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An Investigation on Ultrasonic Pulse Velocity of Hybrid Fiber Reinforced Concretes

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Abstract : Because of the easy applying and not costing too much, ultrasonic pulse velocity (UPV) is one of the most used non-destructive techniques to determine concrete characteristics along with impact-echo, Schmidt rebound hammer (SRH) and pulse-echo. This article investigates the relationship between UPV and compressive strength of hybrid fiber reinforced concretes. Water/cement ratio (w/c) was kept at 0.4 for all concrete mixes. Compressive strength of concrete was targeted at 35 MPa. UPV testing and compressive strength tests were carried out at the curing age of 28 days. The UPV of concrete containing steel fibers has been found to be higher than plain concrete for all the testing groups. It is decided that there is not a certain relationship between fiber addition and strength.

Keywords : ultrasonic pulse velocity, hybrid fiber, compressive strength, fiber
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