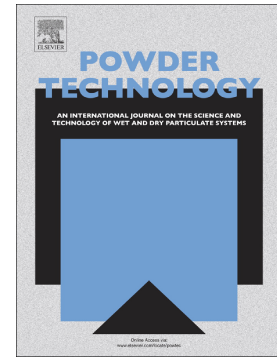


Accepted Manuscript

A model for solid surface viscosity of iron powders at high temperature: Influence of particle size distribution

Yiwei Zhong, Jintao Gao, Zhancheng Guo



PII: S0032-5910(18)30408-X
DOI: [doi:10.1016/j.powtec.2018.05.038](https://doi.org/10.1016/j.powtec.2018.05.038)
Reference: PTEC 13411
To appear in: *Powder Technology*
Received date: 5 March 2018
Revised date: 16 May 2018
Accepted date: 17 May 2018

Please cite this article as: Yiwei Zhong, Jintao Gao, Zhancheng Guo , A model for solid surface viscosity of iron powders at high temperature: Influence of particle size distribution. The address for the corresponding author was captured as affiliation for all authors. Please check if appropriate. Ptec(2017), doi:[10.1016/j.powtec.2018.05.038](https://doi.org/10.1016/j.powtec.2018.05.038)

This is a PDF file of an unedited manuscript that has been accepted for publication. As a service to our customers we are providing this early version of the manuscript. The manuscript will undergo copyediting, typesetting, and review of the resulting proof before it is published in its final form. Please note that during the production process errors may be discovered which could affect the content, and all legal disclaimers that apply to the journal pertain.

A Model for Solid Surface Viscosity of Iron Powders at High Temperature: Influence of Particle Size Distribution

Yiwei Zhong^{1*}, Jintao Gao¹, Zhancheng Guo¹

1. State Key Laboratory of Advanced Metallurgy, University of Science and Technology Beijing, Beijing 100083, P. R. China.

Yiwei Zhong: Corresponding author, ywzhong@ustb.edu.cn

Abstract

The stickiness of bed material was highly relevant to agglomeration/defluidization in fluidized-bed reduction of iron ore. In this paper, a quantitative model was developed to associate solid surface viscosity (particle adhesion) of a granular group with particle size distribution (PSD) function. The calculation was focused on the sintering behavior of particles with different sizes. This model explained theoretically the dependence of particle adhesion on PSD parameters and thus can be used as a reference to select the particle composition of bed materials for fluidization reduction of iron ore.

Keywords: Metal powder; Fluidized bed; Agglomeration; Particle size distribution; Solid surface viscosity; Modeling

Download English Version:

<https://daneshyari.com/en/article/6674564>

Download Persian Version:

<https://daneshyari.com/article/6674564>

[Daneshyari.com](https://daneshyari.com)