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CRM NICKEL SET

available in SET/5 only rods 6 mm Ø x 100 mm

Number	Co	Cu	Fe	Mg	Mn	Ni	Si
IMN 6-1	0.045	0.21	0.096	0.22	0.0063	Rem	0.0043
IMN 6-2	0.091	0.26	0.33	0.0061	0.18	Rem	0.0074
IMN 6-3	0.19	0.044	0.050	0.012	0.015	Rem	0.18
IMN 6-4	0.40	0.10	0.023	0.075	0.074	Rem	0.06
IMN 6-5	0.71	0.0094	0.011	0.0014	0.0018	Rem	0.0012

CRM ISO 17025 NICKEL

wrought analysis listed in mass % except * which is mg/kg

BS 200A: 38 mm Ø x ~7 mm

others: 38 mm Ø x 15 mm

Number	Al	As	B	Bi*	C	Ca	Co	Cr	Cu	Fe	Mg	Mn	Mo	N	Nb	Ni
BS 200-1	0.0048	0.0010	0.0033	.	0.0413	0.00024	0.089	0.0011	0.0077	0.046	0.0307	0.111	0.0004	(0.0002)	0.0004	99.60
BS 200A	0.0281	0.0015	0.0044	.	0.078	0.0003	0.0564	0.0006	0.0038	0.074	0.0131	0.151	0.0004	0.0004	0.0004	99.54
BS 200-3	0.0068	0.0015	0.0037	(0.2)	0.0145	0.0003	0.103	0.0091	0.108	0.138	0.0240	0.157	0.0004	(0.0002)	0.0004	99.4
BS 200-2	0.0041	0.0012	0.0031	.	0.050	0.0004	0.104	0.0094	0.053	0.115	0.0368	0.244	0.0005	0.0003	0.0009	99.31
BS 200-4	0.0057	0.0014	0.0037	.	0.107	0.00028	0.0911	0.132	0.0482	0.297	0.0312	0.310	0.0013	0.00031	0.0010	98.9

Number	O	P	Pb	S	Sb*	Si	Sn	Ta	Te*	Ti	V	W	Zn*	Zr
BS 200-1	0.0015	0.0009	0.0010	0.0011	(0.2)	0.037	(0.0001)	(0.0004)	.	0.0209	0.0008	0.00016	.	(0.0002)
BS 200A	0.0013	0.0007	(0.00005)	0.0037	(0.2)	0.0051	(0.0001)	(0.0003)	.	0.0427	0.0006	0.0005	.	(0.0004) last
BS 200-3	0.0026	0.0015	0.0008	0.0032	(0.4)	0.0110	0.0003	(0.0001)	(0.4)	0.0235	0.0009	(0.0004)	(2)	(0.0003)
BS 200-2	0.0025	0.0020	0.0006	0.0068	(0.4)	0.060	(0.0002)	(0.0002)	.	0.0197	0.0014	(0.0003)	.	(0.0003)
BS 200-4	0.0015	0.0023	0.00087	0.0076	0.4	0.101	0.0020	0.0003	.	0.0191	0.0024	0.00095	.	(0.0004)

NICKEL

= class, where 1 = CRM and 2 = RM

* center of IARM 189A has a few mm crack, not intended for XRF

31 mm Ø x 2 or 18 mm

#	Number	Ag	Al	As	Bi	C	Cd	Co	Cr	Cu	Fe	Mn	N	Ni	O
1	IARM 50C	.	(0.004)	.	B:0.0027	0.015	.	(0.011)	(0.005)	0.028	0.084	0.22	trace	99.4	.
2	IARM 190A	0.00109	0.0050	0.0028	0.00111	0.0022	0.0005	0.0008	(0.0001)	0.0017	0.0099	0.00018	trace	Rem	.
2	IARM 189A *	0.00024	0.0044	0.00007	0.00026	0.0023	0.00008	0.00031	(0.0010)	0.00090	0.0038	0.00019	trace	Rem	.
2	IARM 188A	0.00011	0.0024	0.00007	0.00009	0.0022	0.00002	0.00017	(0.0006)	0.00018	0.0019	0.00023	trace	Rem	.
2	IARM 191A	0.00001	0.00015	0.0013	<0.00001	0.0014	<0.0001	0.0545	0.00021	0.00042	0.00079	0.00031	trace	Rem	.
2	IARM 187A	0.00001	0.0011	0.00001	<0.00001	0.0013	(<0.00001)	0.00010	(0.0003)	0.00022	0.0019	0.00030	trace	Rem	.

Number	P	Pb	S	Sb	Se	Si	Sn	Te	Ti	Tl	V	W	Zn	Zr
IARM 50C	(0.0014)	.	0.0012	.	.	0.031	.	.	0.026	.	.	Mg:0.005	.	.
IARM 190A	0.0034	0.00093	0.00033	0.0011	0.00065	0.0028	0.00062	0.00089	(0.0006)	0.00058	.	.	0.00081	.
IARM 189A *	0.00037	0.00029	0.00018	0.00039	0.00021	0.0019	0.00022	0.00017	(0.0003)	0.00023	.	.	0.00028	.
IARM 188A	0.00014	0.00010	0.00018	0.00011	0.00007	0.0018	0.00011	0.00008	(0.0002)	(0.00009)	.	.	0.00023	.
IARM 191A	<0.00010	0.00003	0.00021	<0.00005	0.00019	(0.0005)	0.00004	<0.00001	(<0.0001)	<0.00002	.	.	0.00019	.
IARM 187A	<0.00010	0.000015	0.00019	<0.00005	<0.00001	(0.0018)	0.00004	<0.00001	(0.0003)	<0.00002	.	.	<0.00005	.

CRM**Co/Cr NICKEL ALLOY TYPE IN 100**

wrought analysis listed in mass %

Number	Co	Cr	Al	Mo	Ti	V	B	C	Zr	Units
SS 346A	(15)	(10)	(5.5)	(3)	(5)	(1)	.	(0.15)	.	38 mm Ø x 13 mm
SS 345	14.70	9.93	5.58	3.01	(5)	1.00	0.019	0.153	0.044	35 mm Ø x 13 mm

continued analysis listed in mg/kg

Number	Ag	As	Bi	Ca	Cd	Ga	In	Mg	Pb	Sb	Se	Sn	Te	Tl	Zn
SS 346A	42	51	10	(20)	0.4	(50)	(20)	130	22	45	6	93	9	(2)	29
SS 345	<0.2	(2)	<0.2	(<5)	<0.1	8	.	5	0.2	<2	<0.5	6	<0.2	<0.2	<0.5

CRM**CHROMIUM NICKEL ALLOY**

219X: ~40 mm Ø x ~15 mm

IARM: 31 mm Ø x 2 or 18 mm

VS: ~40 mm Ø x ~28 mm

Number	Cr	Al	C	Co	Cu	Fe	Mn	Mo	N	Nb	Ni	P	S	Si	Ti	V
IARM 372A	28.3	3.28	0.030	0.009	(0.004)	3.12	0.285	(0.006)	(0.011)	0.71	63.6	(0.003)	0.0016	0.020	0.486	(0.008)

