

Papers related to the application of Ring Shear Testers RST-01.pc or RST-XS/s

If you know a paper that should be included here, please be so kind and keep us informed. Thank you.

Papers are listed in random order.

- [1] Tissen C, Woertz K, Breitreutz J, Kleinebudde P (2011) Development of mini-tablets with 1 mm and 2 mm diameter. *Int J Pharm* 416(1):164–170
- [2] Chatteraj S, Shi L, Sun CC (2011) Profoundly improving flow properties of a cohesive cellulose powder by surface coating with nano-silica through comilling. *J Pharm Sci* 100(11):4943–4952
- [3] Althaus TO, Windhab EJ, Scheuble N (2012) Effect of pendular liquid bridges on the flow behavior of wet powders. *Powder Technol* 217:599–606
- [4] Mullarney MP, Beach LE, Davé RN, Langdon BA, Polizzi M, Blackwood DO (2012) Applying dry powder coatings to pharmaceutical powders using a comil for improving powder flow and bulk density. *Powder Technol* 212:397–402
- [5] Landi G, Barletta D, Poletto M (2011) Modelling and experiments on the effect of air humidity on the flow properties of glass powders. *Powder Technol* 207:437–443
- [6] Venkatesh S (2009) Designing mass-flow silos for grain storage. *Bulk Solids Handl* 29:158–162
- [7] Shi L, Feng Y, Sun CC (2011) Origin of profound changes in powder properties during wetting and nucleation stages of high-shear wet granulation of microcrystalline cellulose. *Powder Technol* 208:663–668
- [8] Shi L, Feng Y, Sun CC (2011) Massing in high-shear wet granulation can simultaneously improve powder flow and deteriorate powder compaction: a double-edged sword. *Eur J Pharm Sci* 43:50–56
- [9] Roth C, Künsch Z, Sonnenfeld A., von Rohr PR (2011) Plasma surface modification of powders for pharmaceutical applications. *Surf Coat Technol* 205:597–600
- [10] Djuric D, Van Melkebeke B, Kleinebudde P, Remon JP, Vervaet C (2009) Comparison of two twin-screw extruders for continuous granulation. *Eur J Pharm Biopharm* 71:155–160
- [11] Watling CP, Elliott JA, Cameron RE (2010) Entrainment of lactose inhalation powders: a study using laser diffraction. *Eur J Pharm Sci* 40:352–358
- [12] Yu W, Muteki H, Zhang L, Kim G (2011) Prediction of bulk powder flow performance using comprehensive particle size and particle shape distributions. *J Pharm Sci* 100(1):284–293
- [13] Palzer S (2005) The effect of glass transition on the desired and undesired agglomeration of amorphous food powders. *Chem Eng Sci* 60:3959–3968
- [14] Hartmann M, Palzer S (2011) Caking of amorphous powders – material aspects, modelling and applications. *Powder Technol* 60:112–121
- [15] Fatah N (2009) Study and comparison of micronic and nanometric powders: analysis of physical, flow and interparticle properties of powders. *Powder Technol* 190:41–47
- [16] Hou H, Sun CC (2008) Quantifying effects of particulate properties on powder flow properties using a ring shear tester. *J Pharm Sci* 97(9):4030–4039
- [17] Mansa RF, Bridson RH, Greenwood RW, Barker H, Seville JPK (2008) Using intelligent software to predict the effects of formulation and processing parameters on roller compaction. *Powder Technol* 181:217–225

