

Influence of Coal Fly Ash Class C Alkaline Hydrothermal Activation on Belite Cement Hydration. Surface Area and Microporosity Study

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Belite cements are being synthesized in our laboratory by using coal fly ash class F or C as secondary raw materials. The fabrication process is based on the hydrothermal – calcination route, by which cement precursors are obtained from hydrothermal activation of fly ash at 200°C. In this work, the influence of fly ash class C alkaline hydrothermal activation on the belite cement characteristics is presented. The hydration was followed during 180 days at 21°C by means of specific surface area and pore volume distribution measurements according to the BET-N₂ method. The results were compared with those obtained from hydration of equivalent fly ash belite cement whose precursors were synthesized from hydrothermal water activation instead of alkaline activation.