
Particle Size

Material Flow Solutions, Inc.



Particle Size. Particle size is an important parameter that can be used for product and process design scale up. It is measured by optical techniques, laser diffraction, sieving, settlement and electro-sensing methods. Often particle size distribution is the primary factor in understanding how a bulk material will segregate, blend, dissolve, and fluidize. It is one of the process variables that engineers have moderately good control over. It is related to bulk unconfined yield strength and can be used to predict cohesive flow properties if the structure and surface characteristics of a

particle assembly are known. Thus, we can predict cohesive flow problems with knowledge of particle size distribution, moisture content, particle surface energies, and shape changes. Our particle analysis method also allows us to characterize particle shape and bulk granularity. These techniques can be extended to look at the structure of individual particles or agglomerates and determine if the agglomerate structure is robust. Particle size is the key parameter used to determine the attrition in a process or characteristics of a particular material.

At Material Flow Solutions, Inc. we measure material particle size with both standard and proprietary optical methods in order to recommend optimal process parameters so your product will be what you want it to be.

PRACTICAL APPLICATIONS of *Particle sizing* include, but are not limited to:

- ✿ Estimating particle attrition
- ✿ Estimating particle segregation
- ✿ Estimating flow rate problems
- ✿ Predicting bulk cohesive effects
- ✿ Characterizing particle shape
- ✿ Characterizing particle size
- ✿ Understanding dissolution rates
- ✿ Understanding agglomerate strength