Co/Cr and Cr/Co NICKEL ALLOYS

= class, where 1 = CRM and 2 = RM

#	Number	Cr	Co	Al	Fe	Mo	Ta	Ti	W	C	Cu	Mn	P	S	Si	V
1	IARM 358A	24.6	20.1	1.33	0.122	0.310	.	1.36	(0.002)	0.026	(0.005)	0.259	(0.004)	0.0018	0.145	0.009
1	IMZ 186	23.14	Rem	0.28	0.10	.	3.78	0.19	7.17	0.59	.	.	.	.	.	.
1	IARM 272A	21.98	12.89	1.16	1.10	9.34	(0.01)	0.50	0.061	0.082	0.015	0.067	(0.003)	0.0002	0.07	(0.005)
1	IARM Ni617-18	21.9	11.81	1.08	1.45	9.33	.	0.32	(0.02)	0.079	(0.009)	0.24	(0.004)	(0.0007)	0.21	(0.006)
2	27X 14184F	21.8	10.5	0.02	0.40	10.7	.	0.02	.	.	0.09	0.40	.	.	0.41	.
1	BS 617A	21.5	12.37	1.10	1.53	9.27	<0.05	0.42	(0.018)	0.071	(0.005)	0.17	(0.003)	(0.0003)	0.16	(0.005)
1	IARM NiN155	19.46	19.2	0.153	31.4	2.87	.	0.0026	2.42	0.116	0.039	1.46	0.008	(0.0009)	0.55	0.0236
1	SRM 1775	20.472	33.352	(0.024)	0.91	9.508	.	0.730	(0.02)	(0.0051)	(0.0046)	0.0121	(0.0006)	0.0013	(0.02)	0.0095
2	27X 14387E	20.2	10.0	<0.005	1.11	10.8	.	<0.005	.	.	<0.005	0.27	.	.	0.28	.
1	IARM NiWasp18	19.7	13.13	1.36	0.69	4.28	(0.005)	3.01	0.030	0.038	0.009	0.022	0.0032	(0.0004)	0.028	(0.023)
1	24X 07001C	19.62	13.20	1.476	1.023	4.31	.	3.14	0.041	0.0360	0.0118	0.024	0.0023	0.0005	0.042	0.041
1	BS 199B	19.46	12.41	1.37	1.17	3.87	(0.001)	3.00	0.048	0.041	0.015	0.0240	0.0031	0.0005	0.034	0.071
1	SRM 1243	19.05	12.39	1.23	0.776	4.226	(0.0003)	3.054	0.0139	0.024	(0.0063)	0.00730	0.00317	0.00217	0.0192	0.1043
1	IA NiR41-21	18.98	11.1	1.58	2.92	9.61	.	3.10	0.006	0.081	(0.0025)	0.013	.	(0.0002)	0.028	0.012
1	IARM 287A	18.47	16.99	3.02	0.086	3.51	0.010	3.02	0.013	0.079	(0.001)	(0.002)	(0.001)	0.0008	0.02	(0.004)
1	IMZ 183A	15.99	8.23	3.45	0.063	1.63	1.56	3.39	2.62	0.107	.	.	.	.	0.021	.
1	IMZ 184	14.16	14.32	4.37	.	4.30	.	3.43	.	0.086	.	.	(0.001)	.	(0.018)	.
1	IMZ 205	10.07	5.35	4.97	0.013	0.015	11.92	1.34	4.13	0.040	(0.0007)	0.0020	(0.0002)	(0.0003)	0.009	.
1	IMZ 185	9.91	4.47	5.56	(0.022)	3.92	.	2.73	5.12	0.152	.	.	.	.	.	.
1	IMZ 206	9.78	5.37	4.99	0.036	0.064	11.95	1.36	4.08	0.035	(0.0003)	(0.002)	0.0007	(0.0004)	0.028	.
1	IMZ 187A	8.85	9.75	4.93	0.11	1.86	3.75	2.35	6.91	0.110	.	.	.	.	.	.
1	IMZ 182	8.63	13.52	5.69	(0.04)	3.10	.	4.69	.	0.169	.	.	.	.	.	0.81
1	IMZ 202A	8.43	10.04	5.62	0.060	0.64	3.24	1.01	10.02	0.148	.	.	.	.	0.026	.
1	IMZ 180	7.98	9.95	6.00	0.073	5.96	4.26	1.02	(0.048)	0.107	.	.	(0.003)	.	(0.026)	.
1	IMZ 207	4.95	10.0	5.69	0.022	1.90	8.7	.	5.91	0.040	.	.	0.0023	.	0.033	.

#	Number	Cr	Co	Al	Fe	Mo	Ta	Ti	W	C	Cu	Mn	P	S	Si	V
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note: IMZ samples are "slice of pie" shaped 1/4 sections of large cylinders

Number	B	Hf	Mg	N	Nb	Ni	O	Pb	Sn	Zr	Units
IARM 358A	(0.0011)	.	0.0019	0.0045	1.51	50.3	(0.001)	.	.	0.022	31 mm Ø x 2 mm
IMZ 186	(0.007)	.	.	.	.	10.22	.	.	.	0.40	1/4 of 78 mm Ø x 30 mm
IARM 272A	0.003	.	(0.002)	0.0049	0.015	52.68	0.0007	.	(0.0003)	(0.002)	31 mm Ø x 2 mm
IARM Ni617-18	0.0023	.	(0.0011)	0.0082	0.197	53.3	(0.0010)	.	.	(0.06)	31 mm Ø x 2 or 18 mm
27X 14184F	.	.	.	.	.	.	.	.	.	.	40 mm Ø x 15 mm
BS 617A	0.0041	.	0.0010	0.0033	(0.02)	53.3	0.0008	(0.00008)	<0.005	<0.05	38 mm Ø x ~7 or 19+ mm
IARM NiN155	0.0024	.	.	0.12	1.00	20.1	FULL ID# IS IARM NiN155-18	.	.	.	38 mm Ø x ~2 or 19 mm
SRM 1775	0.0097	.	.	(0.002)	(0.03)	34.911	.	.	.	.	35 mm Ø x 12 mm
27X 14387E	.	.	.	.	.	.	.	.	.	.	40 mm Ø x 15 mm
IARM NiWasp18	0.0061	.	(0.0018)	0.0046	0.033	57.8	(0.0009)	.	.	0.058	31 mm Ø x 2 or 18 mm
24X 07001C	0.0062	.	.	.	0.050	56.92	.	.	.	0.060	~32 mm Ø x ~20 mm
BS 199B	0.0053	.	0.0032	0.0038	0.069	58.4	0.0006	.	0.0006	0.045	38 mm Ø x ~7 or 19+ mm
SRM 1243	0.00494	.	.	.	0.0286	58.782	.	.	.	0.053	34 mm Ø x 19 mm
IA NiR41-21	0.0067	.	0.0019	0.0046	0.022	52.6	0.0007	.	.	0.0028	disc, full ID# = IARM NiRene41-21
IARM 287A	0.009	.	0.0023	0.0007	0.022	54.8	0.0005	(0.0001)	0.0002	0.008	31 mm Ø x 2 or 18 mm
IMZ 183A	0.0108	0.020	0.0013	.	0.747	.	.	.	.	0.033	1/4 of 88 mm Ø x 20 mm
IMZ 184	0.016	.	.	.	(0.032)	.	.	.	.	(0.012)	1/4 of 80 mm Ø x 30 mm
IMZ 205	(0.0006)	0.007	.	.	0.013	(62.44)	.	.	.	0.003	1/4 of 88 mm Ø x 20 mm
IMZ 185	0.015	.	(0.002)	.	.	.	.	.	.	(0.014)	1/4 of 64 mm Ø x 45 mm
IMZ 206	(0.001)	0.36	.	.	0.023	(62.24)	.	.	.	0.004	1/4 of 88 mm Ø x 20 mm
IMZ 187A	0.015	1.55	.	.	0.011	59.7	.	.	.	0.030	1/4 section of 88 mm Ø x 20 mm
IMZ 182	0.013	.	.	.	.	.	.	.	.	0.031	1/4 of 64 mm Ø x 45 mm
IMZ 202A	0.015	1.39	.	.	.	59.1	.	.	.	0.033	1/4 section of 88 mm Ø x 20 mm
IMZ 180	(0.017)	.	.	.	0.024	.	.	.	.	0.075	1/4 of 80 mm Ø x 30 mm
IMZ 207	.	0.094	.	.	.	Re:3.04	.	Pt:0.012	.	0.0043	1/4 of 88 mm Ø x 20 mm

Number	B	Hf	Mg	N	Nb	Ni	O	Pb	Sn	Zr	Units
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Cr/Al NICKEL ALLOY

= class, where 1 = CRM and 2 = RM

IMZ: 1/4 section of 90 mm Ø x 20 mm

HRT: 27 mm Ø x 20 mm

SS: 50 mm Ø x 13 mm

Table with 18 columns: #, Number, Cr, Al, Co, Fe, Mo, Nb, Si, Ti, B, C, Mn, N, Ni, P, S, Zr. Rows include HRT NI2017, SS 350, IMZ 203.

Cr/Fe NICKEL ALLOY

= class, where 1 = CRM and 2 = RM

17025

* Provisional Analysis

Table with 18 columns: #, Number, Cr, Fe, Ni, Al, C, Co, Cu, Mn, Mo, Nb, P, S, Si, Ti, V, W. Rows include IARM 357A, HRT Ni2021, SRM 1247, BS 825F, PV 204/1, BS 825E, BS 800B, BS 800A, BS 925, IARM 328B, BS 189A, IARMNi256Mo-18, IARM 347A, IARMNi800-19, SRM 1246, IARM 25D, BS 187D, BS 925A, BS 187E, 23X 08811A, HRT NI2022, IARM Ni800-18, HRT NI2018, IARM 7C, IARM Ni330-21, IARM NiH214-18, SS 387/1, IARM Ni244H-18.

Table with 14 columns: Number, As, B, Ca, Ga, Mg, N, O, Pb, Sb, Sn, Ta, Zr, Type, Units mmØ x mmH. Rows include IARM 357A, HRT Ni2021, IARM 282A, SRM 1247, BS 825F, PV 204/1, IARMNi825-18, BS 825G *, HRT NI2013, IARM NiX-18, 219X 08825A, BS 825E, BS 800B, BS 800A, BS 925, IARM 328B, BS 189A, IARMNi256Mo-18, IARM 347A, IARMNi800-19, SRM 1246, IARM 25D, BS 187D, BS 925A, BS 187E, 23X 08811A, HRT NI2022, IARM Ni800-18, HRT NI2018, IARM 7C, IARM NiH214-18, IARM Ni330-21, SS 387/1, IARMNi244H-18.

