

CONTENTS

Contributors	ix
Foreword	xi
I. Fundamental	
1. Breakage of Single Particles: Quasi-Static <i>Luis Marcelo Tavares</i>	3
2. Impact Breakage of Single Particles: Double Impact Test <i>Kam Tim Chau and Shengzhi Wu</i>	69
3. Particle Breakage due to Bulk Shear <i>John Bridgwater</i>	87
4. The Principles of Single-Particle Crushing <i>Georg Unland</i>	117
II. Milling	
5. Rotor Impact Mills <i>Roland Nied</i>	229
6. Wet Grinding in Stirred Media Mills <i>Arno Kwade and Jörg Schwedes</i>	251
7. Roller Milling of Wheat <i>Grant M. Campbell</i>	383
8. Air Jet Milling <i>Alain Chamayou and John A. Dodds</i>	421
9. Breakage and Morphological Parameters Determined by Laboratory Tests <i>Meftuni Yekeler</i>	437
10. Selection of Fine Grinding Mills <i>Toyokazu Yokoyama and Yoshiyuki Inoue</i>	487

11. Fine Grinding of Materials in Dry Systems and Mechanochemistry 509
Qiwu Zhang, Junya Kano and Fumio Saito
12. Comminution Energy and Evaluation in Fine Grinding 529
Yoshiteru Kanda and Naoya Kotake
13. Enabling Nanomilling through Control of Particulate Interfaces 551
Marc Sommer and Wolfgang Peukert
14. Analysis of Milling and the Role of Feed Properties 605
Mojtaba Ghadiri, Chih Chi Kwan and Yulong Ding

III. Modelling

15. Monte Carlo Method for the Analysis of Particle Breakage 637
Barada Kanta Mishra
16. Numerical Investigation of Particle Breakage as Applied to Mechanical Crushing 661
Chunan Tang and Hongyuan Liu
17. The Cohesion of Fractal Agglomerates: An Elementary Numerical Model 741
Emile Pefferkorn
18. The Linear Breakage Equation: From Fundamental Issues to Numerical Solution Techniques 793
Margaritis Kostoglou
19. Analysis of Agglomerate Breakage 837
Mojtaba Ghadiri, Roberto Moreno-Atanasio, Ali Hassanpour and Simon Joseph Antony
20. Modelling of Mills and Milling Circuits 873
Petya Toneva and Wolfgang Peukert

IV. Applications

21. Particle Strength in an Industrial Environment 915
Gabrie M.H. Meesters

22.	The Strength of Pharmaceutical Tablets <i>Iosif Csaba Sinka, Kendal George Pitt and Alan Charles Francis Cocks</i>	941
23.	Crystal Growth and Dissolution with Breakage: Distribution Kinetics Modelling <i>Giridhar Madras and Benjamin J. McCoy</i>	971
24.	Liberation of Valuables Embedded in Particle Compounds and Solid Waste <i>Wolfgang Schubert and Jürgen Tomas</i>	989
25.	Attrition in Fluidised Beds <i>Renee Boerefijn, Mojtaba Ghadiri and Piero Salatino</i>	1019
26.	A Mechanistic Description of Granule Deformation and Breakage <i>Yuen Sin Cheong, Chirangano Mangwandi, Jinsheng Fu, Michael J. Adams, Michael J. Hounslow and Agba D. Salman</i>	1055
27.	Descriptive Classification: Failure Modes of Particles by Compression <i>Ian Gabbott, Vishal Chouk, Martin J. Pitt, David A. Gorham and Agba D. Salman</i>	1121
28.	A New Concept for Addressing Bulk Solids Attrition in Pneumatic Conveying <i>Lars Frye</i>	1149
	Subject Index	1219