

1. Record Nr.	UNINA9910877594903321
Autore	German Randall M. <1946->
Titolo	Mathematical relations in particulate materials processing : ceramics, powder metals, cermets, carbides, hard materials, and minerals // Randall M. German, Seong Jin Park
Pubbl/distr/stampa	Hoboken, NJ, : Wiley, c2008
ISBN	1-282-68618-6 9786612686184 0-470-37008-4 0-470-36872-1
Descrizione fisica	1 online resource (455 p.)
Collana	Wiley series on processing of engineering materials
Altri autori (Persone)	ParkSeong Jin <1968->
Disciplina	671.3/7
Soggetti	Powder metallurgy Powder metallurgy - Mathematical models
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 (p. 409-419) and index.
Nota di contenuto	MATHEMATICAL RELATIONS IN PARTICULATE MATERIALS PROCESSING; CONTENTS; Foreword; About the Authors; A; Abnormal Grain Growth; Abrasive Wear-See Friction and Wear Testing; Acceleration of Free-settling Particles; Activated Sintering, Early-stage Shrinkage; Activation Energy-See Arrhenius Relation; Adsorption-See BET Specific Surface Area; Agglomerate Strength; Agglomeration Force; Agglomeration of Nanoscale Particles-See Nanoparticle Agglomeration; Andreasen Size Distribution; Apparent Diffusivity; Archard Equation; Archimedes Density; Arrhenius Relation Atmosphere Moisture Content-See Dew Point Atmosphere-stabilized Porosity-See Gas-generated Final Pores; Atomic Flux in Vacuum Sintering; Atomic-size Ratio in Amorphous Metals; Atomization Spheroidization Time-See Spheroidization Time; Atomization Time-See Solidification Time; Average Compaction Pressure-See Mean Compaction Pressure; Average Particle Size-See Mean Particle Size; Avrami Equation; B; Ball Milling-See Jar Milling; Bearing Strength; Bell Curve-See Gaussian Distribution; Bending-beam Viscosity; Bending Test; BET Equivalent Spherical-particle Diameter; BET Specific Surface

Area

Bimodal Powder Packing; Bimodal Powder Sintering; Binder Burnout-See Polymer Pyrolysis; Binder (Mixed Polymer) Viscosity; Bingham Model-See Viscosity Model for Injection-molding Feedstock; Bingham Viscous-flow Model; Boltzmann Statistics-See Arrhenius Relation; Bond Number; Bragg's Law; Brazilian Test; Breakage Model; Brinell Hardness; Brittle Material Strength Distribution-See Weibull Distribution; Broadening; Brownian Motion; Bubble Point-See Washburn Equation; Bulk Transport Sintering-See Sintering Shrinkage and Surface-area Reduction Kinetics;

C

Cantilever-beam Test-See Bending-beam Viscosity; Capillarity; Capillarity-induced Sintering-See Surface Curvature-Driven Mass Flow in Sintering; Capillary Pressure during Liquid-phase Sintering-See Mean Capillary Pressure; Capillary Rise-See Washburn Equation; Capillary Stress-See Laplace Equation; Case Carburization; Casson Model; Cemented-carbide Hardness; Centrifugal Atomization Droplet Size; Centrifugal Atomization Particle Size; Charles Equation for Milling; Chemically Activated Sintering-See Activated Sintering, Early-stage Shrinkage; Closed-pore Pressure-See Spherical-pore Pressure; Closed Porosity-See Open-pore Content; Coagulation Time; Coalescence-See Coagulation Time; Coalescence-induced Melting of Nanoscale Particles; Coalescence of Liquid Droplets-See Liquid-droplet Coalescence Time; Coalescence of Nanoscale Particles-See Nanoparticle Agglomeration; Coble Creep; Coefficient of Thermal Expansion-See Thermal Expansion Coefficient; Coefficient of Variation; Coercivity of Cemented Carbides-See Magnetic Coercivity Correlation in Cemented Carbides; Cold-spray Process-See Spray Deposition; Colloidal Packing Particle-size Distribution-See Andreasen Size Distribution; Combined-stage Model of Sintering

Sommario/riassunto

The only handbook of mathematical relations with a focus on particulate materials processing. The National Science Foundation estimates that over 35% of materials-related funding is now directed toward modeling. In part, this reflects the increased knowledge and the high cost of experimental work. However, currently there is no organized reference book to help the particulate materials community with sorting out various relations. This book fills that important need, providing readers with a quick-reference handbook for easy consultation. This one-of-a-kind handbook gives readers
