Classic and Advanced Ceramics: From Fundamentals to Applications
Robert B. Heimann

DESCRIPTION

Based on the author's lectures to graduate students of geosciences, physics, chemistry and materials science, this didactic handbook covers basic aspects of ceramics such as composition and structure as well as such advanced topics as achieving specific functionalities by choosing the right materials. The focus lies on the thermal transformation processes of natural raw materials to arrive at traditional structural ceramics and on the general physical principles of advanced functional ceramics. The book thus provides practice-oriented information to readers in research, development and engineering on how to understand, make and improve ceramics and derived products, while also serving as a rapid reference for the practitioner. The choice of topics and style of presentation make it equally useful for chemists, materials scientists, engineers and mineralogists.

ABOUT THE AUTHOR

Robert Heimann is professor emeritus of applied mineralogy and materials science. He obtained his academic degrees from Freie Universität (FU) Berlin, and subsequently served as a faculty member at FU Berlin and Universität Karlsruhe. From 1979 on he worked in Canada as a research associate (McMaster University), senior researcher (3M Canada Inc.), staff geochemist (Atomic Energy of Canada Limited), and research manager (Alberta Research Council). From 1993 to 2004 he was a full professor at TU Bergakademie Freiberg. Professor Heimann has authored over 270 scientific publications and in 2001 was awarded the Georg-Agricola-Medal of the German Mineralogical Society (DMG) for his outstanding lifetime achievements in applied mineralogy.
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