RM Cr/Fe NICKEL ALLOY TYPE 'NIMONIC 75 AND 80A'

Number	Cr	Fe	Al	Mn	Si	Ti	C	Co	Cu	Mo	V	Ni
CT ISO122A	19.89	1.42	1.71	0.007	0.012	2.49	0.061	0.007	0.007	0.015	0.118	74.07

Number	Ag	B	Bi	Nb	P	Pb	S	Sn	W	Zr	Units
CT ISO122A	<0.0001	0.0036	<0.00001	0.01	0.001	0.0001	<0.001	0.0007	<0.01	0.073	30-35 mm Ø x ~16 mm

RM Cr/Fe TYPE 'RA 333' NICKEL ALLOYS

Number	Cr	Fe	Al	Co	Cu	Mn	Mo	Nb	Si	W	Ni
BS 197B	25.73	16.24	0.11	3.22	0.030	1.58	3.27	(0.02)	0.92	2.91	45.6
BS 197A	25.11	18.07	0.18	3.06	0.12	1.56	2.99	0.20	0.96	2.79	44.44

Number	B	C	Mg	N	P	Pb	S	Sn	Ti	V	Units
BS 197B	0.0018	0.049	0.013	(0.049)	0.011	.	0.0008	(0.002)	0.091	0.053	wrought 38 mm Ø x ~7 or 19+ mm
BS 197A	0.0019	0.050	.	(0.052)	0.021	(0.0002)	<0.001	.	0.017	0.051	wrought 38 mm Ø x ~7 or 19+ mm

Cr/Fe NICKEL ALLOY TYPE 600, 601, 602, and 690

= class, where 1 = CRM and 2= RM

#	Number	Cr	Fe	Al	B	C	Co	Cu	Mg	Mn	Mo	N	Nb	Ni	Si	Ti	V
1	BS 690B	29.6	9.81	0.166	(0.0004)	0.026	(0.003)	(0.007)	(0.0006)	0.103	(0.0005)	0.025	(0.003)	59.7	0.20	0.218	(0.008)
1	IARMI690-18	29.1	10.0	0.25	.	0.025	0.013	(0.012)	0.0030	0.154	(0.013)	0.012	(0.007)	59.8	(0.049)	0.324	0.048
1	IARM 338A	25.0	9.74	2.13	0.0049	0.168	0.035	0.0059	0.0058	0.052	0.0017	0.0276	(0.004)	62.3	0.020	0.130	0.0026
1	IARM 366A	22.0	14.3	1.51	.	0.025	0.041	0.038	(0.004)	0.205	0.079	0.0136	0.069	60.9	0.19	0.43	(0.028)
2	28X 6005E	16.93	6.98	0.06	.	.	0.62	0.39	0.002	0.39	.	.	.	.	0.60	0.28	.
2	28X 6001G	16.38	6.33	0.02	.	.	1.02	0.83	0.01	0.12	.	.	.	.	0.95	0.58	.
2	BS 600-2	16.36	6.80	0.16	0.0098	0.071	0.10	0.089	0.012	0.31	0.007	0.030	(0.02)	75.34	0.23	0.37	0.028
2	28X 6002F	16.23	8.24	0.18	.	.	0.22	0.02	0.004	0.65	.	.	.	.	0.25	0.12	.
2	28X 6004E	16.21	7.17	0.05	.	.	0.77	0.42	0.008	0.38	.	.	.	.	0.65	0.27	.
2	HRT NI2007	16.07	7.98	0.26	0.0030	0.012	.	0.02	0.63	0.03	.	.	.	74.21	0.32	0.35	.
1	IARM 53F	16.0	9.5	0.170	0.0026	0.078	0.056	0.077	0.016	0.260	0.084	.	0.088	72.7	0.170	0.255	0.024
1	SRM 1244	15.7	9.6	0.26	<0.005	0.062	0.058	0.26	.	0.29	0.20	.	.	73.2	0.12	0.25	.
2	BS 600-5	15.59	8.36	0.19	0.0018	0.047	0.029	0.10	0.004	0.21	0.049	0.011	(0.03)	74.83	0.26	0.23	0.054
2	28X 6003E	15.56	7.1	0.025	.	.	0.62	0.42	0.01	0.47	.	.	.	.	0.74	0.22	.
2	BS 600-6	14.86	7.33	0.288	0.0028	0.083	0.066	0.24	0.022	0.21	0.12	0.0078	0.14	76.0	0.31	0.24	0.023
2	BS 600-3	14.77	8.88	0.09	0.0082	0.020	0.10	0.24	0.012	0.28	0.007	0.0081	(0.02)	75.05	0.19	0.20	0.020
2	BS 600-4	14.72	8.40	0.06	0.0060	0.034	0.09	0.08	0.020	0.20	(0.002)	0.021	(0.015)	75.88	0.22	0.20	0.023
2	PV 202/1	14.48	7.48	.	.	0.085	.	0.253	.	0.217	.	.	.	.	0.472	.	.

Number	As	Ca	O	P	Pb	S	Sb	Sn	Ta	W	Zr	Units
BS 690B	(0.0004)	(0.0005)	0.0024	(0.003)	.	0.0005	.	(0.0006)	.	(0.002)	(0.002)	51 mm Ø x ~7 or 19+ mm 17025, 17034
IARM NI690-18	.	.	.	(0.004)	.	0.0007	.	.	.	(0.003)	.	31 mm Ø x 2 or 18 mm
IARM 338A	(0.0001)	(0.002)	0.0010	(0.003)	0.00007	0.0008	(0.00009)	0.00037	(0.002)	.	0.081	31 mm Ø x 2 or 18 mm Y: (0.06)
IARM 366A	.	.	(0.0010)	0.008	.	.	(0.0003)	.	.	0.02	(0.012)	31 mm Ø x 2 or 18 mm
28X 6005E	40 mm Ø x 15 mm
28X 6001G	40 mm Ø x 15 mm
BS 600-2	.	.	.	0.006	.	0.004	.	.	.	.	.	38 mm Ø x ~12 or 20 mm
28X 6002F	40 mm Ø x 15 mm
28X 6004E	40 mm Ø x 15 mm
HRT NI2007	.	.	.	0.008	.	(0.002)	.	.	.	.	.	40 mm Ø x 20 mm
IARM 53F	.	.	.	0.0070	.	(0.0022)	.	(0.002)	(0.004)	(0.014)	.	31 mm Ø x 2 or 18 mm
SRM 1244	.	.	.	0.010	.	0.003	.	.	.	.	.	35 mm Ø x 19 mm
BS 600-5	.	.	0.002	0.005	.	<0.002	.	.	.	.	.	38 mm Ø x ~7 or 19+ mm
28X 6003E	40 mm Ø x 15 mm
BS 600-6	.	.	.	0.007	.	0.001	.	.	.	.	.	38 mm Ø x ~7 or 19+ mm
BS 600-3	.	.	.	0.008	.	0.005	.	.	.	.	.	38 mm Ø x 20 mm
BS 600-4	.	.	.	0.007	.	0.004	.	.	.	.	.	38 mm Ø x 20 mm
PV 202/1	.	.	.	<0.01	.	<0.01	.	.	.	.	.	40 mm Ø x 25 mm

Cr/Fe NICKEL ALLOY TYPE 718

= class, where 1 = CRM and 2 = RM

* Provisional Analysis

#	Number	Cr	Fe	Nb	Mo	Ti	Al	B	C	Co	Cu	Mn	P	S	Si	Ni
1	SS 351/1	19.14	17.20	5.31	3.04	0.938	0.554	0.0035	0.0255	0.145	0.0222	0.0562	0.0045	0.00037	0.080	53.35
1	IARM Ni718-20	18.5	18.1	5.24	3.01	0.94	0.54	0.0039	0.028	0.066	0.025	0.027	0.0032	(0.0030)	0.044	53.3
1	IARM Ni718-22	18.46	18.4	5.17	2.91	0.91	0.56	0.0047	0.036	0.253	0.059	0.071	0.0088	(0.0005)	0.108	52.8
1	SRM 1249	18.472	17.693	5.196	3.112	0.959	0.5682	(0.0023)	(0.0380)	0.3371	0.1402	(0.108)	(0.0134)	(0.00064)	(0.120)	53.29
1	BS 718D	18.32	18.51	5.16	3.00	0.93	0.631	0.0041	0.037	0.368	0.071	0.100	0.0083	0.0004	0.072	52.5
1	SS 351	18.12	18.26	5.20	3.06	1.06	0.55	0.0051	0.025	0.136	0.016	0.037	(0.006)	0.0006	0.14	53.1
1	IARM Ni718-23	18.08	18.10	5.44	2.90	1.00	0.484	0.0039	0.0258	0.293	0.034	0.047	0.0073	(0.0005)	0.053	53.4
1	BS 718E *	17.7	18.6	5.16	2.91	0.96	0.46	0.005	0.020	0.21	0.021	0.039	0.009	<0.05	0.077	[53.7]

