

COMMON ALLOYS

No.1

Material Name	Ni	Cr	Co	Mo	W	C	Ti	Al	Cu	Fe	Other
A286	25.5	14.75		1.25		0.08	1.90	0.35		BAL	V 0.25
Alloy42	See Carpenter42										
Alnico1	20.0		5.0					12.0		68.0	
Alnico2	17.0		12.5					10.0	6.00	54.0	
Alnico4	28.0		5.0					12.0		55.0	
Alnico5	14.0		24.0					8.0	3.00	50.0	
Alumcl	95.0							1.0			Mn3.00 Si1.00
Astroloy	57.0	15.0	15.0	5.0		0.06	3.50	4.30		0.20	
B1900	63.0	8.0	10.0	6.0		0.10	1.00	6.00		0.35	Ta4.25
B1910	62.5	10.0	10.0	3.25		0.09	1.00	6.00			Ta7.0 B0.01 Zr0.10
C130	61.0	23.0	1.0	10.0		0.10	2.5	0.5			
C242	57.0	21.5	10.0	10.5		0.30	0.5	0.2		0.75	
C263	51.5	20.0	20.0	5.9			2.2	0.5		0.75	
Carpenter10	18.0	16.0				0.08				BAL	
Carpenter20	27.0	20.0		2.5					3.50	45.0	
Carpenter42	41.5					0.10				BAL	
Carpenter49	48.5									51.0	
ChromelA	80.0	20.0									
ChromelAA	70.0	20.0								10.0	
ChromelC	59.0	16.0								23.0	Si1.3
ChromelD	36.0	18.5								44.0	Si1.5
CuproNickel10%	10.0								88.6	1.00	Mn0.4
CuproNickel20%	20.0								78.8	0.60	Mn0.6
CuproNickel30%	30.0								68.9	0.50	Mn0.6
D979	45.0	15.0		3.70	3.70		3.00	1.00		27.0	
Densalloy	6.0				90.0				4.00		
Discaloy	26.0	13.5		2.75		0.08	1.60	0.35		BAL	
Durenickel	94.0					0.15	0.50	4.50	0.05	0.15	Mn0.25 Si0.55
Elgiloy	15.0	20.0	40.0	7.00		0.15				BAL	Mn2.0 Be0.04
GMR-235	63.0	15.5		5.25		0.10	2.00	3.00		10.0	B0.04
GeekAscoloy	2.0	13.5			3.00	0.15				BAL	

## COMMON ALLOYS

### No.2

Material Name	Ni	Cr	Co	Mo	W	C	Ti	Al	Cu	Fe	Other
HastelloyA	59.0	—	—	20.0	—	0.10	—	—	—	20.0	
HastelloyB	64.0	—	—	28.0	—	0.10	—	—	—	6.00	
HastelloyC	57.0	16.0	—	17.0	4.5	0.15	—	—	—	5.55	
HastelloyC276	56.0	15.5	2.5Max	16.0	3.5	0.02Max	—	—	—	5.5	1.0MNMax
HastelloyD	85.0	—	—	—	—	0.10	—	—	4.00	1.00	Si10.0
HastelloyF	47.0	22.0	2.50	6.50	1.0	—	—	—	—	—	Cb2.0
HastelloyG	45.0	22.0	2.50	6.50	1.0	0.05	—	—	2.50	—	Mn2.0 Cb+Ta2.50
HastelloyN	71.0	7.0	—	16.5	—	0.06	—	0.50	—	5.0	
HastelloyR	65.0	15.5	1.50	5.0	—	0.10	2.50	2.25	—	7.0	
HastelloyW	60.0	5.0	2.50	25.0	—	0.12	—	—	—	5.5	V0.60
HastelloyX	45.0	22.0	1.50	9.0	0.60	0.10	—	—	—	BAL	
HS-1	—	30.0	55.0	—	12.0	2.50	—	—	—	—	
HS-3	—	31.0	50.0	—	12.5	2.40	—	—	—	3.0	
HS-4	3.0	30.0	51.0	—	14.0	—	—	—	—	3.0	
HS-6	3.0	30.0	56.0	1.5	5.0	—	—	—	—	3.0	
HS-12	3.0	31.0	56.0	—	8.0	—	—	—	—	2.0	
HS-19	3.0	31.0	53.0	—	10.0	—	—	—	—	3.0	
HS-21	2.5	27.0	62.0	5.5	—	—	—	—	—	2.0	
HS-23	1.5	26.0	66.0	—	5.0	0.40	—	—	—	2.0	
HS-25(L605)	10.0	20.0	50.0	1.0	15.0	—	—	—	—	3.0	
HS-27	35.0	26.0	30.0	6.0	—	—	—	—	—	2.0	
HS-30	15.0	26.0	51.0	6.0	—	—	—	—	—	2.0	
HS-31	10.5	26.0	55.0	—	7.5	—	—	—	—	2.0	
HS-151	1.0	20.0	65.0	—	13.0	0.50	—	—	—	2.0	
HS-188	22.0	22.0	36.0	—	14.0	0.10	—	—	—	3.0	
HSSterJ	2.5	35.0	40.0	—	20.0	2.4	—	—	—	3.0	B0.2
Hypernick	50.0	—	—	—	—	—	—	—	—	50.0	
HyMu80	80.0	—	—	4.0	—	—	—	—	—	16.0	
HliumD	—	27.0	65.0	4.5	1.0	0.20	—	—	—	1.0	
HliumG	57.0	22.5	—	6.4	—	—	—	—	6.5	6.5	
HliumR	64.0	22.0	—	5.0	—	—	—	—	2.5	6.0	
HliumX	1.0	28.5	52.0	—	15.0	0.85	—	—	—	2.0	MN0.25 Si0.40
IN108	60.0	10.0	15.0	3.0	—	—	5.00	5.50	—	—	V1.0
IN102	68.0	15.0	3.0	3.0	3.0	0.60	0.50	0.50	—	7.0	Cb3.0

