

Al – Zn (Aluminum – Zinc)

Phase diagram

A thermodynamic analysis of the Al-Zn system and phase diagram calculation has been performed by Chen et al. [93 Che]. The phase diagram obtained is very similar to that given in [Landolt-Börnstein]. The same is valid for the concentration dependence of ΔH^L .

Araki et al. [92 Ara] have investigated the partial phase diagram of the Al-rich region of the Al-Zn system at 0.1 MPa and 2.1 MPa.

Fig. 1 shows the phase diagram at normal pressure including the (ideal) gas phase. In the course of modelling this system, enthalpies of mixing of liquid alloys at 953 K and the enthalpies of the formation of fcc solid solutions at 643 K have been calculated (see Fig. 2). A short review is given by Okamoto [95 Oka].

Figures

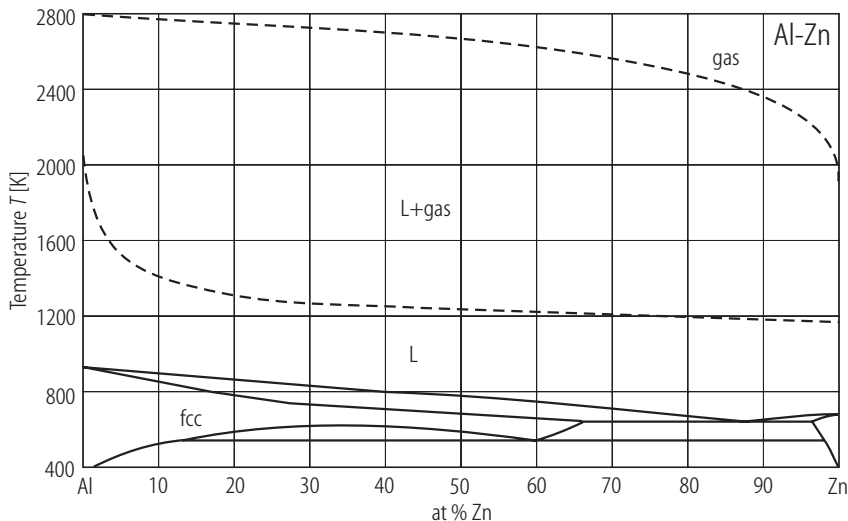


Fig. 1. Al-Zn. Phase diagram at normal pressure including gas phase [92 Ara].

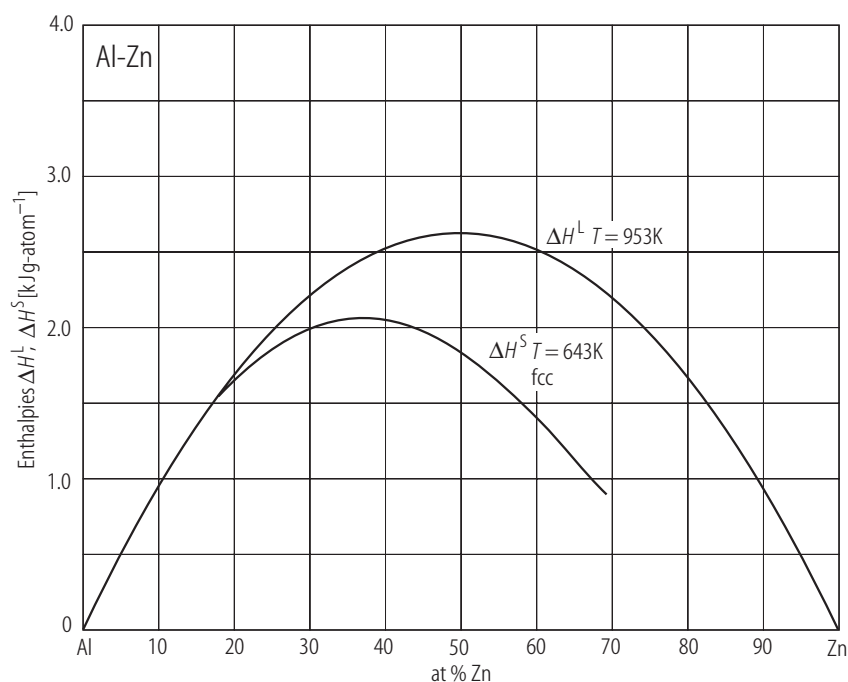


Fig. 2. Al-Zn. Calculated enthalpies of mixing of liquid alloys, ΔH^L , and calculated enthalpies of formation of fcc solid solutions, ΔH^S [93 anM].

References

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- [Landolt-Börnstein] New Series, Group IV, Vol. 5, Subvolume a to j, Predel, B., Madelung, O. (ed.), Springer-Verlag (1991) to (1998)