

Abstract: The effect of operating conditions on the early breaking index of agglomeration in fluidized bed was studied. Coarse particle size, which has the same density but larger diameter than the test material, was used to simulate the initial agglomerated particle. Weight distribution was used to analyse the pressure fluctuation of the tested bed, and the average amplitude of local density frequency (LDF) and local peak weighted average frequency (LPWF) under different operating conditions were measured and compared. The results showed that the LDF is sensitive to the agglomeration phenomena and had quick response to the incipient agglomeration in fluidized beds. It can be concluded from the results that three key parameters could be taken as the characteristics indexes to the early breaking index of agglomeration.

Keywords: fluidized bed; weight distribution; local density frequency; local peak weighted average frequency

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Received 10 January 2001; accepted 10 April 2002

Revised Received Online Accepted

Editorial handling: S. M. Saito (Japan), G. C. Corlett (UK)

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