

Diagonal Crack Width of RC Members with High Strength Materials

Authors : J. Y. Lee, H. S. Lim, S. H. Yoon

Abstract : This paper presents an analysis of the diagonal crack widths of RC members with various types of materials by simulating a compatibility-aided truss model. The analytical results indicated that the diagonal crack width was influenced by not only the shear reinforcement ratio but also the yield strength of shear reinforcement and the compressive strength of concrete. The yield strength of shear reinforcement and the compressive strength of concrete decreased the diagonal shear crack width of RC members for the same shear force because of the change of shear failure modes. However, regarding the maximum shear crack width at shear failure, the shear crack width of the beam with high strength materials was greater than that of the beam with normal strength materials.

Keywords : diagonal crack width, high strength stirrups, high strength concrete, RC members, shear behavior

Conference Title : ICCME 2016 : International Conference on Civil and Materials Engineering

Conference Location : Paris, France

Conference Dates : July 25-26, 2016