

substance: $\text{Mn}_n\text{Si}_{2n-m}$

property: space group, lattice parameters of $\text{Mn}_n\text{Si}_{m-n}$ and $(\text{Mn}_{1-x}\text{T}_x)_n\text{Si}_{2n-m}$ systems

(RT values)

Compound (type, space group, coordination number)	a [Å]	c [Å]	Ref.
$\text{Mn}_{11}\text{Si}_{19} = \text{MnSi}_{1.727} (\text{D}_{2d}^8 - \text{P}\bar{4}\text{n}2)$	5.530	47.90	67K
	5.518	48.136	64S, 67F, 70N
$\text{Mn}_{26}\text{Si}_{45} = \text{MnSi}_{1.730} (\text{D}_{2d}^2 - \text{P}\bar{4}\text{c}2)$	5.515	113.36	67F, 70N
$\text{Mn}_{15}\text{Si}_{26} = \text{MnSi}_{1.733} (\text{D}_{2d}^{12} - \text{I}\bar{4}\text{2d})$	5.531	65.44	67K
	5.525	65.55	67F, 70N
$\text{Mn}_{27}\text{Si}_{47} = \text{MnSi}_{1.741} (\text{D}_{2d}^8 - \text{P}\bar{4}\text{n}2)$	5.53	117.9	71Z, 73Z
	5.530	117.94	70N
$\text{Mn}_4\text{Si}_7 = \text{MnSi}_{1.75} (\text{D}_{2d}^2 - \text{P}\bar{4}\text{c}2; Z = 4)$	5.532	17.54	67K
	5.525	17.463	69K, 72K
	5.526	17.455	71Z
$(\text{Mn}_{0.93}\text{Re}_{0.07})_n\text{Si}_{2n-m}$ (solubility limit)			69E
$(\text{Mn}_{0.95}\text{Cr}_{0.05})_{19}\text{Si}_{33} = \text{MSi}_{1.737} (\text{D}_{2d}^8 - \text{P}\bar{4}\text{n}2)$	5.533	83.068	70N, 68F
$(\text{Mn}_{0.85}\text{Cr}_{0.15})_4\text{Si}_7 = \text{MSi}_{1.75} (\text{D}_{2d}^2 - \text{P}\bar{4}\text{c}2)$	5.537	17.532	70N, 68F
$(\text{Mn}_{0.75}\text{Cr}_{0.25})_{17}\text{Si}_{30} = \text{MSi}_{1.765} (\text{D}_{2d}^{12} - \text{I}\bar{4}\text{2d})$	5.552	74.664	70N, 68F
$(\text{Mn}_{0.9}\text{Fe}_{0.1})_7\text{Si}_{12} = \text{MSi}_{1.714} (\text{D}_{2d}^{12} - \text{I}\bar{4}\text{2d})$	5.510	30.464	70N, 68F
$(\text{Mn}_{0.8}\text{Fe}_{0.2})_{23}\text{Si}_{39} = \text{MSi}_{1.696} (\text{D}_{2d}^8 - \text{P}\bar{4}\text{n}2)$	5.496	99.797	70N, 68F
$(\text{Mn}_{0.7}\text{Fe}_{0.3})_{22}\text{Si}_{37} = \text{MSi}_{1.682} (\text{D}_{2d}^2 - \text{P}\bar{4}\text{c}2)$	5.453	95.172	70N, 68F
$(\text{Mn}_{0.95}\text{Co}_{0.05})_{25}\text{Si}_{43} = \text{MSi}_{1.720} (\text{D}_{2d}^8 - \text{P}\bar{4}\text{n}2)$	5.516	108.950	68F

References:

- 64S Schwomma, O., Preisinger, A., Nowotny, H., Wittmann, A.: *Monatsh. Chem.* 95 (1964) 1527.
- 67F Flieher, G., Völlenkle, H., Nowotny, H.: *Monatsh. Chem.* 98 (1967) 2173.
- 67K Knott, H. W., Mueller, M. H., Heaton, L.: *Acta Crystallogr.* 23 (1967) 549.
- 68F Flieher, G., Völlenkle, H., Nowotny, H.: *Monatsh. Chem.* 99 (1968) 2408.
- 69E Elagina, F. I., Abrikosov, N. Kh.: *Izv. Akad. Nauk SSSR, Neorg. Mater.* 5 (1969) 1637 (translation: *Inorg. Mater.* 5 (1969) 1386).
- 69K Karpinskii, O. G., Evseev, B. A.: *Izv. Akad. Nauk SSSR, Neorg. Mater.* 5 (1969) 525 (translation: *Inorg. Mater.* 5 (1969) 483).
- 70N Nowotny, H.: in "The Chemistry of Extended Defects in Non-Metallic Solids", North Holland 1970, p. 223.
- 71Z Zwilling, G., Nowotny, H.: *Monatsh. Chem.* 102 (1971) 672.
- 72K Karpinskii, O. G., Evseev, B. A.: in "Chemical Bonds in Solids" Vol. 4 (ed. N. N. Sirota) Consultants Bureau New York 1972, p. 3.
- 73Z Zwilling, G., Nowotny, H.: *Monatsh. Chem.* 104 (1973) 668.