Number	As	Mg	N	O	Pb	Sn	Ta	V	W	Zr	Units
SS 351/1	.	0.0016	0.0077	.	Sb:0.00024	0.00033	0.0033	0.0181	0.0209	0.0017	wrought 41 mm Ø x 13 mm
IARM Ni718-20	.	0.0025	0.009	.	.	.	0.006	0.016	0.013	.	38 mm Ø x ~2 or 19 mm
IARM Ni718-22	.	.	0.0079	.	.	0.0013	0.0033	0.035	0.049	.	disc
SRM 1249	.	(0.0012)	(0.007)	.	(0.00001)	(0.0024)	(0.0027)	(0.0338)	(0.0846)	(0.0029)	41 mm Ø x 19 mm
BS 718D	0.0011	0.0038	0.0084	0.0015	(0.00006)	0.0020	(0.0022)	0.038	0.049	(0.002)	wrought 38 mm Ø x ~7 or 19+ mm
SS 351	wrought 41 mm Ø x 13 mm
IARM Ni718-23	.	0.0012	0.0070	(0.0009)	.	.	0.004	0.026	0.038	.	disc
BS 718E *	.	<0.05	<0.05	<0.05	.	<0.05	<0.05	0.029	0.042	<0.05	wrought 38 mm Ø x ~7 or 19+ mm

17025**Cr/Fe NICKEL ALLOY TYPE 750**

= class, where 1 = CRM, 2 = RM, and 3 = RM with no uncertainties, sale price

#	Number	Cr	Fe	Ti	Al	C	Co	Cu	Mn	Mo	Nb	Ni	P	S	Si	Ta
1	BS 750C	15.92	8.36	2.61	0.91	0.041	0.036	0.012	0.056	0.070	0.83	71.0	0.0059	(0.0004)	0.071	(0.006)
3	BS 750A	15.68	.	2.60	0.74	0.047	0.29	0.04	0.09	0.22	1.07	71.9	(0.005)	0.0007	0.10	0.046
1	BS 750D	15.50	8.42	2.53	0.70	0.039	(0.023)	(0.026)	0.188	0.026	0.89	71.3	(0.005)	0.0005	0.188	(0.007)
3	HT 8211X	15.48	6.81	2.33	0.68	0.052	0.10	0.090	0.53	.	0.45	.	.	0.004	0.36	0.22
3	HT 8209X	15.38	7.01	2.74	0.88	0.044	0.15	0.051	0.67	.	0.52	.	.	0.003	0.31	0.23
1	IARM 57E	15.3	8.01	2.54	0.74	0.060	0.021	(0.010)	0.079	0.014	1.00	72.1	(0.005)	(0.0009)	0.052	.

17025**17025, 17034**

Number	As	B	Ca	Mg	N	O	Pb	Sb	Sn	V	W	Zr	Units
BS 750C	(0.0009)	0.0028	(0.0006)	0.0022	0.0031	(0.0014)	(0.0001)	(0.00007)	0.0012	0.132	(0.0028)	0.022	38 mm Ø x ~12 or 19 mm wrought
BS 750A	.	.	.	.	.	.	.	.	.	.	.	.	38 mm Ø x ~7 or 19+ mm wrought
BS 750D	0.0006	0.0024	.	0.0051	0.0041	0.0019	.	.	0.0008	(0.028)	(0.005)	0.014	38 mm Ø x ~7 or 19+ mm wrought
HT 8211X	.	.	.	.	.	.	.	.	.	.	.	.	25 mm Ø x 50 mm wrought
HT 8209X	.	.	.	.	.	.	.	.	.	.	.	.	25 mm Ø x 50 mm wrought
IARM 57E	.	0.008	.	(0.0013)	.	.	.	.	.	0.021	(0.009)	0.037	31 mm Ø x 2 or 18 mm

Cr/Mo NICKEL ALLOY AND TYPES 625, 725, and 6255

= class, where 1 = CRM and 2 = RM

* Provisional Analysis

#	Number	Cr	Mo	Fe	Nb	Si	Ti	W	Al	B	C	Co	Cu	Mn	P	S	Ni
1	BS 6255	24.6	6.8	16.0	0.094	(0.27)	0.35	(0.03)	(0.082)	0.0026	(0.0124)	(0.075)	0.75	0.17	0.0125	0.0005	50.5
1	BS H6B	22.3	14.05	3.45	(0.1)	(0.035)	0.050	3.20	0.23	0.0016	(0.008)	0.079	0.035	0.226	0.0054	0.0005	55.9
1	IARM Ni625-23	22.27	8.74	3.98	3.50	0.076	0.296	0.088	0.303	0.0019	0.031	0.116	0.076	0.080	0.0070	0.0004	60.4
2	HRT Ni2009	22.26	9.01	4.12	3.52	0.057	0.35	.	0.20	0.0033	0.033	.	.	(0.023)	(0.003)	(0.002)	60.40
1	BS 625F	21.89	9.11	3.76	3.53	0.106	0.27	0.034	0.147	0.0031	0.0215	0.042	0.150	0.094	0.0069	(0.0004)	60.72
1	ECRM 377-2	21.72	8.94	3.77	3.50	0.077	0.264	.	0.232	(0.0006)	0.0202	0.0348	0.0104	0.0225	0.0036	0.0006	61.45
1	ECRM 377-1	21.72	8.94	3.77	3.50	0.077	0.255	.	0.216	(0.0006)	0.0202	0.0348	0.0110	0.0225	0.0036	0.0006	61.45
1	IARM 274A	21.0	8.06	7.60	3.48	(0.02)	1.55	0.06	0.26	0.002	0.007	0.143	0.10	0.08	0.007	0.0004	57.5
2	BS 725	20.72	7.97	8.0	3.52	0.02	1.52	.	0.13	(0.002)	0.010	0.02	0.014	0.08	0.004	0.002	58.0
1	NCS HS41745	20.69	8.37	3.50	3.19	0.071	0.011	.	0.016	.	0.043	(0.011)	.	0.124	0.0023	0.0006	63.72
2	26X 11384E	20.5	10.2	0.98	.	0.15	2.6	.	0.50	.	.	0.30	0.12	0.13	.	.	.
1	IARMNi725-18	20.5	7.9	7.47	3.47	0.084	1.55	(0.04)	0.22	0.0023	(0.008)	0.077	0.103	0.076	0.0047	(0.0008)	58.4
1	IARM 276A	20.54	16.20	1.30	0.014	0.043	(0.004)	(0.03)	0.245	0.0038	0.0040	0.041	0.038	0.305	0.006	0.0005	61.1
1	IARM Ni686-20	20.4	16.1	0.44	0.13	0.037	0.058	3.59	0.34	.	0.0087	0.017	0.039	0.270	(0.003)	0.0005	58.6
1	IARM 362B	20.4	16.1	(0.010)	(0.015)	(0.04)	0.052	3.90	0.32	.	0.0079	(0.010)	.	0.229	(0.005)	(0.0004)	58.7
1	28X 6251M	20.22	9.60	4.22	2.64	0.251	0.0096	.	0.006	0.0040	0.0026	0.0080	0.0570	0.0694	0.002	0.0012	62.93
1	28X 6255M	19.65	8.32	2.03	4.09	0.448	0.346	.	0.334	0.0101	0.0342	0.164	0.0647	0.2034	0.0105	0.0080	64.16
1	IARM Ni282-18	19.4	8.40	0.90	0.058	0.054	2.20	(0.043)	1.57	0.0014	0.060	10.38	0.012	0.042	(0.003)	(0.0006)	56.8
2	HRT Ni2004	15.72	14.89	0.41	0.022	0.019	0.391	0.011	0.097	.	0.005	0.011	0.010	0.27	0.004	0.002	68.05
1	IARM NiS-18	15.62	15.4	0.81	.	0.49	(0.0023)	0.36	0.388	0.0061	0.012	0.416	.	0.65	0.006	(<0.001)	65.6

