

# Nb-Ni (Niobium–Nickel)

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[2006Oka] reviewed Nb-Ni phase diagrams evaluated by [1992Zen], [1996Bol], and [2004Jou], and concluded that further refinement is needed in the thermodynamic modeling.

Since then, new experimental data were reported by [2005Che]. [2006Che] assessed the Nb-Ni phase diagram by incorporating these new experimental data. The results is shown in Fig. 1, which is currently the most up-to-date for this system.

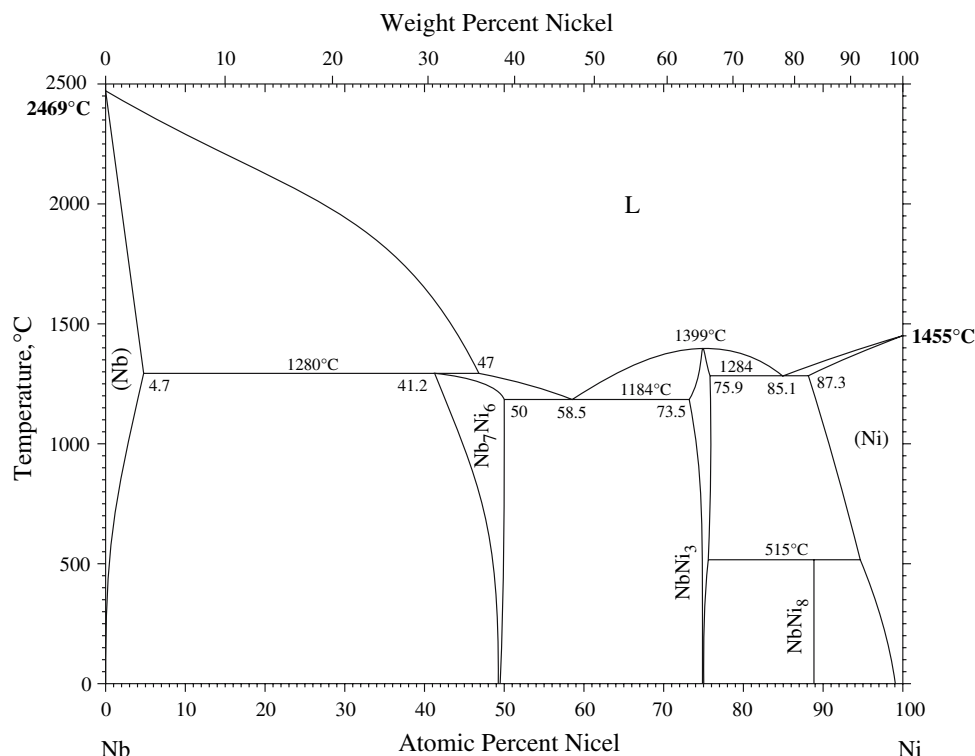
Table 1 shows Nb-Ni crystal structure data.

**Table 1** Nb-Ni crystal structure data

Phase	Composition, at.% Ni	Pearson symbol	Space group	Strukturbericht designation	Prototype
(Nb)	0-4.7	<i>cI2</i>	<i>Im</i> $\bar{3}m$	<i>A2</i>	W
Nb <sub>7</sub> Ni <sub>6</sub>	41.2-50	<i>hR13</i>	<i>R</i> $\bar{3}m$	<i>D8</i> <sub>5</sub>	Fe <sub>7</sub> W <sub>6</sub>
NbNi <sub>3</sub>	73.5-76	<i>oP8</i>	<i>Pmmn</i>	<i>DO</i> <sub>a</sub>	βTiCu <sub>3</sub>
NbNi <sub>8</sub>	88.9	<i>tI36</i>	...	...	...
(Ni)	87.3-100	<i>cF4</i>	<i>Fm</i> $\bar{3}m$	<i>A1</i>	Cu

## References

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- 1996Bol:** A. Bolcavage and U.R. Kattner, A Reassessment of the Calculated Ni-Nb Phase Diagram, *J. Phase Equilibria*, 1996, **17**(2), p 92-100
- 2004Jou:** J.M. Joubert, B. Sundman, and N. Dupin, Assessment of the Niobium-Nickel System, *Calphad*, 2004, **28**(3), p 299-306
- 2005Che:** H. Chen, Y. Du, H. Xu, Y. Liu, and J.C. Schuster, Experimental Investigation of the Nb-Ni Phase Diagram, *J. Mater. Sci.*, 2005, **40**(22), p 6019-6022
- 2006Oka:** H. Okamoto, Nb-Ni (Niobium-Nickel), *J. Phase Equilibria Diffusion*, 2006, **27**(3), p 314
- 2006Che:** H. Chen and Y. Du, Refinement of the Thermodynamic Modeling of the Nb-Ni System, *Calphad*, 2006, **30**(3), p 308-315



**Fig. 1** Nb-Ni phase diagram