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Restrictions and limitationsSurface area determination; Hysteresis and detained mercury; Standardization; Bubble test of pore size; Bulk properties of powders; Bulk flow parameters; Cohesive strength; Frictional properties; Bulk density; Apparent density; Funnel method; Scott volumeter; Tap density; Flow rate; Sliding at impact point; Segregation of particles; Trajectory effect; Screening model (also called sifting phenomenon); Fluidization; Angle of repose; Factors influencing the angle of repose; Compactibility of metal powders; Compressibility; Green strength; Apparatus for powder analysis
ReferencesSection 2 Powder Production Methods; Chapter 2 Mechanical crushing and grinding; Principles of grinding; Grindability; Hardgrove grindability index (ASTM D409 Standard); Bong's Work Index (JIS M4002 Standard); Crushing and grinding equipment; Crushers; Grinding techniques; Ball-medium types; Tumbling ball mills; Cylindrical ball mills; Conical ball mills; Rod mills; Planetary mills; Vibratory ball mills; Vibrating grinders; Medium agitating mills; Jet mills; Other high-energy milling methods; References; Chapter 3 Mechanical alloying; Mechanical alloying process; Milling equipment
Planetary ball millsShaker mills; Attritors; Commercial tumbling ball mills; Safety engineering; Mechanical alloying fundamentals; Oxide dispersion strengthened (ODS) alloys; Contact displacement reactions; Powder contamination; Applications; Nickel-base alloys; Aluminum-base alloys; Copper-base alloys; References; Chapter 4 Nanopowders; Production methods; Condensation technique; Chemical precipitation from solution; Spray conversion method; Plasmachemical synthesis; High-energy comminution; Powder processing methods; Applications; Vapor deposition in a vacuum; Cemented carbides
Fiber-reinforced material

Sommario/riassunto

The manufacture and use of the powders of non-ferrous metals has been taking place for many years in what was previously Soviet Russia, and a huge amount of knowledge and experience has built up in that country over the last forty years or so. Although accounts of the topic have been published in the Russian language, no English language account has existed until now.Six prominent academics and industrialists from the Ukraine and Russia have produced this highly-detailed account which covers the classification, manufacturing methods, treatment and properties of the non-ferrous metals (