Amgen Seminar Series in Chemical Engineering

in

Cherry Auditorium, Kirk Hall, 1 PM

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Common Powder Flow Characterization Methods vs. Brookfield's Powder Flow Tester and Shear Cell Technology

By

Vincent Hebert
Brookfield Engineering
Middleboro, MA

Powder flow properties have been characterized for many years using common methods such as Angle of Repose, the Carr Index and Hausner Ratio. These methods have been around for many years and numerous companies, including pharmaceutical companies, manufacturing powders or utilizing gravity feed systems have used these subjective methods to characterize their powders for flow. These common methods in industry will be reviewed and compared to shear cell technology.

Shear cell technology gives definitive test results on powder and defines them for flow. A brief discussion of shear cell technology and data results using Mohr circle analysis will be reviewed. Brookfield Engineering's Powder Flow Tester is one such instrument that utilizes shear cell technology. Brookfield Engineering, in conjunction with the Wolfson Center at the University of Greenwich, developed this automated Powder Flow Tester. This instrument gives defined, repeatable measurements on necessary flow parameters such as Flow Function, Bulk Density, Internal Friction Angle, Arching Dimension and Rat-Hole Diameter.

These parameters, and others, will be reviewed and discussed for use in characterizing bulk solids and pharmaceutical powders for flow characteristics. A review of bulk density measurements and how this relates to tablet and capsule manufacturing for the pharmaceutical industry will be discussed.

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