- [18] Liu LX, Marziano I, Bentham AC, Litster JD, White ET, Howes T (2008) Effect of particle properties on the flowability of ibuprofen powders. *Int J Pharm* 363:109–117
- [19] Butscher A, Bohner M, Roth C, Ernstberger A, Heuberger R, Doebelin N, von Rohr PR, Müller R (2012) Printability of calcium phosphate powders for three-dimensional printing of tissue engineering scaffolds. *Acta Biomater* 8:373–385
- [20] Descamps N, Palzer S, Roos YH, Fitzpatrick JJ (2013) Glass transition and flowability/caking behaviour of maltodextrin DE 21. *J Food Eng* 119:809–813
- [21] Calvert G, Ghadiri M, Dyson M, Kippax P, McNeil-Watson F (2013) The flowability and aerodynamic dispersion of cohesive powders. *Powder Technol* 240:88–94
- [22] Kojima T, Elliott JA (2012) Incipient flow properties of two-component fine powder systems and their relationships with bulk density and particle contact. *Powder Technol* 228:359–370
- [23] Kojima T, Elliott JA (2013) Effect of silica nanoparticles on the bulk flow properties of fine cohesive powders. *Chem Eng Sci* 101:315–328
- [24] Shi L, Chattoraj S, Sun CC (2011) Reproducibility of flow properties of microcrystalline cellulose – Avicel PH102. *Powder Technol* 212:253–257
- [25] Spillmann A, Sonnenfeld A, von Rohr PR (2007) Improvement of flow behavior of lactose powder by plasma enhanced chemical vapor deposition. *Proc. PARTEC 2007, Nürnberg, 27.–29.3.2007, Paper, S 36–6*
- [26] Trementozzi AN, Leung C-Y, Osei-Yeboah F, Irdam E, Lin Y, MacPhee JM, Boulas P, Karki SB, Zawaneh PN (2017) Engineered particles demonstrate improved flow properties at elevated drug loadings for direct compression manufacturing. *Int J Pharm* 523:133–141
- [27] Jager PD, Bramante T, Luner PE (2015) Assessment of pharmaceutical powder flowability using shear cell-based methods and application of Jenike’s methodology. *J Pharm Sciences* 104:3804–3813
- [28] Marigo M, Cairns DL, Bowen J, Ingram A, Stitt EH (2014) Relationship between single and bulk mechanical properties for zeolite ZSM5 spray-dried particles. *Particuology* 14:130–138
- [29] Upadhyay PP, Pudasaini N, Mishra MK, Ramamurty U, Rantanen J (2018) Early assessment of bulk powder processability as a part of solid form screening. *Chem Engng Res Design* 136:447–455
- [30] Klinkmüller M, Schreurs G, Rosenau M, Kemnitz H (2016) Properties of granular analogue model materials: A community wide survey. *Tectonophysics* 684:23–38
- [31] Vasilenko A, Koynov S, Glasser BJ, Muzzio FJ (2013) Role of consolidation state in the measurement of bulk density and cohesion. *Powder Technol* 239:366–373
- [32] Prziwara P, Breitung-Faes S, Kwade A (2018) Impact of grinding aids on dry grinding performance, bulk properties and surface energy. *Adv Powder Technol* 29:416–425
- [33] da Silva DF, Ahrné L, Larsen FH, Hougaard AB, Ipsen R (2018) Physical and functional properties of cheese powders affected by sweet whey powder addition before or after spray drying. *Powder Technol* 323:139–148
- [34] Paul S, Chang S-Y, Dun J, Sun W-J, Wang K, Tajarobi P, Boissier C, Sun CC (2018) Comparative analyses of flow and compaction properties of diverse mannitol and lactose grades. *Int J Pharm* 546:39–49
- [35] Salehi H, Barletta D, Poletto M (2017) A comparison between powder flow property testers. *Particuology* 32:10–20
- [36] Leung LY, Mao C, Srivastava I, Du P, Yang C-Y (2017) Flow function of pharmaceutical powders is predominantly governed by cohesion, not by friction coefficients. *J Pharm Sciences* 106:1865–1873
- [37] Carpin M, Bertelsen H, Dalberg A, Roiland C, Risbo J, Schuck P, Jeantet R (2017) Impurities enhance caking in lactose powder. *J Food Engng* 198:91–97

