

# C-Nb (Carbon-Niobium)

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The partial Nb-C phase diagram (0 to 65 at.% C) in [Massalski2] was redrawn from the assessment of [87Smi]. However, [94Oka] pointed out that the relationship between the two boundaries of the (Nb) +  $\beta$ Nb<sub>2</sub>C two-phase field is particularly unusual because these two boundaries would cross one another in the metastable state unless very unlikely abrupt curvature changes are introduced.

Figure 1 shows the Nb-C phase diagram calculated by [97Hua]. Naturally, the phase boundaries are normal in the calculated phase diagram. In addition to the phases shown in

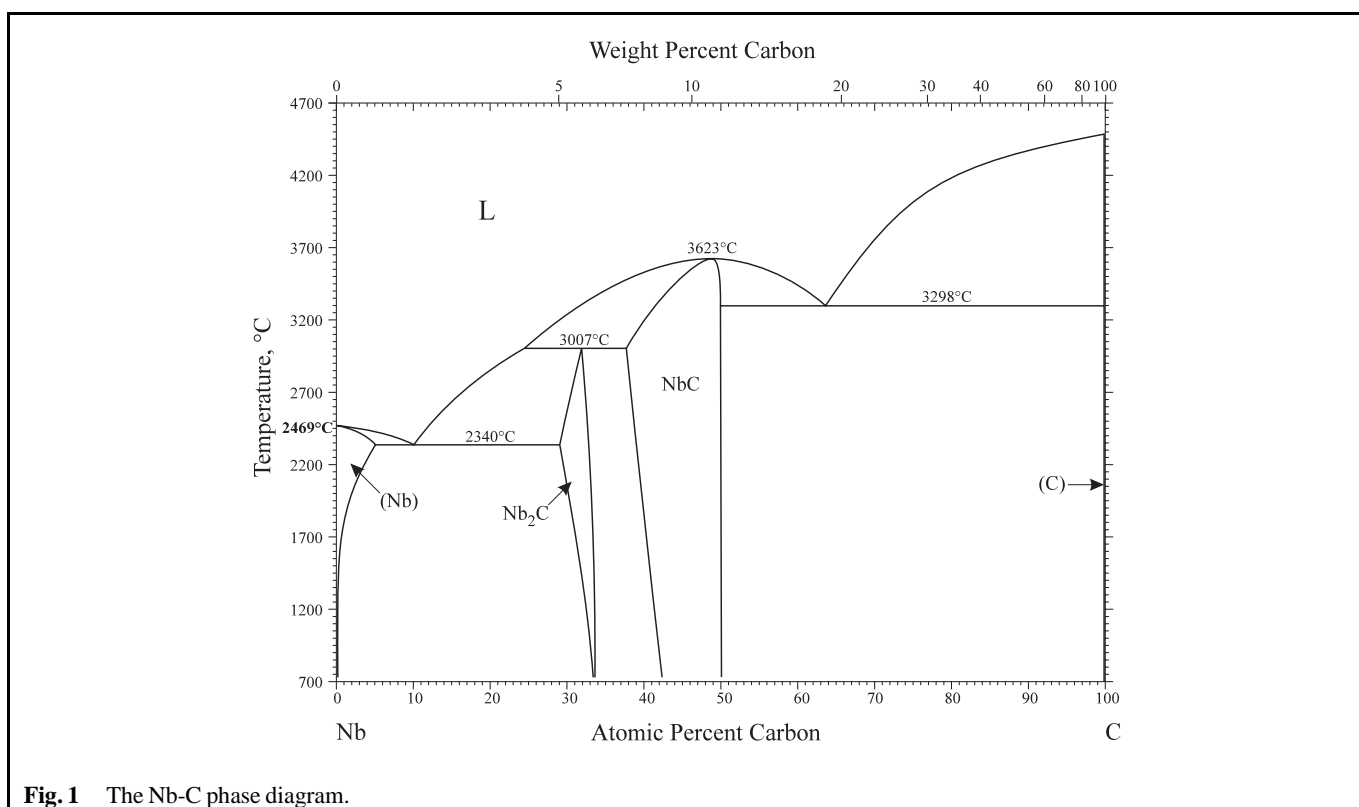
Fig. 1, [87Smi] included the previously reported existence of Nb<sub>4</sub>C<sub>3-4</sub>, Nb<sub>6</sub>C<sub>5</sub>, and dimorphic Nb<sub>2</sub>C. The presence (or absence) of these phases should be confirmed.

## Cited References

**87Smi:** J.F. Smith, O.N. Carlson, and R.R. De Avillez, *J. Nucl. Mater.*, 148, 1-16 (1987).

**94Oka:** H. Okamoto and T.B. Massalski, *J. Phase Equilibria*, 15(5), 500-521 (1994).

**97Hua:** W. Huang and M. Selleby, *Z. Metallkde.*, 88(1), 55-62 (1997).



**Fig. 1** The Nb-C phase diagram.