Abstract

This paper presents the design parameters for conical hopper, using MS Excel Add-in for hopper design, in the popular range of the wall friction angles for ten food powders in common use, and also correlates these parameters with the physical/flow properties of the powders. The design parameters are the opening diameter, critical applied stress, semi-included angle and the flow factor. The physical properties and direct shear test data of the ten food powders served as input parameters for computer based procedure developed for hopper design. The numerical results and correlations obtained are shown to be sufficiently accurate for engineering practice. They will enhance the efficient design of conical hoppers for these food powders.

References

- Kaye, B. H. 1997 "Characterizing the flowability of a powder using the concepts of
Conical Hopper Design Parameters for Selected Food Powders using MS Excel Add-in

fractal geometry and chaos theory; Particle and Particle System Characterisation 14, 53 – 66.


Index Terms

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Keywords
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