#	Number	Cr	Mo	Fe	Nb	Si	Ti	W	Al	B	C	Co	Cu	Mn	P	S	Ni
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Number	As	Ca	Mg	N	O	Pb	Sb	Sn	Ta	V	Zr	Units		
BS 6255	(0.004)	(0.001)	(0.001)	0.014	0.0015	(0.0002)	(0.0003)	0.0010	(0.003)	(0.034)	(0.002)	wrought	63 mm Ø x ~7 or 19+ mm	17025, 17034
BS H6B	(0.0015)	.	0.0010	0.0118	0.0007	.	(0.006)	(0.0007)	.	0.0063	.	wrought	38 mm Ø x ~7 or 19+ mm	17025
IARM Ni625-23	.	.	0.0008	0.010	.	.	.	.	(0.004)	0.016	.	disc	35 mm Ø x 20	
HRT Ni2009	.	.	.	.	.	.	.	.	.	.	.	wrought	38 mm Ø x ~7 or 19+ mm	17025, 17034
BS 625F	0.0011	H:4ppm	0.0071	(0.018)	<0.01	<0.001	<0.001	0.0008	<0.01	0.014	<0.02	wrought	38 mm Ø x ~7 or 19+ mm	17025, 17034
ECRM 377-2	.	.	.	.	.	.	.	.	.	.	.	wrought	40 mm Ø x 20 mm	
ECRM 377-1	.	.	.	.	.	.	.	.	.	.	.	wrought	40 mm Ø x 20 mm	
IARM 274A	.	.	0.0019	0.007	0.0006	.	.	0.001	(0.002)	0.019	(0.001)	wrought	31 mm Ø x 2 or 18 mm	
BS 725	.	.	.	0.0051	.	.	.	.	.	.	.	wrought	38 mm Ø x ~7 or 19+ mm	
NCS HS41745	.	.	.	.	.	.	.	.	(0.001)	.	.	wrought	40 mm Ø x 30 mm	
26X 11384E	.	.	.	.	.	.	.	.	.	.	.	cast	40 mm Ø x 15 mm	
IARM Ni725-18	.	.	(0.005)	0.008	.	.	.	(0.0011)	(0.006)	0.013	.	wrought	31 mm Ø x 2 or 18 mm	
IARM 276A	(0.0009)	<0.007	0.007	0.0388	0.0010	(0.0004)	0.00019	0.0004	0.011	(0.008)	(0.003)	wrought	38 mm Ø x 2 or 18 mm	
IARM Ni686-20	.	.	.	0.0097	0.0006	.	.	.	.	0.009	(0.0013)	wrought	31 mm Ø x 2 or 18 mm	
IARM 362B	.	.	0.008	0.0060	(0.0006)	.	.	.	.	(0.010)	.	wrought	31 mm Ø x 2 or 18 mm	
28X 6251M	.	.	.	.	.	.	.	.	0.0112	.	.	c.cast	~40 mm Ø x ~15 mm	
28X 6255M	.	.	.	.	.	0.0005	.	0.0012	0.093	.	.	c.cast	~40 mm Ø x ~15 mm	
IARM Ni282-18	.	.	0.0054	.	.	.	.	.	.	(0.013)	(0.0014)	wrought	31 mm Ø x 2 or 18 mm	
HRT Ni2004	.	.	.	.	.	.	.	.	0.010	0.012	.	wrought	35 mm Ø x 20 mm	last
IARM NiS-18	La: 0.031	.	0.0021	(0.0027)	.	wrought	38 mm Ø x ~2 or 19 mm	

Number	As	Ca	Mg	N	O	Pb	Sb	Sn	Ta	V	Zr	Units	
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VARIOUS INCOLOY ALLOYS

= class, where 1 = CRM, 2 = RM, and 3 = RM with no uncertainties and also sale price for type # 3

#	Number	Cr	Fe	Mn	Si	Ti	Al	B	C	Co	Cu	Mo	Nb	P	S	Ni
3	HH 5179A	22.20	Rem	0.87	0.38	0.46	0.30	.	0.042	.	0.26	.	.	0.012	0.003	34.13
3	HH 5157A	21.48	Rem	0.95	0.43	0.55	0.45	.	0.067	.	0.33	.	.	0.012	0.003	29.31
3	HH 5196A	20.66	Rem	1.05	0.45	1.13	0.31	.	0.036	.	0.24	.	.	0.011	0.002	31.46
3	HH 5300A	18.18	Rem	0.86	0.35	0.54	0.45	.	0.026	.	0.28	.	.	0.013	0.003	33.56
1	IARM Ni909-18	(0.010)	42.4	(0.030)	0.42	1.62	(0.009)	0.0013	(0.006)	13.1	(0.007)	.	4.6	(0.002)	0.0018	37.7 N: 0.0026

Number	Units
HH 5179A	wrought 44 mm Ø x 12 mm
HH 5157A	wrought 44 mm Ø x 12 mm
HH 5196A	wrought 44 mm Ø x 12 mm
HH 5300A	wrought 41 mm Ø x 12 mm
IARM Ni909-18	31 mm Ø x 2 or 18 mm

CRM Cr/W TYPE 'HAYNES 230'

analysis listed in mass % * Provisional Analysis

Number	Cr	W	Mo	Fe	Mn	Si	Ni	Al	B	C	Co	Cu	Mg	N	Nb	P	V
BS H230	22.35	14.45	1.69	1.376	0.470	0.39	58.4	0.29	0.0044	0.096	0.24	0.030	0.004	0.061	0.053	0.0042	0.0056
BS H230A	22.2	13.9	1.29	1.02	0.50	0.42	57.9	0.45	0.0027	0.092	2.02	<0.02	0.0022	0.043	<0.02	0.0049	(0.0029)
IARM 68F	21.9	14.5	1.35	1.50	0.499	0.381	(59.6)	0.26	(0.0050)	0.101	0.24	0.031	(0.006)	0.045	0.084	(0.006)	(0.007)
IARM 68E	21.88	14.6	1.18	1.06	0.51	0.39	(59.9)	0.30	0.007	0.099	0.16	0.022	(0.006)	0.050	0.035	(0.005)	(0.007)

Number	As	Ca	La	O	Pb	S	Sb	Sn	Ta	Ti	Zr	Units
BS H230	0.0007	(0.00003)	.	0.0009	(0.00003)	(0.0003)	(0.00007)	(0.0003)	<0.1	(0.01)	(0.002)	38 mm Ø x ~7 or 19+ mm 17025
BS H230A	<0.002	.	(0.012)	(0.0004)	(0.00004)	<0.0009	.	<0.003	<0.03	(0.007)	<0.005	38 mm Ø x ~7 or 19+ mm 17025, 17034
IARM 68F	.	.	(0.0130)	0.0007	.	(0.0005)	.	.	.	0.010	.	31 mm Ø x 2 or 18 mm new & chips
IARM 68E	.	.	(0.008)	0.0007	.	(0.0005)	.	.	.	0.015	.	31 mm Ø x 2 or 18 mm

'MONEL' TYPE COPPER-NICKEL ALLOY

= class, where 1 = CRM and 2 = RM

Number	Cu	Al	Fe	Mn	Si	Ti	C	Co	Cr	Mg	Mo	Nb	P	Pb	S	Ni	
1 BS 400D	33.0	0.0231	2.00	0.993	0.146	0.064	0.130	0.032	0.0057	0.0217	0.0024	(0.0001)	(0.0010)	0.0004	0.0006	63.4	17025
1 IARM 51D	32.6	0.036	1.68	1.03	0.16	0.033	0.139	0.011	0.064	0.016	0.019	(0.006)	(0.010)	.	0.0015	64.1	
1 212X 04400A	32.47	0.030	2.065	1.027	0.253	0.0193	0.157	0.0432	0.166	0.053	0.0307	.	0.0033	.	(0.002)	63.69	
1 BS 405A	32.1	(0.002)	1.51	1.90	(0.15)	0.0021	0.051	0.019	0.0099	(0.17)	0.0031	0.0004	0.0037	0.0004	0.041	63.8	17025
1 SS 36371	31.90	0.027	1.86	1.26	0.028	(0.03)	0.140	0.032	(0.05)	.	.	.	.	.	(0.002)	Rem	
2 BS 405	31.80	0.10	1.34	1.03	0.04	0.003	0.13	0.025	0.006	0.026	(0.002)	(0.002)	0.010	.	0.041	65.49	
2 BS 400-3	31.25	0.001	1.60	0.85	0.063	0.004	0.153	0.46	0.21	0.012	0.003	(0.0004)	0.026	(0.0015)	0.006	65.4	
1 IARM NiR405-20	31.2	0.043	1.71	0.96	0.161	0.0086	0.117	0.040	0.499	0.018	0.102	0.103	0.011	0.0010	0.040	64.8	
2 BS 400-1	30.97	0.004	1.27	1.07	0.16	0.007	0.109	0.37	0.033	0.048	0.001	0.0003	0.022	0.0020	0.008	66.0	
2 HRT NI2001	30.84	(0.006)	0.783	0.776	(0.017)	.	(0.011)	0.016	0.052	.	.	.	(0.005)	.	(0.001)	67.97	
2 BS 400-2	30.75	0.006	1.42	1.17	0.17	0.011	0.170	0.46	0.091	0.033	0.0012	0.0004	0.027	(0.001)	0.008	65.9	
1 212X 05500A	29.91	3.00	1.162	0.634	0.167	0.632	0.135	(0.0090)	0.073	0.0098	.	.	0.0031	.	0.0010	64.3	
1 BS 500E	29.9	2.94	0.722	0.605	0.148	0.607	0.134	0.017	0.0174	0.0058	0.0044	(0.002)	0.0022	(0.0008)	0.0006	64.7	17025
1 SRM CI248	29.80	0.009	2.10	0.31	1.61	.	0.266	.	0.095	.	0.006	.	0.002	0.00038	0.0008	65.75	
1 IARM 52D	29.6	2.95	1.38	0.59	0.170	0.60	0.125	0.005	(0.004)	0.0065	.	(0.002)	(0.002)	.	(0.0012)	64.5	
2 HRT NI2019	29.41	2.97	0.99	0.62	0.15	0.63	0.139	.	0.01	.	(0.02)	.	(0.001)	.	(0.001)	65.19	

