

B-Nb (Boron-Niobium)

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The B-Nb phase diagram in [Massalski2] was recently updated by [2008Oka] and was based primarily on the work of [2003Bor] who examined the Nb-rich region of this system by means of scanning electron microscopy/back-scattered electron image (SEM/BSE) and X-ray diffraction (XRD), and found that the eutectic reaction on the (Nb) side is not $L \rightarrow B_2Nb_3 + (Nb)$, as suggested by [Massalski2], but $L \rightarrow BNb + (Nb)$, as suggested by [1969Rud]. After [2003Bor], [2005Nun] reported that the homogeneity range of B_2Nb is approximately from 30 to 35 at.% Nb according to microstructural analysis of variously heat-treated B-Nb alloys.

[2007Pec] calculated the B-Nb phase diagram based on [1969Rud], [1990Bol], [2003Bor], and [2005Nun]. The result is shown in Fig. 1. (Invariant reaction temperatures given in [2007Pec] disagree with this figure by up to -60°C .)

References

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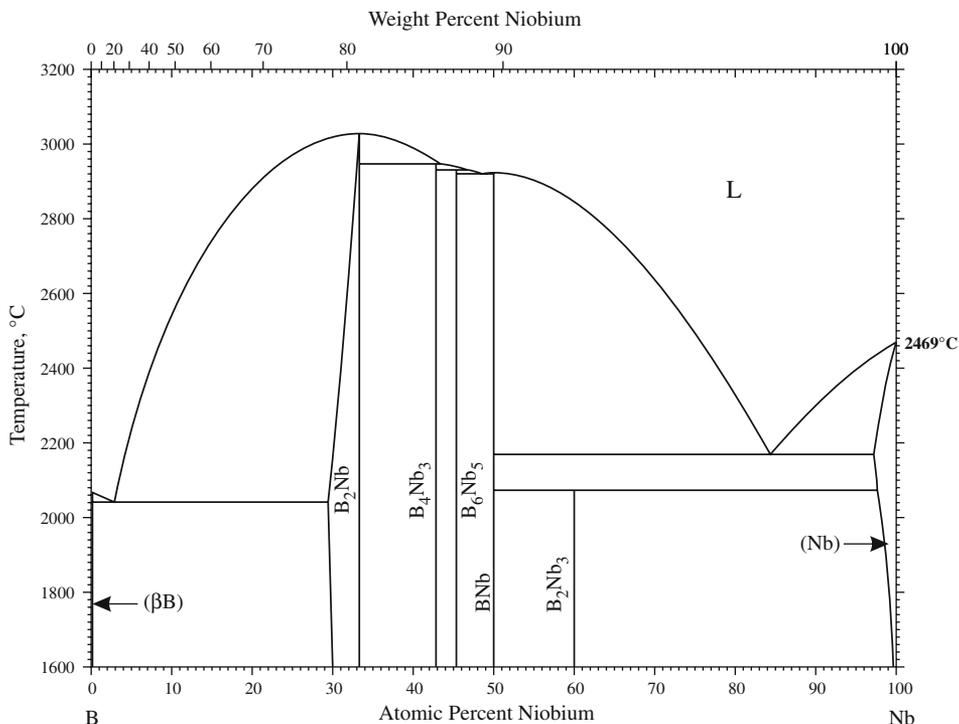


Fig. 1 B-Nb phase diagram