

Alloy Phase Diagram Evaluations

Evaluations of Alloy Systems

Six sets of evaluations are presented in this issue. The following evaluations were submitted by "Category Editors" and their co-investigators—seven binary rare earth systems by K. A. Gschneidner, Jr. and his co-worker, F. W. Calderwood, together with an introductory article to the carbon-rare earth systems; the binary gold-molybdenum system by T. B. Massalski, H. Okamoto, and L. Brewer; two binary alkaline earth systems by C. B. Alcock and V. P. Itkin, one with T. B. Massalski and H. Okamoto; two binary chromium systems by J. P. Neumann and his co-author, M. Venkatraman; one binary nickel system by P. Nash; one binary germanium system by G. J. Abbaschian and his co-worker, A. B. Gokhale; and one binary silicon system by G. J. Abbaschian and his co-worker, A. B. Gokhale.

To enhance the value of the list of references accompanying each evaluation, the Category Editors are providing some additional specific information in parentheses following each reference. These annotations will include indication of: (a) key papers, by an asterisk placed in front of the reference designation (e.g., *82Abc); (b) nature of the data available (i.e., Equilibrium Diagram, Metastable Phases, Crystal Structure, Thermodynamics, and Pressure); (c) document classification (i.e., Experimental, Theory, Review, or Compilation); and (d) presence of an accepted phase diagram, or portion of one, by a number sign (#) at the end of the annotation. References frequently cited in the evaluations that follow are cited by author name rather than by number; these general references are listed below.

General References

1. M. Hansen and K. Anderko, *Constitution of Binary Alloys*, McGraw-Hill, New York or General Electric Co., Business Growth Services, Schenectady, New York 12345 (1958). [Hansen]
2. R. P. Elliott, *Constitution of Binary Alloys, First Supplement*, McGraw-Hill, New York or General Electric Co., Business Growth Services, Schenectady, New York 12345 (1965). [Elliott]
3. F. A. Shunk, *Constitution of Binary Alloys, Second Supplement*, McGraw-Hill, New York or General Electric Co., Business Growth Services, Schenectady, New York 12345 (1969). [Shunk]
4. W. B. Pearson, *Handbook of Lattice Spacings and Structures of Metals and Alloys*, Vol. 1, Pergamon, New York (1958). [Pearson1]
5. W. B. Pearson, *Handbook of Lattice Spacings and Structures of Metals and Alloys*, Vol. 2, Pergamon, New York (1967). [Pearson2]
6. Landolt-Börnstein Tables, New Series, Group III, *Structure Data of Elements and Intermetallic Compounds*, Vol. 6, Springer-Verlag, New York (1971). [Landolt]
7. R. Hultgren, P. D. Desai, D. T. Hawkins, M. Gleiser, K. K. Kelley, and D. D. Wagman, *Selected Values of the Thermodynamic Properties of the Elements*, American Society for Metals, Metals Park, Ohio (1973). [Hultgren, E]
8. R. Hultgren, P. D. Desai, D. T. Hawkins, M. Gleiser, and K. K. Kelley, *Selected Values of the Thermodynamic Properties of Binary Alloys*, American Society for Metals, Metals Park, Ohio (1973). [Hultgren, B]
9. *Metals Handbook, Metallography, Structures and Phase Diagrams*, Vol. 8, 8th ed., American Society for Metals, Metals Park, Ohio (1973). [Metals]
10. "Melting Points of the Elements," *Bull. Alloy Phase Diagrams*, 2(1), 145-146 (1981). [Melt]
11. H. W. King, "Crystal Structures of the Elements at 25 °C," *Bull. Alloy Phase Diagrams*, 2(3), 401-402 (1981). [King1]
12. H. W. King, "Temperature-Dependent Allotropic Structures of the Elements," *Bull. Alloy Phase Diagrams*, 3(2) 275-276; 3(3), 308 (1982). [King2]
13. H. W. King, "Pressure-Dependent Allotropic Structures of the Elements," *Bull. Alloy Phase Diagrams*, 4(4), 449-450 (1983). [King3]