

Alloy Nominal Compositions

Corrosion-resistant alloys: Nickel-Base

Alloy	Ni ^a	Co	Fe	Cr	Mo	W	Mn	Si	Cb	V	Al	Ti	C	Cu	Others
B-2	69	1*	2*	1*	28	0.5*	1*	0.1*	-	-	-	-	0.01*	0.5*	-
B-3 [®]	65b	3*	1.5	1.5	28.5	3*	3*	0.1*	0.2*	0.2*	0.5*	0.2*	0.01*	0.2*	Ta-0.2*, Zr-0.01*
C-4	65	2*	3*	16	16	-	1	0.08*	-	-	-	0.7*	0.01*	0.5*	-
C-22 [®]	56	2.5*	3	22	13	3	0.5*	0.08*	-	0.35*	-	-	0.01*	0.5*	-
C-22HS [®]	61	1*	2*	21	17	1*	0.8*	0.08*	-	-	0.5*	-	0.01*	0.5*	-
C-86	58	-	5*	21	16	4	1*	0.08*	-	-	0.5*	0.25*	0.01*	0.5*	-
C-276	57	2.5*	5	16	16	4	1*	0.08*	-	0.35*	-	-	0.01*	0.5*	-
C-2000 [®]	59	2*	3*	23	16	-	0.5*	0.08*	-	-	0.5*	-	0.01*	1.6	-
G-30 [®]	43	5*	15	30	5.5	2.5	1.5*	0.8*	0.8	-	-	-	0.03*	2	-
G-35 [®]	58	1*	2*	33.2	8.1	0.6*	0.5*	0.6*	-	-	0.4*	-	0.05*	0.3*	-
G-50 [®]	50b	2.5*	17	20	9	1*	1*	1*	0.5*	-	0.4*	-	0.02*	0.5*	-
HYBRID-BC1 [®]	62	1*	2*	15	22	-	0.25	0.08*	-	-	0.5*	-	0.01*	-	-
N	71	0.2*	4*	7	16	0.5*	0.8*	1*	-	0.5*	-	-	0.06	0.35*	(Al+Ti)-0.5*

