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White Paper

Research on Particles at the Department of Chemical Engineering at the University of Sydney

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On-going research into the flow and frictional properties of granular materials, beginning with the successful application of soil mechanics to the behaviour of powders under the action of blades [1, 2 3 4, 5, 6].

Tests on a large number of different shear cells with the result of having discovered some fundamental differences among the results of various types. One of the cells the J e n i ke flow factor tester has been used to solve industrial flow problems. The Electricity Commission of New South Wales has donated the largest annular shear cell in the world while the Hosokawa Micromeritics Laboratory Japan kindly provided a Powder Characteristics Tester for evaluation [7, 8 9].

Work has been initiated on the segregation of particles in bins including a successful theory to correlate such behaviour [10, 11]. This study is continuing.