

Pb-Yb (Lead-Ytterbium)

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The Pb-Yb phase diagram in [Massalski2] was based on the complete assessment published later by [91Pal].

All intermetallic phases (Fig. 1) in the [91Pal] diagram were line compounds, whereas [82Sch] proposed a phase diagram with all the intermetallic phases having substantial homogeneity ranges (~3 to 10 at. %). [93Bor] confirmed by diffraction and differential scanning calorimetry measurements that the homogeneity ranges of Pb_3Yb and $PbYb_2$ are negligibly small. However, the $PbYb$ phase has a measurable homogeneity range from 50 to 52 at. % Yb at 300 to 550 °C. The polymorphic transformation temperature from $\beta PbYb$ to

$\alpha PbYb$ was observed at 498 °C on the Pb-rich side and 503 °C on the Yb-rich side, rather than at 507 °C in [91Pal]. The [91Pal] phase diagram has been modified in Fig. 1 based on this information.

Cited References

- 82Sch:** R.A. Schiffman, *J. Phys. Chem.*, **86**, 3855-3861 (1982).
91Pal: A. Palenzona and S. Cirafici, *J. Phase Equilibria*, **12**(4), 479-481 (1991).
93Bor: G. Borzone, N. Parodi, R. Ferro, M. Gambino, and J.P. Bros, *J. Alloy. Compd.*, **201**, 17-22 (1993).

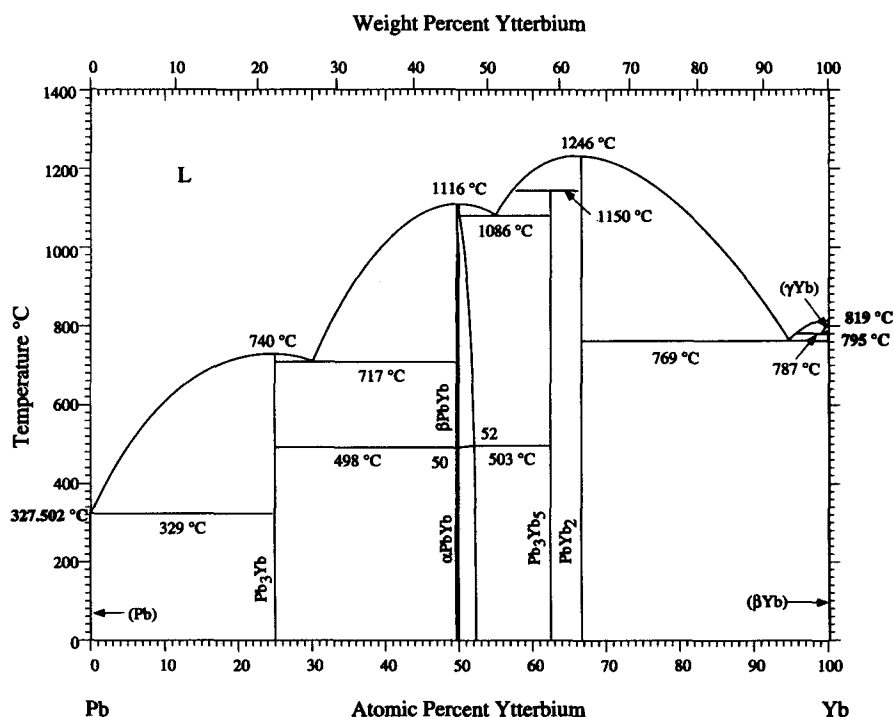


Fig. 1 Pb-Yb phase diagram.