^aAs balance ^bMinimum ^cCb+Ta *Maximum

Cobalt-Base

Alloy	Co ^a	Ni	Fe	Cr	Mo	W	Mn	Si	N	C
ULTIMET [®]	54	9	3	26	5	2	0.8	0.3	0.08	0.06

^aAs balance ^bMinimum ^cCb+Ta *Maximum

Alloy Nominal Compositions

High-temperature Alloys: Nickel-Base

Alloy	Ni ^a	Co	Fe	Cr	Mo	W	Mn	Si	Cb	Al	Ti	C	B	Zr	Cu	Others
75	76	-	5*	20	-	-	1*	1*	-	0.4*	0.4	0.11	-	-	0.5*	-
214 [®]	75	2*	3	16	0.5*	0.5*	0.5*	0.2*	0.15*	4.5	0.5*	0.04	0.01*	0.1*	-	Y-0.01
230 [®]	57	5*	3*	22	2	14	0.5	0.4	0.5*	0.3	0.1*	0.1	0.015*	-	0.5*	La-0.02
233 [™]	48	19	1.5*	19	7.5	0.3*	0.4*	0.20*	-	3.3	0.5	0.1	0.004	0.03	-	Ta-0.5, Y-0.025*
242 [®]	65	1*	2*	8	25	-	0.8*	0.8*	-	0.5*	-	0.03*	0.006*	-	0.5*	-
244 [®]	61	1*	2*	8	22.5	6	0.8*	0.1*	-	0.5*	-	0.03*	0.006*	-	-	-
263	52	20	0.7*	20	6	-	0.4	0.2	-	0.6*	2.4*	0.06	0.005*	0.04*	0.2*	(Al+Ti)-2.6
282 [®]	57	10	1.5*	20	8.5	-	0.3*	0.15*	-	1.5	2.1	0.06	0.005*	-	-	-
617	54	12.5	1	22	9	-	0.2*	0.2*	-	1.2	0.3	0.07	0.006*	-	-	-
625	62	1*	5*	21	9	-	0.5*	0.5*	3.7 ^c	0.4*	0.4*	0.1*	-	-	0.5*	-
625SQ [®]	62	1*	5*	21	9	-	0.5*	0.15*	3.7 ^c	0.4*	0.4*	0.03*	-	-	0.5*	N-0.02*
718	52	1*	19	18	3	-	0.35*	0.35*	5.0 ^c	0.5	0.9	0.05	-	0.004	0.1*	-
B	67	2.5*	5	1*	28	-	1*	1*	-	-	-	0.05*	-	-	0.15*	V-0.3
HR-160 [®]	37	29	2*	28	1*	1*	0.5	2.75	1.0*	0.4*	0.5	0.05	-	-	0.5*	-
HR-224 [®]	47	2*	27.5	20	0.5*	0.5*	0.5*	0.3	0.15*	3.8	0.3	0.05	0.004*	0.025*	-	-
HR-235 [®]	-	-	1.5*	31	5.6	-	0.65*	0.6*	1*	0.4*	0.5*	0.06*	-	-	3.8	-
R-41	52	11	5*	19	10	-	0.1*	0.5*	-	1.5	3.1	0.09	0.006	0.07*	-	-
S	67	2*	3*	16	15	1*	0.5	0.4	-	0.25	-	0.02*	0.015*	-	0.35*	La-0.02
W	63	2.5*	6	5	24	1*	1*	1*	-	-	-	0.12*	-	-	0.5*	V-0.6*
Waspaloy	58	13.5	2*	19	4.3	-	0.1*	0.15*	-	1.5	3	0.08	0.006*	0.05	0.1*	-
X	47	1.5	18	22	9	0.6	1*	1*	0.5*	0.5*	0.15*	0.1	0.008*	-	0.5*	-
X-750	70 ^b	1*	8	16	-	-	0.35*	0.35*	1 ^c	0.8	2.5	0.08*	-	-	0.5*	-

^aAs balance ^bMinimum ^cCb+Ta *Maximum

Alloy Nominal Compositions

High-temperature Alloys Continued:

Cobalt-Base

Alloy	Co ^a	Ni	Fe	Cr	Mo	W	Mn	Si	Cb	Al	Ti	C	B	Zr	Cu	Others
6B	58	2.5	3*	30	1.5*	4	1.4	0.7	-	-	-	1	-	-	-	-
25	51	10	3	20	1*	15	1.5	0.4*	-	-	-	0.10	-	-	-	-
188	39	22	3*	22	-	14	1.25*	0.35	-	-	-	0.10	0.015*	-	-	La-0.03
NS-163 [®]	40	8	21	28	-	-	0.5*	0.5*	1	0.5*	1.3	0.10	0.015*	-	0.2*	-

^aAs balance ^bMinimum ^cCb+Ta ^{*}Maximum

Iron-Base

Alloy	Fe ^a	Ni	Co	Cr	Mo	W	Mn	Si	Cb	Ta	Al	C	N	B	Cu	Others
556 [®]	31	20	18	22	3	2.5	1	0.4	0.3*	0.6	0.2	0.1	0.2	0.02*	-	Zr-0.02, La-0.02
HR-120 [®]	33	37	3*	25	1*	0.5*	0.7	0.6	0.7	-	0.1	0.05	0.2	0.004	0.5*	Ti-0.2*
MULTIMET [®]	30	20	20	21	3	2.5	1.5	1*	1c	-	-	0.12	0.15	-	0.5*	-

^aAs balance ^bMinimum ^cCb+Ta ^{*}Maximum

Titanium Alloys:

Alloy	Ti ^a	Al	V	Fe	Sn	Cr	C	N	O	H
Ti-3Al-2.5V	94	3	2.5	0.25*	-	-	0.05*	0.02*	0.12*	**

^aAs balance ^bMinimum ^cCb+Ta ^{*}Maximum ^{**}Varies with specifications