

POWDER RHEOMETRY

FREEMAN TECHNOLOGY FT4 POWDER RHEOMETER

Powder rheometer is used to characterise the rheology, or flow properties, of powders. In addition to the patented dynamic methodology, where a powder's resistance to flow is measured whilst the powder is in motion, the FT4 also includes a shear cell for measuring the powder's shear strength, a wall friction kit to quantify how the powder shears against the wall of the process equipment (in accordance with ASTM Standard D7891), and also accessories for measuring bulk properties, such as density, compressibility and permeability. Due to the fact that powder flow properties are complex and cannot be quantified by a single number, flowability must be considered in relation to the conditions imposed by the process and application.

ACQUIRED INFORMATION

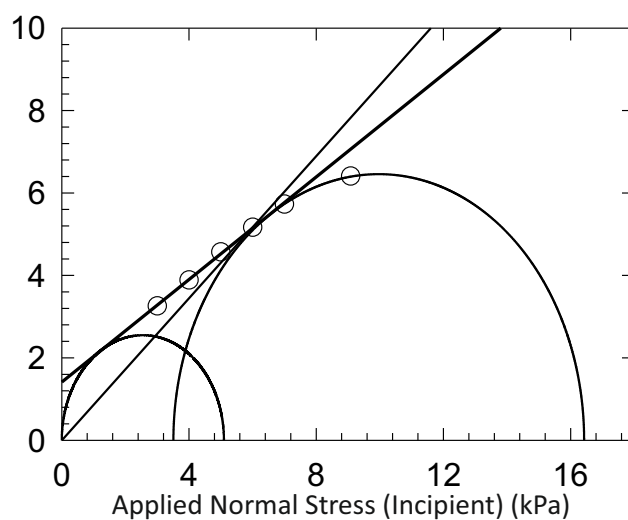
- > Basic Flowability Energy
- > Specific Energy
- > Stability ratio
- > Major Principle Stress
- > Unconfined Yield Strength
- > Flow Function
- > Wall Friction Angle
- > Automated hopper design
- > Density
- > Compressibility
- > Permeability

SAMPLE TYPES

- > Powder or granular materials
- > Powdered nanomaterials
- > Pharmaceutical materials (API substances etc.)
- > Inorganic, organic, biopolymer, synthetic polymer and mineral bases
- > Food materials (powdered milk, grains, and crisps)

MODES, CONDITIONS AND PRECISION

- > Forced (or confined) flow measurements
- > Low stress (unconfined) flow measurements
- > Shear cell testing
- > Wall friction tests
- > External variables include consolidation, aeration, flow (shear) rate, moisture, electrostatic charge, storage time
- > Measurements are performed at the laboratory temperature conditions



Yield locus and Mohr's circles of studied biopolymer powder.

DETAILED INFORMATION ON REQUEST



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**Palacký University
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