Number	Cu	Al	Fe	Mn	Si	Ti	C	Co	Cr	Mg	Mo	Nb	P	Pb	S	Ni
Number	As	B	Bi	Ca	Cd	N	O	Sb	Sn	V	Zn	Zr	Units			
BS 400D	(0.0001)	0.0009	.	(0.001)	Ta:(0.009)	(0.00017)	0.0008	(0.0001)	(0.00012)	(0.0002)	(0.0004)	(0.0003)	wrought	38 mm	Ø x ~7	or 19+ mm
IARM 51D	.	.	.	.	.	.	.	.	.	.	.	.	.	31 mm	Ø x 2	or 18 mm
212X 04400A	.	0.0019	.	.	.	0.0005	.	.	.	.	.	.	wrought	~40 mm	Ø x ~15	mm
BS 405A	0.0004	0.0007	.	(0.00006)	.	(0.001)	0.0007	W: 0.0017	0.0004	(0.002)	0.0017	0.012	wrought	38 mm	Ø x ~7	or 19+ mm
SS 36371	.	.	.	.	.	.	.	.	.	.	.	.	wrought	38 mm	Ø x 19	mm
BS 405	.	(0.001)	.	.	.	.	.	.	.	.	.	.	wrought	38 mm	Ø x ~7	or 19+ mm
BS 400-3	0.004	(0.0002)	.	.	.	.	.	(0.001)	0.0014	0.003	(0.001)	.	wrought	38 mm	Ø x ~18	mm
IARM NiR405-20	.	0.0005	.	.	.	0.0007	(0.0008)	.	.	(0.0020)	.	0.006	wrought	38 mm	Ø x 2	or 19 mm
BS 400-1	0.004	(0.0005)	.	.	.	.	.	(0.0005)	0.0010	(0.001)	(0.0006)	.	wrought	38 mm	Ø x ~18	mm
HRT NI2001	.	.	.	.	.	.	.	.	.	.	.	.	.	40 mm	Ø x 20	
BS 400-2	0.004	(0.0006)	.	.	.	.	.	(0.001)	0.0012	(0.003)	(0.001)	.	wrought	38 mm	Ø x ~18	mm
212X 05500A	.	0.0015	.	.	.	0.0010	.	.	.	.	.	0.0343	wrought	~38 mm	Ø x ~15	mm
BS 500E	(0.0008)	0.0017	.	(0.0004)	W:(0.002)	(0.00025)	0.0005	.	(0.0008)	(0.001)	(0.001)	0.0133	wrought	38 mm	Ø x ~7	or 19+ mm
SRM CI248	.	.	.	.	.	.	.	.	0.00011	.	0.0003	.	.	32 mm	Ø x 19	mm
IARM 52D	.	(0.0020)	.	.	.	.	.	.	0.0013	(0.0010)	.	0.026	.	31 mm	Ø x 2	or 18 mm
HRT NI2019	.	(0.0026)	.	.	.	(0.0024)	.	.	.	.	.	.	.	35 mm	Ø x 20	mm

Fe, Fe/Co, and Fe/Mo NICKEL ALLOY

= class, where 1 = CRM and 2 = RM

CT: 30-35 mm Ø x ~16 mm

IARM: 31 mm Ø x 2 mm

SRM: 31-32 mm Ø x 19 mm

VS: ~38 mm Ø x ~ 19 mm

#	Number	Fe	Co	Cu	Mo	Al	B	C	Cr	Mn	Nb	Ni	P	S	Si	Ta	Ti	V
1	SRM 1159	51.0	0.022	0.038	0.01	.	.	0.007	0.06	0.30	.	48.2	0.003	0.003	0.32	.	.	.
1	SRM 1250	40.5	16.1	0.022	0.014	0.99	0.0078	0.022	0.077	0.052	2.99	37.78	<0.003	0.0025	0.097	0.003	1.48	0.077
2	IARM 203A	40.6	12.88	0.05	0.090	0.066	.	0.005	0.72	0.023	5.00	38.4	0.006	0.0009	0.41	.	1.58	.
1	SRM 1160	14.3	0.054	0.021	4.3	.	.	0.019	0.05	0.55	.	80.3	0.003	0.001	0.37	.	.	.
1	VS NG15/2	Rem	18.6	0.282	.	.	.	0.0204	0.016	0.40	.	27.7	0.017	0.012	0.177	.	.	.
1	VS NG16/2	Rem	16.5	0.044	.	.	.	0.018	0.14	0.15	.	33.2	0.0023	0.0037	0.27	.	.	.
1	VS NG17/2	Rem	14.0	0.47	.	.	.	0.0031	0.23	0.276	.	29.6	0.020	0.012	0.018	.	.	.

Mo/Fe 'HASTELLOY' TYPE ALLOY

= class, where 1 = CRM and 2 = RM

#	Number	Mo	Co	Cr	Fe	W	Ni	Al	C	Cu	Mn	N	P	S	Si	Ti	V
1	IARM NiB-3-18	28.2	0.142	1.55	1.57	(0.07)	67.2	0.41	(0.003)	(0.014)	0.70	0.0027	(0.005)	(0.0004)	(0.021)	(0.007)	(0.007)
1	215X HB4G	27.94	1.703	0.375	5.94	(0.096)	61.80	0.0159	0.0843	0.0192	0.597	0.0013	0.049	0.0313	1.005	0.0338	0.212
1	BS H1C	27.2	(0.01)	0.70	1.29	(0.009)	69.8	0.15	0.0022	(0.002)	0.51	(0.0005)	(0.0049)	(0.0004)	(0.01)	(0.008)	(0.02)
1	IARM NiB2-23	27.1	0.116	0.579	1.36	0.0042	70.2	0.13	0.0030	.	0.504	0.0007	.	(0.0007)	.	0.021	.
2	BS H1B	26.52	<0.02	<0.01	1.00	.	(71.3)	0.12	0.006	(0.01)	0.82	.	0.003	0.0005	0.049	0.11	<0.01
1	215X HC1M	19.72	2.49	15.62	4.03	3.59	.	0.008	0.0255	0.024	1.272	0.0040	.	(0.0018)	0.493	0.267	0.149
1	215X HC2K	18.44	1.70	16.46	2.97	4.02	(53.8)	0.005	0.0455	.	0.909	0.0091	.	0.0163	1.22	0.181	0.282
1	BS H2E	15.98	0.032	15.85	5.41	3.28	58.3	0.35	0.0030	(0.0070)	0.55	0.0119	(0.005)	(0.00045)	(0.030)	(0.007)	0.15
1	215X I0276A	15.96	0.182	15.56	5.79	3.59	57.81	0.203	0.008	0.0423	0.498	0.0099	0.0027	(0.001)	0.029	0.0186	0.196
2	HRT NI2012	15.77	.	15.56	6.66	3.47	57.32	0.23	(0.008)	0.09	0.38	.	(0.009)	(0.003)	(0.06)	.	0.20
1	BS C-2000	15.5	0.076	22.54	1.00	(0.15)	58.7	0.29	<0.005	1.52	0.19	0.018	<0.01	0.0008	<0.03	(0.004)	(0.011)
IARM NIC276-18	15.4	0.170	15.9	6.09	3.23	58.5	0.114	0.0032	0.14	0.42	(0.017)	(0.008)	(0.0007)	(0.017)	0.007	(0.018)	
1	BS H6B	14.05	0.079	22.3	3.45	3.20	55.9	0.23	(0.008)	0.035	0.226	0.0118	0.0054	0.0005	(0.035)	0.050	0.0063
1	BS H6C	13.49	0.13	21.3	3.43	3.11	57.7	0.223	(0.003)	0.055	0.31	0.025	(0.007)	0.0004	(0.019)	(0.006)	(0.009)
1	IARM 65D	13.11	1.22	21.5	3.66	2.81	56.8	0.29	0.0021	0.050	0.28	0.019	0.008	0.0004	0.035	0.005	0.012
2	HRT NI2014	13.03	(0.02)	21.42	2.47	2.92	59.23	0.16	(0.009)	.	0.30	.	(0.006)	(0.003)	0.06	0.13	(0.02)
1	BS H3C	8.82	1.37	21.50	19.54	0.623	46.6	0.149	0.087	0.106	0.492	0.0266	0.0150	(0.0003)	0.36	(0.0064)	0.047
1	BS H3D	8.46	0.70	21.8	19.28	0.58	47.5	0.14	0.067	0.072	0.63	0.021	0.008	0.0004	0.28	0.046	0.019
1	IARM 329A	8.38	0.052	33.7	0.92	0.021	55.8	0.29	0.0086	0.065	0.222	0.073	0.0059	0.0003	0.053	(0.005)	0.009
1	IARM NiG30-22	5.13	0.18	29.2	15.5	1.43	44.6	0.186	0.0177	1.31	0.96	0.046	0.0108	0.0005	0.47	0.140	0.035
1	IARM 67C	4.93	1.75	28.9	13.48	1.97	45.8	0.14	0.0058	1.24	1.01	0.035	0.011	0.0006	0.14	0.005	0.031
1	BS G30	4.90	2.10	28.89	13.7	1.88	45.3	0.263	0.0044	1.22	1.02	0.028	0.010	0.0006	0.32	(0.004)	(0.023)
1	IARM NiPE16-18	3.29	0.77	16.6	34.4	0.038	42.9	1.20	0.052	(0.053)	0.122	(0.006)	(0.006)	(0.0007)	0.13	1.18	(0.018)
1	IARM 328A	3.16	(0.003)	20.57	22.41	(0.015)	47.03	0.189	(0.006)	1.94	0.017	0.0056	(0.004)	0.0006	0.021	1.53	0.008
1	IARM Ni925-18	2.82	0.43	20.8	26.4	0.27	44.2	0.23	0.0114	1.69	0.518	0.0033	0.012	0.0024	0.075	2.19	(0.031)
1	IARM 68F	1.35	0.24	21.9	1.50	(0.02)	(59.6)	0.26	0.101	0.031	0.499	0.045	(0.004)	(0.0006)	(0.03)	0.14	(0.007)

