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Table 1: Values of the seven parameters of Nb silicide based alloys in the cast (AC) and heat treated (HT) conditions. In the footnote the nominal alloy compositions are in at%

Alloy Series	Alloy Condition	Property						
		ΔH_{mix} (kJ/mol)	ΔS_{mix} (J/molK)	VEC	δ	$\Delta\chi$	Ω	sd/sp
2	AC	-36.55	13.29	4.773	9.22	0.205	0.8	3.46
	HT	-36.46	13.19	4.783	9.21	0.202	0.84	3.46
2 [♦]	AC	-37.25	11.75	4.685	8.96	0.199	0.744	3.37
	HT	-38.81	11.55	4.668	9.10	0.196	0.7	3.18
2	AC	-38.59	11.94	4.605	9.53	0.203	0.697	3.02
	HT	-37.98	12.48	4.611	9.72	0.204	0.742	3.03
7*	AC	-37.04	8.30	4.813	8.71	0.214	0.572	3.85
	HT	-36.51	8.52	4.829	8.645	0.219	0.597	3.95
7	AC	-36.48	10.73	4.714	8.7	0.215	0.725	4.03
	HT	-38.82	10.875	4.698	9.09	0.218	0.687	3.63
7 [*]	AC	-41.5	11.94	4.616	8.7	0.212	0.685	3.07
	HT	-41.21	11.88	4.896	9.88	0.237	0.73	3
3 [♥]	AC	-33.62	11.28	4.748	8.10	0.216	0.817	3.78
	HT	-37.19	11.03	4.708	8.67	0.202	0.709	3.2
3	AC	-35.82	12.16	4.695	8.81	0.213	0.791	2.75
	HT	-36.43	12.15	4.678	8.93	0.212	0.770	2.6
3	AC	-32.69	12.06	4.713	8.39	0.200	0.876	3.07
	HT	-35.99	11.96	4.726	8.43	0.201	0.793	3.2
3	AC	-40.7	11.22	4.696	10.37	0.22	0.633	2.52
	HT	-42.74	11.41	4.637	9.11	0.192	0.606	2.12
3	AC	-35.14	14.67	4.686	8.57	0.224	0.947	2.58
	HT	-36.34	14.66	4.681	8.68	0.220	0.915	2.5
4 ⁺	AC	-34.62	11.15	4.556	8.16	0.121	0.735	3.59
	HT	-34.26	11.12	4.56	8.18	0.120	0.728	3.65
4 [▲]	AC	-39.93	12.31	4.447	9.13	0.168	0.679	2.9
	HT	-38.29	11.99	4.474	8.8	0.15	0.703	3.33
5 ^{▲▲}	AC	-41.57	12.4	4.413	13.33	0.155	0.667	2.62
	HT	-44.83	12.57	4.374	14.27	0.163	0.624	2.29
5	AC	-41.80	13.2	4.403	12.73	0.168	0.708	2.75
	HT	-43.02	13.35	4.377	13.33	0.172	0.693	2.62
6 ^{♦♦}	AC	-36.27	13.58	4.422	9.49	0.164	0.79	2.57
6 ^{▲▲}	AC	-39.4	12.31	4.458	8.42	0.146	0.672	2.61
	HT	-40.4	12.16	4.463	8.49	0.149	0.650	2.52
6	AC	-41.7	13.27	4.396	13.86	0.166	0.688	2.14
6	AC	-40.09	13.65	4.419	8.97	0.167	0.730	2.73
8 ^c	HT	-38.14	12.58	4.597	8.61	0.132	0.745	3.17
8	HT	-41.81	13.48	4.443	12.57	0.156	0.734	2.68
8 ^{**}	HT	-35.88	11.39	4.548	8.27	0.140	0.714	3.44
8	HT	-41.7	12.6	4.477	12.8	0.168	0.685	2.79

* alloy YG8 in [5], + alloy KZ5 in [2], c alloy KZ6 in [3], ** alloy JG3 in [14]

♦ Nb-15Ti-18Si-5Mo-5W-2Al-2Cr-2Hf-2Sn, ♣ Nb-10Ti-18Si-5Mo-3W-5Al-5Hf, ♥ Nb-10Ti-18Si-6Mo-3W-2Ge-2Sn-2Hf, ▲ Nb-24Ti-18Si-5Al-5Cr-5Hf, ▲▲ Nb-24Ti-18Si-5Al-5Cr-5Hf-8B, ♦♦ Nb-24Ti-18Si-5Al-5Cr-5Hf-5Sn, ♣♣ Nb-24Ti-18Si-5Al-5Cr-5Hf-5Ge (at%)

Table 2: Values of the parameters ΔH_{mix} , ΔS_{mix} , VEC, δ , $\Delta\chi$ and Q for different materials (see text)

Material	Parameter					
	ΔH_{mix} (kJ/mol)	ΔS_{mix} (J/molK)	VEC	δ	$\Delta\chi$	Ω^{++}
Nb silicide based alloys	- 32.7 to - 44.8	8.3 – 14.7	4.37 – 4.9	8.1 – 14.3	0.12 – 0.237	0.57 – 0.95
bcc Nb _{ss} solid solutions [28]	- 2 to - 15.9	5.8 – 14.5	4.4 – 5.4	2.4 – 9.7	0.039 – 0.331 with a gap ⁺ 0.13 to 0.179	1.55 – 8.9
Single phase solid solution [34]	5 to - 16.25		< 6 for bcc solid solution	< 6		> 1
bcc solid solution and intermetallic HEAs*	2.5 to - 35	11.5 – 14.5	5.7 - 8	4.6 - 11	0.125 – 0.225	1 - 10
Amorphous alloys	0 to - 50	6 – 17.5	4 – 9.5	4.6 – 18.5	0.1 – 0.35	

*see text, + see Part I [15]

++ The capital letter Q was used instead of Ω for the ratio $T_m\Delta S_{\text{mix}} / |\Delta H_{\text{mix}}|$ in [28]