

# Preparation of calcium silicate whisker with coal combustion fly ash and carbide Slag

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**Abstract:** Coal combustion fly ash and carbide slag are important pollutants, in this paper, calcium silicate whisker was prepared by dynamic hydrothermal method using coal combustion fly ash and carbide slag. Effects of reaction temperature, time, ratio of water and solid on the whisker were discussed. Morphology and structure of calcium silicate whisker were characterized by XRD and SEM. By experiment, it is clear that hydrothermal reaction with industrial products should be performed at 250 °C for 30~50 h. Water solid ratio should be controlled in 40:1 and the optimum reaction concentration should be controlled in 0.05 mol/L. This paper provides a reference for utilization of industrial waste

**Keywords:** coal combustion fly ash; carbide slag; calcium silicate; whisker