

1. Record Nr.	UNINA9910437770703321
Autore	Jacek Tejchman
Titolo	Confined granular flow in silos : experimental and numerical investigations / / Jacek Tejchman
Pubbl/distr/stampa	Cham [Germany] ; ; New York, : Springer, 2013
ISBN	3-319-00318-6
Edizione	[1st ed. 2013.]
Descrizione fisica	1 online resource (502 p.)
Collana	Springer series in geomechanics and geoengineering, , 1866-8755
Disciplina	671.37
Soggetti	Silos Bulk solids flow Granular materials
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	Literature overview -- Analytical and standard approaches to silos -- Continuum models to bulk solids -- Model silo tests -- Large scale silo tests -- FE results within enhanced elasto-plasticity -- FE results within enhanced hypoplasticity -- Simulations of flow pattern with cellular automata.
Sommario/riassunto	During confined flow of bulk solids in silos some characteristic phenomena can be created, such as: — sudden and significant increase of wall stresses, — different flow patterns, — formation and propagation of wall and interior shear zones, — fluctuation of pressures and, — strong autogenous dynamic effects. These phenomena have not been described or explained in detail yet. The main intention of the experimental and theoretical research presented in this book is to explain the above mentioned phenomena in granular bulk solids and to describe them with numerical FE models verified by experimental results.