

Development of Combined Cure Type for Rigid Pavement with Reactive Powder Concrete

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Abstract : In this study, fiberless reactive powder concrete (RPC) was produced with high pressure and flexural strength. C30/37 concrete was chosen as the control sample. In this study, 9 different cure types were applied to fiberless RPC. the most suitable combined cure type was selected according to the pressure and flexure strength. Pressure and flexural strength tests were applied to these samples after curing. As a result of the study, the combined cure type with the highest pressure resistance was obtained. The highest pressure resistance was achieved with consecutive standard water cure at 20 °C for 7 days – hot water cure at 90 °C for 2 days - drying oven cure at 180 °C for 2 days. As a result of the study, the highest pressure resistance of fiberless RPC was found as 123 MPa with water cure at 20 °C for 7 days - hot water cure at 90 °C for 2 days - drying oven cure at 180 °C for 2 days; and the highest flexural resistance was found as 8.37 MPa for the same combined cure type.

Keywords : combined cure, flexural test, reactive powder concrete (RPC), rigid pavement, pressure test

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