

# Study on the activation of calcined kaolin

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Abstract

Calcined temperature is a key factor to the activity of metakaolin. Structure characteristics and alkali activation of kaolin and its calcined products at different temperatures were analyzed by X-ray diffraction (XRD), nuclear magnetic resonance (NMR), infrared spectrometry (IR) and isothermal calorimetry. The results show that the activity of kaolin calcined at 900°C is best. The characteristic absorption peak of kaolin disappears, a large amount of Al atoms convert from 6-coordination to 5-coordination; some characteristic vibration peaks of kaolin disappear while characteristic absorption peaks of metakaolin appear; There is much heat evolution after mixing it with alkali and the compressive strength is the highest. The strength of samples cured at 80°C for 3 days and 7 days reaches 33.8 and 35.3 MPa respectively.