1. Record Nr. UNINA9910784531403321

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| 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<br>9786611059637<br>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)<br>KalmanH <1956-> (Haim) |
| Disciplina | 621.8/6 21<br>621.86 |
| Soggetti | Bulk solids handling<br>Conveying machinery |
| 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<br>Chapter 1.5. From discrete element simulations towards a continuum description of particulate solidsChapter 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<br>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