

## Effects of Particles and Particle-Liquid Systems Properties on Filter Aid Permeability

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Filter aids are powdered materials used as precoat/body feed to improve filtration rate and filtrate quality in various solid liquid cake filtration applications. Filter aid products are normally characterized and specified by their physical, chemical, and filtration properties including particle size, particle shape, bulk density, porous structure, pH, chemical composition, permeability, cake density and % specific micron particles removal, etc. Permeability is an important specification of a filter aid product, and is affected by various properties of the filter aid particles and particle-liquid suspension system. In this paper, permeabilities of over 20 grades of different types of filter aid products including Rice Hull Ash, Diatomaceous Earth, and Perlite were obtained by a standard filter aid permeability testing method. Effects of particle size, particle size distribution, bulk density, pH and zeta potential (via streaming current measurement) of the particle-liquid system on filter aid cake permeability were investigated.