

1. Record Nr.	UNINA9910511420503321
Titolo	Handbook of conveying and handling of particulate solids [[electronic resource] /] / edited by A. Levy, H. Kalman
Pubbl/distr/stampa	Amsterdam ; ; New York, : Elsevier, 2001
ISBN	1-281-05963-3 9786611059637 0-08-053328-0
Descrizione fisica	1 online resource (871 p.)
Collana	Handbook of powder technology, , 0167-3785 ; ; v. 10
Altri autori (Persone)	LevyA (Avi) KalmanH <1956-> (Haim)
Disciplina	621.8/6 21 621.86
Soggetti	Bulk solids handling Conveying machinery Electronic books.
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Description based upon print version of record.
Nota di bibliografia	Includes bibliographical references.
Nota di contenuto	Front Cover; Handbook of Conveying and Handling of Particulate Solids; Copyright Page; Contents; Preface; Part 1 - Characterization; Chapter 1.1. Solids flowability measurement and interpretation in industry; Chapter 1.2. Flow properties of bulk solids - Which properties for which application; Chapter 1.3. Investigation on the effect of filling procedures on testing of flow properties by means of a uniaxial tester; Chapter 1.4. Characterization of powder flow behavior with the flexible wall biaxial tester Chapter 1.5. From discrete element simulations towards a continuum description of particulate solids Chapter 1.6. Vibrational flow of cohesive powders; Chapter 1.6. Influence of the stress history on the time dependent behaviour of bulk solids; Chapter 1.7. Evaluation of the mechanical properties of powder for storage; Chapter 1.9. Particle adhesion and powder flow behaviour; Chapter 1.10. Determination of the influence of surface coating and particle size on flow properties of organic pigment powders Chapter 1.11. The conversation of the analytical simple shear model for

the Jenike failure locus into principal stress space and implication of the model for hopper designChapter 1.12. Modelling flooding in a small vessel compared with experiments and numerical calculation; Chapter 1.13. Analysis and application of powder compaction diagrams; Chapter 1.14. Axial porosity distribution in a packed bed of deformable particles: A numerical study based on DEM; Part 2 - Storage and mechanical conveyers; Chapter 2.1. Flow properties of bulk solids and their use in solving industrial problems

Chapter 2.2. Silo failures: Case histories and lessons learnedChapter 2.2. The relationship between observed flow behaviour in a plane flow hopper and the jenike design method; Chapter 2.3. Full scale silo tests and numerical simulations of the ""cone in cone"" concept for mass flow; Chapter 2.5. Stress condition of sliding bulk solid on silo wall; Chapter 2.6. Studies on thermal actions and forces in cylindrical storage silo bins; Chapter 2.7. Silo discharge: Dynamic effects of granular flow; Chapter 2.8. Recent developments in feeder design and performance

Chapter 2.9. Recent developments in belt conveying - bulk solid and conveyor belt interactionsChapter 2.10. Putting the pedal to the metal; Part 3 - Fundamental of particulate flow; Chapter 3.1 Mesoscopic nature of granular flows; Chapter 3.2 Using a kinetic theory approach incorporating interaction with the air to model granular flow down a chute; Chapter 3.3. Numerical and experimental studies for the impact of projectiles on granular materials; Chapter 3.4. Implementation of 3D frictional contact condition; Chapter 3.5. Numerical simulation of 3D iron ore flow; Part 4 - Pneumatic conveying

Chapter 4.1. Pneumatic conveying: transport solutions, pitfalls and measurements

Sommario/riassunto

This handbook presents comprehensive coverage of the technology for conveying and handling particulate solids. Each chapter covers a different topic and contains both fundamentals and applications. Usually, each chapter, or a topic within a chapter, starts with one of the review papers. Chapter 1 covers the characterization of the particulate materials. Chapter 2 covers the behaviour of particulate materials during storage, and presents recent developments in storage and feeders design and performance. Chapter 3 presents fundamental studies of particulate flow, while Chapters 4 and 5 present t