- [38] Carpin M, Bertelsen H, Dalberg A, Bech JK, Risbo J, Schuck P, Jeantet R (2017) How does particle size influence caking in lactose powder? *J Food Engng* 209:61–67
- [39] Swize T, Osei-Yeboah F, Peterson ML, Boulas P (2019) Impact of shear history on powder flow characterization using a ring shear tester. *J Pharm Sci.* 108:750-754
- [40] Verlinden A (2000) Experimental assessment of shear testers for measuring flow properties of bulk solids. PhD-Thesis, Univ. of Bradford, UK
- [41] Stasiak M, Molenda M, Opaliński I, Błasiak W (2013) Mechanical properties of native maize, wheat, and potato starches. *Czech J. Food Sci.* 31:347–354
- [42] Slettengren K, Heunemann P, Knuchel O, Windhab EJ (2015) Production and characterization of fat based powder-liquids and powder-liquid mixtures. *Powder Technol* 277:105–111
- [43] Søgaaard SV, Pedersen T, Allesø M, Garnæs J, Rantanen J (2015) Evaluation of ring shear testing as a characterization method for powder flow in small-scale powder processing equipment. *Int J Pharm* 475:315–323
- [44] Sun CC (2016) Quantifying effects of moisture content on flow properties of microcrystalline cellulose using a ring shear tester. *Powder Technol* 289:104–108
- [45] Schulze D (2010) Ringversuch mit Ringschergeräten. *Schüttgut* 16:146–153
- [46] Schulze D (2011) Round Robin test on ring shear testers. *Adv Powder Technol* 22:197–202
- [47] Giampietro VR, Gulas M, von Rohr PR (2017) Effect of the argon/monomer flow-rate ratio on the flowability trend of PECVD-processed micropowder. *Surface & Coatings Technology* 328:480–487
- [48] Chirone R, Barletta D, Poletto M, Lettieri P (2018) Detection and estimation of capillary interparticle forces in the material of a fluidized bed reactor at high temperature by powder flow characterization. *Powder Technology* 330:371–385
- [49] Hernandez S, Westover TL, Matthews AC, Chadron J, Ryan B, Williams CL (2017) Feeding properties and behavior of hammer- and knife-milled pine. *Powder Technology* 320:191–201
- [50] Willetts JP, Robbins PT, Roche TC, Bowley M, Bridson RH (2012) Exploring the effects of high shear blending on lactose and drug using fluidised bed elutriation. *Int. J. Pharm.* 434:272– 279
- [51] Deshmukh OS, Dhital S, Olarte Mantilla SM, Smyth HE, Boehm ME, Baier SK, Stokes JR (2019) Ring Shear Tester as an in-vitro testing tool to study oral processing of comminuted potato chips. *Food Res. Int.* 123:208–216
- [52] Guo Y, Buettner K, Lane V, Wassgren C, Ketterhagen W, Hancock B, Curtis J (2019) Computational and Experimental Studies of Flexible Fiber Flows in a Normal-Stress-Fixed Shear Cell. *AIChE Journal* 65:64–74
- [53] Lanzerstorfer C (2019) The water content of sand required for the maximum strength for building sand castles. *Carpathian J. of Earth and Environmental Sci.* 14:61–66
- [54] Yu L, Witt T, Bonilla MR, Turner MS, Fitzgerald M, Stokes JR (2019) New insights into cooked rice quality by measuring modulus, adhesion and cohesion at the level of an individual rice grain. *J. of Food Engng.* 240:21–28
- [55] Pachón-Morales J, Colin J, Pierre F, Puel F, Perré P (2019) Effect of torrefaction intensity on the flow properties of lignocellulosic biomass powders. *Biomass and Bioenergy* 120:301–312
- [56] Schulnies F, Kleinschmidt T (2018) Time consolidation of skim milk powder near the glass transition temperature. *Int. Dairy J.* 85:105–111
- [57] Simons TAH, Rouven Weiler R, Strege S, Bensmann S, Schilling M, Kwade A (2015) A ring shear tester as calibration experiment for DEM simulations in agitated mixers - a sensitivity study. *Procedia Engng* 102:741 – 748