

Am – Np (Americium – Neptunium)

Phase diagram

On the basis of atom interactions given by Brewer's theory [80 Bre] and using the regular solution model Ogawa [93 Oga] has constructed the phase diagram, which is reproduced in Fig. 1.

The Am modifications existing at low temperatures have not been examined. Some crystallographic properties of these Am-modifications are given in Table 1.

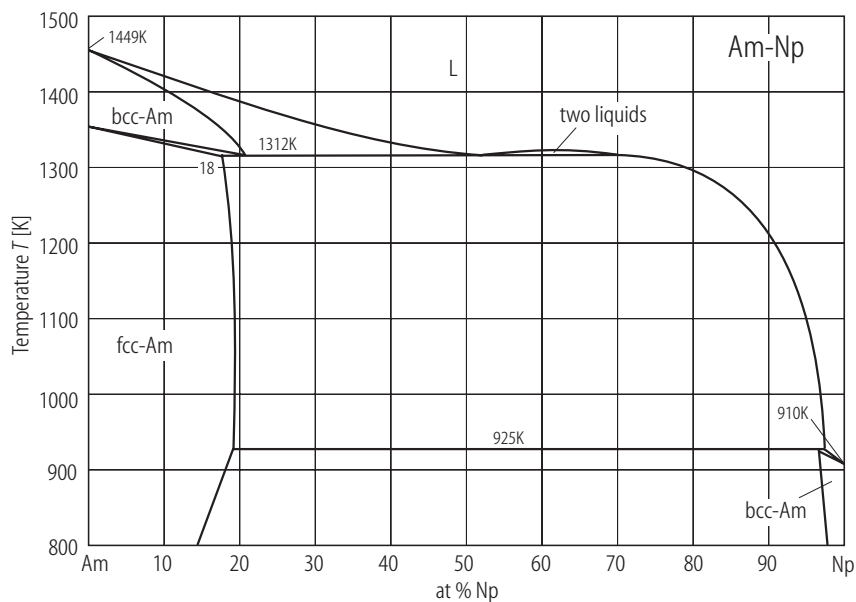
Table 1. Crystallographic data of Am modifications taken from [99 Oka].

Phase	Composition	Structure	Prototype
α -Am	0 - ?	hex	α -La
β -Am	0 – 20	cub	Cu
γ -Am	0 – 21	cub	W

Crystallographic data of Np-phases are mentioned in Table 2.

Table 2. Crystallographic data of Np modifications taken from [99 Oka].

Phase	Composition	Structure	Prototype
α -Np	100	ort	α -Np
β -Np	? – 100	tet	β -Np
γ -Np	97 - 100	cub	W

Figure**Fig. 1. Am–Np.** Phase diagram Am-Np calculated by [93 Oka].**References**

- [80 Bre] Brewer, L., Lamoreaux, R.H.: At. Energy Rev., Spec. Issue **7** (1980) 11
- [93 Oga] Ogawa, T.: J. Alloys and Comp. **194** (1993) 1
- [99 Oka] Okamoto, H.: J. Phase Equilibria **20** (1999) 450