

SHEAR STRENGTH OF FULL SIZE HIGH STRENGTH CONCRETE BEAMS

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ABSTRACT

Eighteen high strength full size concrete beams were tested under shear. The concretes used had nominal compressive strengths of 10,000 and 12,500 psi. The other design variables were shear span to depth ratio (a/d) and nominal shear reinforcement (v_s). The shear span to depth ratio (a/d) for nine beams each was 3, 4, and 5. The nominal shear steel provided (v_s) was varied from 50 to 120 psi. The analysis of the data from test suggests that the minimum amount of shear steel required increases with an increase in the concrete compressive strength. But it was also observed that a sudden increase in the amount of shear steel as specified by the ACI-318-89 from 50 psi to 100 psi for concrete with f'_c of 10,000 psi is not necessary. Instead a smooth transition shall be adopted.

