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CAPILLARITY OF CONCRETE INCORPORATING FOUNDRY SAND AS REPLACEMENT OF SAND

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ABSTRACT This paper presents the results of experimental research into concrete produced by replacing the natural aggregates with recycled aggregates coming from foundry industries. Little work has been done so far on the effect of used foundry sand on the durability of concrete especially water absorption. The main aim of this work was to determine capillary water absorption and methods of improvement. Capillary water absorption, compressive strength and ultrasonic pulse velocity at 28 days of curing were reported in this investigation. The natural was replaced with 0%, 30%, 60% and 100% with foundry sand. Coarse natural aggregate was used in all cases and the amount of cement and W/C ratio of 0.5 remained constant in the all mixes. There was an increase in capillary water absorption (C.W.A), a decrease in compressive strength and ultrasonic pulse velocity (U.P.V) with the increase in used foundry sand content in concrete.