#	Number	Mo	Co	Cr	Fe	W	Ni	Al	C	Cu	Mn	N	P	S	Si	Ti	V
Number	As	B	Ca	Mg	Nb	O	Pb	Sb	Sn	Ta	Zr	Units					
IARM NiB-3-18	.	(0.0020)	.	0.010	0.15	.	.	.	.	.	.	.	.	31 mm Ø x 2 or 18 mm			
215X HB4G	.	.	.	0.056	.	.	.	.	.	.	.	(0.016)	.	~40 mm Ø x ~15 mm			
BS H1C	(0.001)	(0.001)	(0.001)	(0.0012)	(0.009)	(0.0009)	(0.00002)	.	(0.002)	(0.009)	(0.001)	.	.	38 mm Ø x ~7 or 19+ mm	17025		
IARM NiB2-23	.	0.0018	.	0.0012	.	.	.	.	.	.	.	.	.	disc			
BS H1B	.	0.003	.	.	<0.005	.	.	.	.	.	.	.	last	38 mm Ø x ~7 or ~12 mm			
215X HC1M	.	.	.	.	.	.	.	.	.	.	.	.	.	~40 mm mm Ø x ~15 mm			
215X HC2K	.	(0.006)	.	.	.	.	.	.	.	.	.	.	.	~40 mm mm Ø x ~15 mm			
BS H2E	(0.0006)	(0.0028)	(0.0004)	0.0019	(0.009)	0.0005	(0.002)	(0.00004)	(0.001)	(0.02)	(0.002)	(0.002)	.	32 mm Ø x ~7 or 19+ mm	17025, 17034		
215X I0276A	.	.	.	0.0090	0.031	.	.	.	.	.	.	.	0.009	~40 mm Ø x ~15 mm			
HRT NI2012	.	.	.	.	.	.	.	.	.	.	.	.	.	38 mm Ø x 20 mm			
BS C-2000	0.0012	(0.0009)	(0.0009)	0.0075	(0.02)	0.0011	(0.0003)	(0.0006)	(0.0005)	(0.002)	(0.002)	.	.	38 mm Ø x ~7 or 19+ mm	17025, 17034		
IARM NIC276-18	0.0020	.	(0.010)	(0.061)	.	.	.	.	.	CRM	.	.	.	31 mm Ø x 2 or 18 mm			
BS H6B	(0.0015)	0.0016	.	0.0010	(0.1)	0.0007	.	(0.006)	(0.00007)	.	.	.	.	38 mm Ø x ~7 or 19+ mm	17025		
BS H6C	(0.0010)	0.0012	<0.5	(0.005)	(0.010)	0.0008	0.0004	<0.005	<0.005	<0.05	<0.005	<0.005	<0.005	38 mm Ø x ~7 or 19+ mm	17025, 17034		
IARM 65D	.	(0.001)	.	0.007	0.033	0.0005	.	.	(0.001)	(0.01)	(0.002)	.	.	31 mm Ø x 2 or 18 mm			
HRT NI2014	.	.	.	.	.	.	.	.	.	.	.	.	.	25 mm Ø x 20 mm			
BS H3C	(0.003)	0.0020	(0.0003)	0.0020	0.095	0.0013	.	(0.0003)	0.0019	(0.0001)	(0.005)	(0.005)	.	38 mm Ø x ~7 to 19 mm	17025 last		
BS H3D	<0.005	0.0027	17034	<0.005	0.40	0.0007	<0.0005	<0.005	<0.005	<0.05	(0.002)	(0.002)	.	38 mm Ø x ~7 or 19+ mm	17025 H: 3ppm		
IARM 329A	0.0009	0.0010	.	0.0124	0.131	0.0027	0.00003	0.00013	(0.0005)	.	(0.0012)	.	.	31 mm Ø x 2 or 18 mm			
IARM NiG30-22	0.0011	.	.	0.85	0.0024	.	.	.	0.0020	.	.	.	.	38 mm Ø x 3 or 19 mm			
IARM 67C	.	(0.001)	.	0.0068	0.36	0.0016	.	(0.0003)	0.0014	(0.006)	(0.002)	(0.002)	.	31 mm Ø x 2 mm			
BS G30	0.0018	0.0010	(0.0010)	0.0063	0.419	0.0027	<0.01	(0.0003)	0.0011	(0.003)	(0.002)	(0.003)	0.019	38 mm Ø x ~7 or 19+ mm	17025, 17034		
IARM NiPE16-18	.	0.0028	.	0.040	(0.0006)	.	.	.	CRM	.	.	.	.	31 mm Ø x 2 or 18 mm			
IARM 328A	(0.0009)	0.0011	.	(0.0008)	3.14	0.0006	(0.00002)	0.00023	(0.0002)	(0.0004)	(0.004)	(0.004)	.	31 mm Ø x 2 or 18 mm			
IARM Ni925-18	0.0034	.	.	0.40	0.0011	.	.	.	.	CRM	.	.	.	31 mm Ø x 2 or 18 mm			
IARM 63D	.	(0.0050)	.	(0.006)	0.084	.	.	.	.	.	.	(0.002)	.	31 mm Ø x 2 or 18 mm			
Number	As	B	Ca	Mg	Nb	O	Pb	Sb	Sn	Ta	Zr	Units					

NICKEL ALLOY XRF SET

Part Number: BS NI-18 AVAILABLE INDIVIDUALLY ~7 mm discs 17025

Grade	Number	Al	As	B	C	Co	Cr	Cu	Fe	Mg	Mn	Mo	N	Nb	Ni	O	P	Pb	S	Si	Sn	Ta	Ti	V	W	Zr
Nickel 200	BS 200A	0.0281	0.0015	0.0044	0.078	0.0564	0.0006	0.0038	0.074	0.0131	0.151	0.0004	0.0004	0.0004	99.54	0.0013	0.0007	(0.00005)	0.0037	0.0051	(0.0001)	(0.0003)	0.0427	0.0006	0.0005	(0.0004)
Monel 400	BS 400D	0.0231	(0.0001)	0.0009	0.130	0.032	0.0057	33.0	2.00	0.0217	0.993	0.0024	(0.00017)	(0.0001)	63.4	0.0008	(0.0010)	0.0004	0.0006	0.146	(0.00012)	(0.0009)	0.064	(0.0002)	(0.0004)	(0.0003)
Monel K500	BS 500E	2.94	(0.0008)	0.0017	0.134	0.017	0.0174	29.9	0.722	0.0058	0.605	0.0044	(0.00025)	(0.002)	64.7	0.0005	0.0022	(0.0008)	0.0006	0.148	(0.0008)	.	0.607	(0.001)	(0.002)	0.0133
Inconel 600	BS 600-6	0.288	.	0.0028	0.083	0.066	14.86	0.24	7.33	0.022	0.21	0.12	0.0078	0.14	76.0	.	0.007	.	0.001	0.31	(<0.003)	(<0.003)	0.24	0.023	.	.
Inconel 625	BS 625F	0.147	0.0011	0.0031	0.0215	0.042	21.89	0.150	3.76	0.0071	0.094	9.11	(0.018)	3.53	60.72	<0.01	0.0069	<0.001	(0.0004)	0.106	0.0008	<0.01	0.27	0.014	0.034	<0.02
Inconel 690	BS 690A	0.209	(0.0004)	0.0003	0.0321	0.0056	29.5	0.0072	9.08	0.0058	0.214	0.0025	0.0069	0.0039	60.5	0.0009	0.0052	(0.0001)	0.0004	0.036	(0.0003)	(0.011)	0.340	0.0095	0.011	0.0018
Inconel 718	BS 718D	0.631	0.0011	0.0041	0.037	0.368	18.32	0.071	18.51	0.0038	0.100	3.00	0.0084	5.16	52.5	0.0015	0.0083	(0.00006)	0.0004	0.072	0.0020	(0.0022)	0.93	0.038	0.049	(0.002)
Inconel X750	BS 750A	.	.	0.0033	0.047	0.29	15.68	0.04	7.07	.	0.09	0.22	.	1.07	71.9	.	(0.005)	.	0.0007	0.10	.	.	2.60	0.046	.	.
Inconel 800	BS 800A	0.362	(0.002)	0.0018	0.075	0.069	21.09	0.244	42.7	0.0022	0.883	0.117	0.0126	0.021	33.3	0.0014	0.013	(0.001)	(0.0007)	(0.0005)	0.361	0.0041	0.526	0.058	(0.030)	(0.002)
Inconel 825	BS 825E	0.080	.	0.0025	0.010	0.26	21.87	1.72	31.45	.	0.51	2.74	0.0105	0.19	39.92	(0.004)	0.015	.	0.0010	0.24	.	.	0.82	0.049	0.166	.
Inconel 925	BS 925	0.17	.	0.002	0.011	0.34	20.82	1.74	26.92	.	0.50	3.00	0.0042	0.23	43.53	(0.0075)	0.016	.	0.0020	0.11	(0.002)	.	2.20	0.03	0.47	.
Hastelloy B	BS H1C	0.15	(0.001)	(0.001)	0.0022	(0.01)	0.70	(0.002)	1.29	(0.0012)	0.51	27.2	(0.0005)	(0.009)	69.8	(0.0009)	(0.0049)	(0.00002)	(0.0004)	(0.01)	(0.002)	(0.009)	(0.008)	(0.02)	(0.009)	(0.001)
Hastelloy C-276	BS H2C	0.124	0.0008	0.0008	0.0027	0.178	16.14	0.116	5.99	0.0061	0.415	15.36	0.0126	0.032	58.3	0.0012	0.0086	0.00014	0.00030	0.031	0.0011	Ca+ppm	0.0172	0.0222	3.25	Sb+ppm
Hastelloy X	BS H3C	0.149	(0.003)	0.0020	0.087	1.37	21.50	0.106	19.54	0.0020	0.492	8.82	0.0266	0.095	46.6	0.0013	0.0150	.	(0.0003)	0.36	0.0019	(0.0001)	(0.0064)	0.047	0.623	(0.005)
Hastelloy C-22	BS H6B	0.23	(0.0015)	0.0016	(0.008)	0.079	22.3	0.035	3.45	0.0010	0.226	14.05	0.0118	(0.1)	55.9	0.0007	0.0054	.	0.0005	(0.035)	(0.0007)	.	0.050	0.0063	3.20	.
Waspaloy	BS 199B	1.37	.	0.0053	0.041	12.41	19.46	0.015	1.17	0.0032	0.0240	3.87	0.0038	0.069	58.4	0.0006	0.0031	.	0.0005	0.034	0.0006	(0.001)	3.00	0.071	0.048	0.045
RA 333	BS 197A	0.18	.	0.0019	0.050	3.06	25.11	0.12	18.07	.	1.56	2.99	(0.052)	0.20	44.44	.	0.021	(0.0002)	<0.001	0.96	.	.	0.017	0.051	2.79	.
Alloy 20	BS 187D	0.0164	(0.0035)	0.0026	0.0337	0.089	19.91	3.52	[39.6]	(0.0009)	0.938	2.17	0.046	0.621	32.3	0.0026	0.0155	0.0019	0.0021	0.669	0.0085	0.0008	0.0027	0.073	0.086	(0.0012)

