**DESCRIPTION**

In-depth reference for solid material thermodynamics

*Thermodynamics of Materials* provides a comprehensive reference for chemical engineers and others whose work involves material science. *Volume 1* covers the statistical and classical thermodynamics of solids, including enthalpy, entropy, energy exchange, and more. In-depth examination of property relationships includes chemical potentials, heat capacity, compressibility, magnetism, and others, while further exploration of equilibrium states and electrochemistry provide the essential information necessary to work with solid materials in theoretical and practical applications. Extensive appendices provide essential formulas and reference lists for current, volume, pressure, energy, and more.

**ABOUT THE AUTHOR**

**David V. Ragone** received his S. B., S. M., and Sc.D. degrees in metallurgical engineering from MIT. He taught undergraduate and graduate courses in thermodynamics at the University of Michigan in Ann Arbor from 1953 to 1962. From 1962 to 1967, as chairman of the materials department and assistant director of the Hopkins laboratory at the General Atomic Division of General Dynamics, he directed research on materials for advanced, high-temperature, gas-cooled nuclear reactors. He then served as Alcoa Professor of Metallurgy at the Carnegie-Mellon University, where he was also Associate Dean of Urban and Public Affairs. In 1970, he was named dean of the Thayer School at Dartmouth, and returned to the University of Michigan as Dean of
Engineering in 1972. In 1980, he was named President of the Case Western University, where he served until 1987. He returned to teaching undergraduate courses in thermodynamics and the physical chemistry of materials at MIT in 1988, and began writing texts shortly thereafter. In addition to his appointment at MIT, David Ragone is a partner in Ampersand Ventures, a firm whose focus is on ventures in specialty materials and chemicals. He has also served as a member of the National Science Board and as a director of more than a dozen public and private companies. His professional society memberships include ASM, AIME, and ACS.

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