COMMON ALLOYS

No.3

Material Name	Ni	Cr	Co	Mo	W	C	Ti	Al	Cu	Fe	Other
Incoloy800	32.0	20.5				0.10	0.40	0.40		46.0	
Incoloy801	32.0	20.5					1.10			45.0	
Incoloy802	32.5	21.0				0.35	0.75	0.60		45.0	
Incoloy825	42.0	21.5		3.0		0.50	1.00	0.20	2.0	BAL	
Incoloy901	42.5	12.5		6.0		0.50	2.70	0.35	0.1	34.0	
Inconel600	75.5	15.5				0.04			0.1	8.0	
Inconel601	60.5	23.0				0.50		1.35	0.5	14.0	
Inconel625	61.0	20.5		9.0		0.05				2.5	Cb4.02
Inconel700	46.0	15.0	28.5				3.75	2.20	3.0	0.5	
Inconel702	79.5	16.0				0.05	0.50	3.50	0.25	1.0	
Inconel713	71.0	13.4	1.00	4.5		0.12	1.00	6.20		2.5	
Inconel713LC	72.0	13.0		4.5		0.20	0.60	6.00		1.0	Cb2.25
Inconel718	52.5	19.0		3.05		0.40	0.90	0.50	0.15	18.5	Cb + Ta5.13
Inconel721	71.0	16.0				0.40	3.50		0.10	7.0	Mn2.25
Inconel722	75.0	15.5				0.40	2.40	0.70	0.05	7.0	
Inconel738	61.0	16.0	8.50	1.7	2.6	0.17	3.40	3.40			Cb1.9 Ta1.7
Inconel750	73.0	15.5				0.04	2.50	0.70	0.50	7.0	Cb + Ta0.95
Inconel751	72.5	15.5				0.05	2.50	1.20	0.50	7.0	Cb + Ta1.0
Inconel901	42.5	12.5	1.0	6.0		0.05	2.70	0.35	0.1	34.0	
Inver	36.0					0.18				BAL	
Jetalloy570	29.0	20.0	37.5		7.0	0.20	4.2				
Kover	29.0		17.0							53.8	Mn0.20
L605	See HS-25										
M252	53.5	19.0	10.0	9.5		0.15	2.5	1.0		5.0	
Mallory1000	6.0				90.0				4.0		
Maraging250	18.0		7.5	4.7		0.03	0.4	0.1		BAL	
Maraging300	18.5		8.75	4.8		0.03	0.6	0.1		BAL	
MAR-M200	60.0	9.0	10.0		12.5	0.15	2.0	5.0		0.3	
MAR-M302		21.5	57.0		10.0	0.85				0.8	Ta9.0 Si0.3 Mn0.1 Zr0.2
MAR-M509	10.0	22.5	53.0		7.0	0.6	0.2			1.5	Ta3.5 Si0.4 Mn0.1 Zr0.5
Monel400 (R )	66.0					0.12			31.0	2.0	Mn1.0
Monel404	54.5					0.06		0.03	44.0	0.05	

COMMON ALLOYS

No.4

Material Name	Ni	Cr	Co	Mo	W	C	Ti	Al	Cu	Fe	Other
MonelR405	66.0					0.18			31.5	1.35	Mn1.0
MonelK500	66.5					0.15	0.5	3.00	29.5	1.0	Mn0.75
Monel505(S)	64.0					0.80			29.0	2.0	Mn0.8
Monel506(H)	64.0					0.10			30.0	1.5	Si4.0 Si3.2
Multimet	See N155										
MuMctal	75.0	2.0							5.0	18.0	
N153	33.0	17.0	24.0	3.0	2.0	0.33				BAL	Cb1.0
N154	24.0	17.0	21.0	3.0	2.0	0.32				BAL	Cb1.0
N155(Multimet)	20.0	20.0	20.0	3.0	2.5	0.15				BAL	Cb1.0
N156	15.0	17.0	12.0	3.0	2.0	0.32				BAL	Cb1.0
NA22H	48.0	28.0			5.0	0.5				BAL	Si1.0 Mn1.3
Nichrome	60.0	15.0				0.40				BAL	Si1.4
NichromeV	79.0	20.0				0.40				BAL	Si1.4
Nickel200	99.5					0.06			0.05	0.15	Mn0.2
Nickel202	95.5				3.8	0.03			0.02	0.05	
Nickel204	95.2		4.5			0.03			0.02		
Nickel210	95.6					0.80			0.50	0.50	Si1.6
Nickel211(D)	95.0					0.10			0.30	0.50	Mn4.5
Nickel213(G)	95.0					1.50			0.50	0.50	Si1.6
Nickel305(S)	91.5					0.80			0.50	0.50	Si6.0
Nicrotung	61.0	12.0	10.0		10.0	0.10	4.0	4.0			
Ni-Hard	4.5	2.0				3.00				89.5	Mn0.5 Si0.5
Nimonic75	77.6	20.5				0.10	0.35	0.2	0.05	0.5	
Nimonic80	74.5	20.5				0.05	2.50	1.25	0.05	0.55	

