

Al – Tc (Aluminum – Technetium)

Phase diagram

The phase equilibria are not known.

[63 Alt1] stated that at Al-rich concentrations the phase equilibria are similar to those in the Al-Re system. The intermediate phases found up to now are collected in Table 1 (see also [Massalski]).

Table 1. Al–Tc. Intermediate phases of the Al-Tc system.

Phase	Composition [at% Tc]	Structure	Prototype	Lattice parameters [nm]			Reference
				<i>a</i>	<i>b</i>	<i>c</i>	
Al ₁₂ Tc	7.7	cub	WAl ₁₂	0.7512			[63 Alt2]
Al ₆ Tc	14.3	ort	Al ₆ Mn	0.656	0.761	0.898	[62 Alt]
Al ₄ Tc	20	mon	MoAl ₄	0.51	1.70	0.51	[63 Alt2]
					$\beta = 100^\circ$		
Al ₂ Tc	33.3	tet	MoSi ₂				[65 Dar]
Al ₃ Tc ₂	40	hex	Ni ₂ Al ₃	0.415		0.512	[62 Alt]

References

- [62 Alt] d'Alte da Veiga, L.M.: Philos. Mag. **7** (1962) 1247
- [63 Alt1] d'Alte da Veiga, L.M., Philos. Mag. **8** (1963) 1241
- [63 Alt2] d'Alte da Veiga, L.M., Walford, L.K.: Philos Mag., **8** (1963) 349
- [65 Dar] Darby, J.B. Jr., Downey, J.W., Norton, L.J.: J. Less-Common Met. **8** (1965) 15
- [Massalski] Massalski, T.B., (ed.): "Binary Alloy Phase Diagrams", Second Edition, The Materials Information Society, ASM International, Materials Park, Ohio (1992)