

Ternary Aluminum Phase Diagram Updates

Ternary aluminum phase diagrams were compiled by ASM International (*Handbook of Ternary Alloy Phase Diagrams*, eds., P. Villars, A. Prince, and H. Okamoto, Volumes 3-4) and by VCH Verlagsgesellschaft, Germany (*Ternary Alloys*, eds., G. Petzow and G. Effenberg, Volumes 3-8). They cover the period from ~1900 to ~1990. A large number of new publications have appeared in the literature in the last 15 years. It is the purpose of this Addendum to review briefly the new information, using as the starting point either the data compiled in the ASM volumes or any other later evaluation.

Rare earth elements (RE) are often used as additives to Al-Mg alloys (both Al-rich and Mg-rich alloys) to improve tensile strength, fatigue strength, and corrosion resistance and to reduce impact notch sensitivity. This issue carries updates on seven Al-Mg-RE (RE = Ce, Dy, Er, Gd, Ho, Sc, or Y) ternary systems. Also, in this issue are updates on Al-Ca-Mg, Al-Ce-Si, and Al-Mg-Sr. The data reviewed in these updates pertain mainly to the computed phase diagrams. In a number of studies, the computed diagrams were refined by an iterative procedure, where key experiments were designed based on diagrams obtained from preliminary calculations. In the subsequent optimization, the input of the new experimental data resulted in improved diagrams. This issue includes updates on five Al-B-RE (RE = Dy, Er, Gd, Ho, or Tb) systems.

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Editor

Phase Diagrams of Ternary Iron Alloys

Parts 1, 2, 3, 5 and 6