COMMON ALLOYS

No.5

Material Name	Ni	Cr	Co	Mo	W	C	Ti	Al	Cu	Fe	Other
Nimonic90	58.0	19.5	18.0			0.10	2.3	1.2			
Nimonic95	50.0	20.0	20.0				3.0	2.0			
Nimonic100	50.0	19.0	20.0	5.0		0.10	3.0	2.0			
Nimonic105	46.0	15.0	20.0	5.0		0.15	1.45	4.5			
Nimonic115	42.5	15.0	15.0	3.5		0.20	4.0	5.0			
Niresist1	15.5	1.75				3.00			6.0	BAL	Si2.0
Niresist2	20.0	2.0				3.00				BAL	Si2.0
Niresist3	30.0	3.0				2.60				BAL	Si1.5
Niresist4	30.5	5.0				2.60				BAL	Si5.5
Niresist5	35.0	3.1				2.40				BAL	Si1.5
Ni-SpanC	42.0	5.4				0.02	2.4	0.65	0.05	BAL	
Permalloy	78.5									21.5	
Permendur			50.0							50.0	
PWA653	See WI 52										
PWA663	See B 1900										
PWA686	57.0	19.5	13.5	4.0		0.05	2.5	1.5		2.0	
PWA688	See Udimet 500										
PWA689	See Udimet 700										
RA330	35.0	19.0				0.06			0.5	43.0	Mn1.5 Si1.25
RA333	45.0	25.0	3.0	3.0	3.0	0.05			0.5	18.0	
Remendur			50.0							BAL	V5.0
Rene41	55.5	19.0	11.0	10.0		0.09	3.2	1.6			
Rene77	57.0	15.0	15.0	5.0		0.06	3.5	4.4			
S-816	20.0	20.0	43.0	4.0	4.0	0.38				4.0	Mn0.20 Cb4.0
Sealmet	42.0	5.0								53.0	
Stellites	See HS Series										
Supertherm	35.0	26.0	15.0		5.0	0.5				BAL	Si1.6
Thetaloy	49.0	25.0	12.5	3.0	7.0					3.0	
Ticonium	30.0	25.0	30.0	6.0		0.06					
TophetA	80.0	20.0									
TophetB	70.0	20.0								BAL	
TophetC	61.0	15.0						3.0		BAL	
TophetM	65.0	30.0				5.00					
Tomilloy	57.0	19.0	8.0	9.0	3.0						

COMMON ALLOYS

No.6

Material Name	Ni	Cr	Co	Mo	W	C	Ti	Al	Cu	Fe	Other
Timken(16-15-6)	15.0	16.0		6.0						BAL	Mn7.5
Timken(16-25-6)	25.0	16.0		6.0						BAL	Mn1.35
TZM				BAL		0.015	0.5				Zr0.08
Udimct200	See Incoloy901										
Udimct500	53.0	17.5	16.5	4.0		0.10	3.0	3.0		2.0	
Udimct520	56.0	19.0	12.0	6.0	1.0		3.0	2.0		1.0	
Udimct600	52.0	17.5	16.5	4.0			2.9	4.2		4.0	
Udimct700	52.0	15.0	18.5	4.0		0.07	3.5	4.2		1.0	
Udimct710	55.0	18.0	15.0	3.0	1.5	0.07	5.0	2.5			
UMCO50		28.0	52.0			0.10				20.0	
UMCO51		28.0	50.0			0.27				20.0	Cb2.0
Vicalloyl			52.0		1.9					BAL	V10.0 Mn0.30
Vicalloyll			51.7			0.02				BAL	V14.0 Mn0.30
Waspalloy	55.0	19.0	13.5	4.25		0.05	2.5	1.2		1.0	
Waspalloy(MOD)	56.0	19.0	11.5	7.0		0.05	2.5	1.2		1.2	
WJ52	1.0	21.0	64.0	11.0		0.45				0.6	Mn0.5 Si0.5 Cb + Ta2.0
Zircalloy2	0.05	0.1								0.12	Sn1.5 ZrBAL
Z Nickel	See Duranickel										