The Relationship between Uniformity of the Particle Size distribution of Products Ground and the Grinding Rate Constant during a Stirred Ball Milling

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The influence of grinding conditions on the production of fine particles and the width of the particle size distribution produced during a stirred balling milling was investigated. The grinding experiments were carried out varying the grinding ball diameter, slurry concentration, ball filling ratio and rotation speed of stirrer. The relationship between the uniformity of the particle size distribution and grinding rate constant K was evaluated. The grinding rate constant K was decreased with increase of uniformity of products ground and was changed with changing of experimental conditions. Furthermore, grinding rate constant K related with uniformity of raw sample was increased by using smaller ball size, low slurry concentration, high rotation speed.