



STUDY OF THE DRY FLUE GAS DESULPHURIZATION BY CALCINED LIMESTONE

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Abstract

Experimental thermogravimetric measurements, employing a CAHN TG- 121 system, have been performed on the reaction of sulfur dioxide and oxygen with calcined limestone. The conversions versus time of calcined limestone, ranging in particle size from 25 to 900 μm , were measured over the temperature range 973- 1173 K and a gas rate of 0.0230 to 0.0277 m/s. On the basis of experimental data, using the unreacted core model, the kinetic parameters have been identified and the kinetic regimes evaluated. Although the external mass transfer had no influence, the internal diffusion resistance could not be avoided even with the particles as small as 25 μm in diameter.

Keywords: thermobalance, kinetic curves, grain model, kinetic coefficients

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