beam in shouldering moment return like initiality.

Examination of experimental conducted to beam of overreinforced condition with variation of concrete quality (fc') 25, 30, 35 MPa and each quality of concrete made by three beam. Counted 2 beam from each concrete quality tested to flexure with third point loading test happened is crack. good crack happened that crack flex and also shear crack to be repaired with epoxy injection method.

Result of experimental examination indicated that happened the ductility of beam increase by 13,33% for fc' = 25 MPa, 42,31% for fc' = 30 MPa, and 25,95% for fc' = 35 MPa. Besides addition of increase ductility, repair with epoxy injection method also cause the increasing of dissipation energy of beam. Beam with quality of concrete (fc') = 25 MPa its dissipation energy mount equal to 29,223%, fc' = 30 MPa mount equal to 52,21% and fc' = 35 MPa equal to 84,15%.

Keyword : crack, overreinforced concrete, epoxy injection, ductility, dissipation energy.