

Al – Li (Aluminum – Lithium)

Phase diagram

The phase diagram Al-Li on the basis of evaluation performed by McAlister [82 McA] was taken by Goel et al. [90 Goe] to draw an assessed phase diagram, which is reproduced in Fig. 1.

Matsumuro et al. [93 Mat] have investigated the phase equilibria in the Al-Li system at high Al-concentrations and at high pressures up to 5.4 GPa. The results obtained are given in Fig. 2.

Rather precisely, Pulham et al. [94 Pul] have investigated the phase equilibria using measurements of electrical resistivity. The results are given in Fig. 3.

Crystal structure

The lattice parameters as a function of the Li-content as obtained by X-ray diffraction is shown in Fig. 4.

Figures

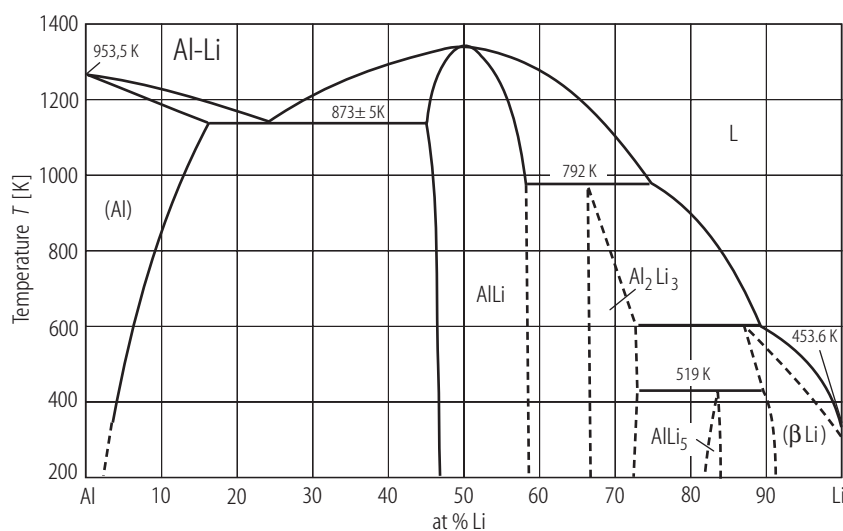


Fig. 1. Al–Li. Phase diagram assessed by [90 Goe].

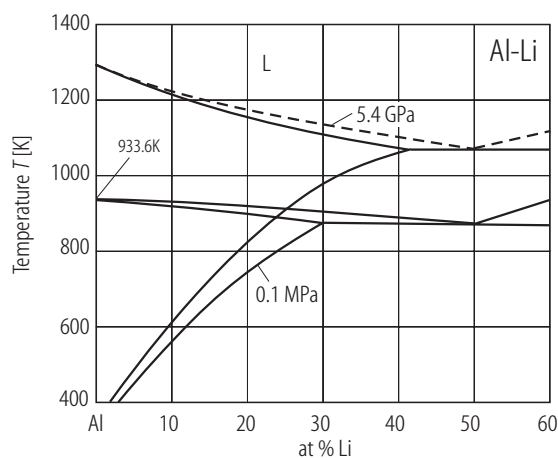


Fig. 2. Al-Li. Partial phase diagram Al-Li at high Al-concentrations and different pressure [93 Mat].

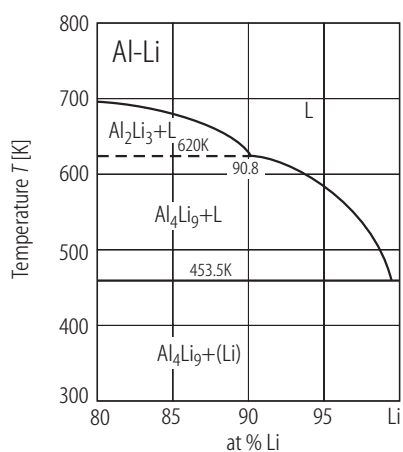


Fig. 3. Al-Li. Phase equilibria of Li-rich alloys [94 Pul].

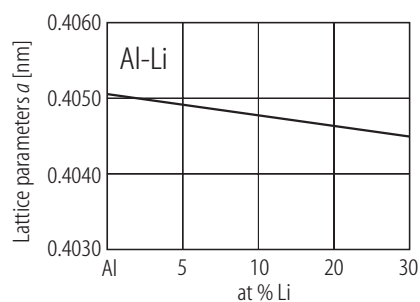


Fig. 4. Al-Li. Variation of lattice constants of Al solid solution as a function of Li-content [93 Mat].

References

- [82 McA] McAlister, A.J.: Bull. Alloy Phase Diagrams **3** (1982) 177
- [90 Goel] Goel, N.C., Cahoon, J.R.: Bull. Alloy Phase Diagrams **11** (1990) 528
- [93 Mat] Matsumuro, A., Sakai, K., Seno, M.: J. Mater. Sci. **28** (1993) 6567
- [94 Pul] Pulham, R.J., Hubberstey, P., Hemptenmacher, P.: J. Phase Equilibria **15** (1994) 587