

Mg-Nd

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Introduction

The Mg-Nd phase diagram in [Massalski2] was updated by [1991Oka] based on the experimental work of [1990Del].

[2005Gor] tested two thermodynamic models to represent the liquid phase. One of the models named the associate model agreed better with the result of [1990Del] than the random solution model. Figure 1 shows the Mg-Nd phase diagram obtained by the former model.

According to [1990Del], $Mg_{12}Nd$ reported earlier is metastable. This was confirmed by [2005Gor] by using scanning electron microscopy and X-ray diffraction.

References

- 1990Del:** S. Delfino, A. Saccone, and R. Ferro, Phase Relationships in the Neodymium-Magnesium Alloy System, *Metall. Trans. A*, 1990, **21**, p 2109-2114
- 1991Oka:** H. Okamoto, Mg-Nd (Magnesium-Neodymium), *J. Phase Equilibria*, 1991, **12**(2), p 249-250
- 2005Gor:** S. Gorsse, C.R. Hutchinson, B. Chevalier, and J.F. Nie, A Thermodynamic Assessment of the Mg-Nd Binary System Using Random Solution and Associate Models for the Liquid Phase, *J. Alloys Compounds*, 2005, **392**, p 253-262

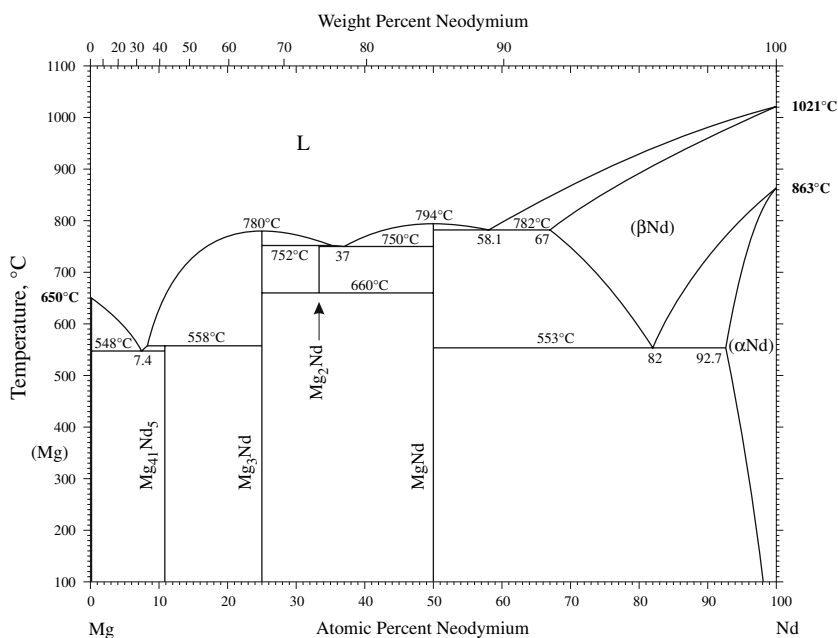


Fig. 1 Mg-Nd Phase Diagram