

# Al-Be (Aluminum-Beryllium)

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The Al-Be phase diagram in [Massalski2] was redrawn from [1987Mur] (dashed lines in Fig. 1). [1994Oka] pointed out that the thermodynamic requirement is violated at the intersection between the ( $\beta$ Be) liquidus and the ( $\alpha$ Be) liquidus in this diagram, and a slight change in the intersection position would solve the problem. This problem was induced when the allotropic transformation temperature of Be was raised from 1254 °C in the original diagram of [1983Mur] to 1270 °C in [1987Mur]. Using essentially the same experimental phase boundary data as [1983Mur], [2004Pan] calculated the Al-Be phase diagram, as shown with solid lines in Fig. 1. The allotropic transformation temperature of Be is assumed to be 1254 °C. Naturally, the problem of [1987Mur] is nonexistent in the calculated diagram. The Al-rich corner is enlarged in Fig. 2.

However, according to more careful measurements by [2000Kle], the allotropic transformation temperature of Be is  $1269 \pm 1$  °C, which is in agreement with [1987Mur] (the melting temperature is  $1283 \pm 2$  °C) (see [2000Oka]).

Therefore, the Be corner of the calculated diagram needs a fine adjustment.

## References

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- 2000Kle:** H. Kleykamp, Thermal Properties of Beryllium, *Thermochim. Acta*, 2000, **345**(2), p 179-184
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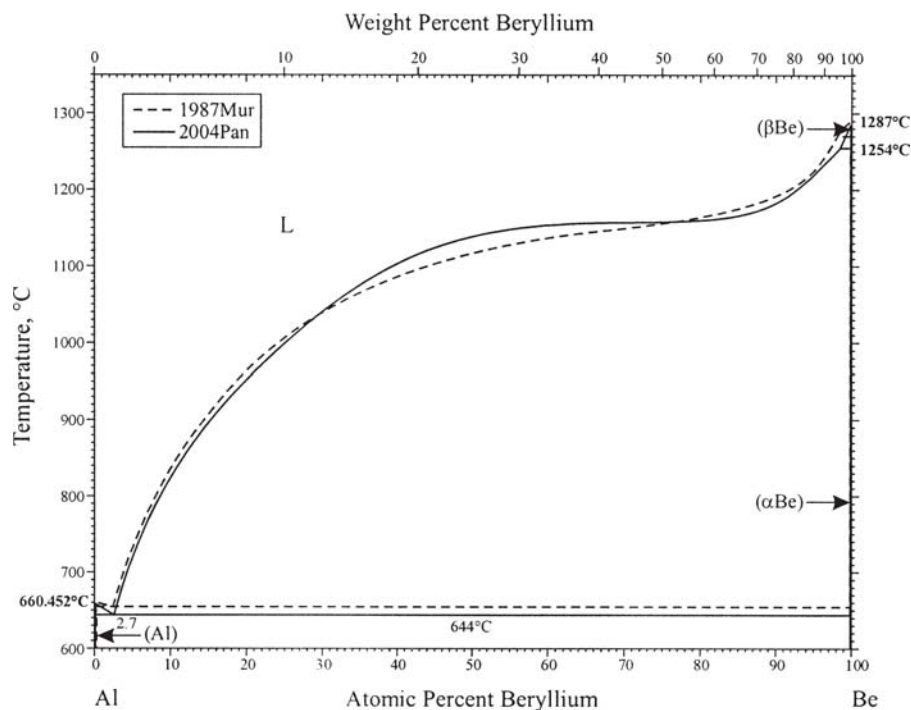


Fig. 1 Al-Be phase diagram

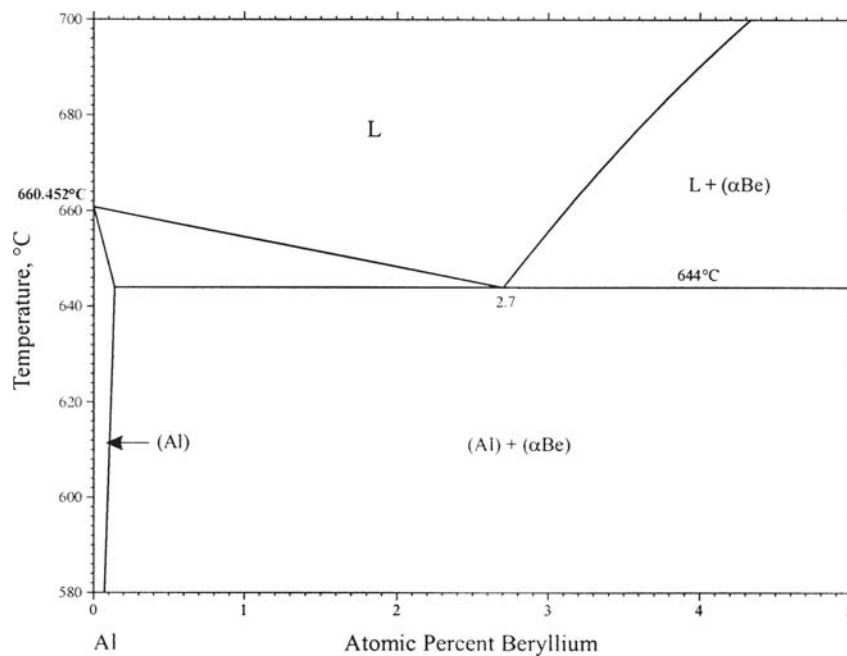


Fig. 2 Al corner of the Al-Be phase diagram