Nickel with brackets [] calculated by difference.
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ALLOY	ISO?	NUMBER	ALLOY	ISO?	NUMBER
028		IARM 357A	Hastelloy B		BS H1E
20	17034	BS 187B	Hastelloy B	17025	BS H1C
20	17025	BS 187D	Hastelloy B-2		IARM 63D
20		HRT N12022	Hastelloy B-2		IARM NiB2-23
20		IARM 25D	Hastelloy B-3		IARM NiB-3
25-6Mo		IARM N1256Mo-18	Hastelloy C		HRT N12012
200	17025	BS 200-1	Hastelloy C-2000	17034	BS C-2000
200	17025	BS 200-2	Hastelloy C-22	17025	BS H6B
200	17025	BS 200-4	Hastelloy C-22	17034	BS H6C
200	17025	BS 200A	Hastelloy C-22		HRT N12014
200		IARM 50C	Hastelloy C-22		IARM 65D
200		IARM 187A	Hastelloy C-22HS		IARM 276A
200		IARM 188A	Hastelloy C-276	17034	BS H2E
200		IARM 189A	Hastelloy C-276		IARM NiC276-18
200		IARM 190A	Hastelloy G-30	17034	BS G30
200		IARM 191A	Hastelloy G-30		IARM 67C
205	17025	BS 200-3	Hastelloy G-30		IARM NiG30-22
244H		IARM N1244H-18	Hastelloy G-35		IARM 329A
282		IARM N1282-18	Hastelloy S		IARM NiS-18
330		IARM N1330-21	Hastelloy X	17025	BS H3C
400		212X 04400	Hastelloy X	17034	BS H3D
400	17025	BS 400D	Hastelloy X		IARM NiX-18
400		BS 400-1	Haynes 214		IARM NiH214-18
400		BS 400-2	Haynes 230	17025	BS H230
400		BS 400-3	Haynes 230	17034	BS H230A
400		IARM 51D	Haynes 230		IARM 68E
400		SS 363/1	Haynes 230		IARM 68F
405 (R405)		BS 405	HR-120		IARM 282A
405 (R405)	17025	BS 405A	IN 100		IMZ 182
405 (R405)		IARM NiR405-20	IN 100		SS 345
500		212X 05500	IN 100		SS 346A
500+Si	17025	BS 500E	Incoloy		28X 08811
500		IARM 52D	Incoloy		HH 5157A
600		28X 6001	Incoloy		HH 5179A
600		28X 6002	Incoloy		HH 5300A
600		28X 6003	Magnetic		SRM 1159
600		28X 6004	Magnetic		SRM 1160
600		28X 6005	Mar-M 247		IMZ 202A
600		BS 600-2	Monel		HRT Ni2019
600		BS 600-3	MP 35N		SRM 1775
600		BS 600-4	N-155		IARM NiN155-18
600		BS 600-5	Nimonic 80A		22X 806
600		BS 600-6	Nimonic 80A		CT ISO122A
600		IARM 53F	PE16		IARM NiPE16-18
600		PV 202/1	RA 333		BS 197A
600		SRM 1244	RA 333		BS 197B
601		IARM 366A	Rene 41		IARM NiRene41-21
602CA		IARM 338A	Rene 125		IMZ 187A
602SHT	17034	HRT N12021	Udimet 500		IARM 287A
617		BS 617A	Waspaloy		24X 07001
617		IARM 272A	Waspaloy	17025	24X 7201
617		IARM N1617-18	Waspaloy		BS 199B
625		28X 6251	Waspaloy		IARM NiWasp-18
625		28X 6252	Waspaloy		SRM 1243
625	17034	BS 625F	X750		IARM 57E
625		IARM 54H			
625		IARM N1625-23			
625		ECRM 377-1			
625		ECRM 377-2			
625		NCS HS41745			
6255	17034	BS 6255			
686		IARM 362B			
686	17034	IARM N1686-20			
690		BS 690B			
690		IARM N1690-18			
693		IARM 372A			
713		SS 350			
718	17025	BS 718D			
718		BS 718E			
718		HRT N12018			
718		IARM N1718-20			
718		IARM N1718-22			
718		IARM N1718-23			
718		NCS HS41746			
718		SRM 1249			
718		SS 351			
718		SS 351/1			
725		BS 725			
725		IARM 274A			
725		IARM N1725-18			
738		IMZ 183A			
740		IARM 358A			
750	17025	BS 750C			
750	17034	BS 750D			
750		HT 8209X			
750		HT 8211X			
800, 800HT	17025	BS 800A			
800, 800HT	17034	BS 800B			
800, 800HT		IARM 58B			
800		IARM N1800-18			
800		IARM N1800-19			
800		SRM 1246			
801		HH 5196A			
825		13X 08825			
825	17025	219X 08825A			
825	17034	BS 825E			
825		BS 825F			
825		BS 825G			
825		HRT N12013			
825		IARM N1825-18			
825		PV 204/1			
825		SRM 1247			
901		SS 387/1			
903		SRM 1250			
904L		IARM 347A			
909		IARM 203A			
909		IARM N1909-18			
925	17034	BS 925			
925		BS 925A			
925		IARM N1925-18			
945		IARM 328A			
945X		IARM 328B			
AL6XN	17025	BS 189A			
Hastelloy		215X HB4			

Type	Comment	Al	B	C	Co	Cr	Cu	Fe	Mn	Mo	Nb	
20	CB3 Mod	.	.	<0.035	.	19.0-21.0	3.0-4.0	rem	1.5-2.5	2.0-3.0	8\mtc-0.4	
20	Mo-6HS	N 0.17-0.40	.	<0.06	.	22.0-26.0	1.0-3.0	rem	<1.00	5.00-6.70	.	
31		N 0.15-0.25	.	<0.15	.	26.0-28.0	1.0-1.4	rem	<2.00	6.0-7.0	.	
52		<0.10	.	<0.05	<0.50	<0.25	.	rem	<0.60	.	.	
59		0.10-0.40	.	<0.010	<0.30	22.0-24.0	<0.50	<1.50	<0.50	15.0-16.5	.	
100	V 0.7-1.2	5.00-6.00	0.01-0.02	0.15-0.20	13.0-17.0	8.0-11.0	.	<1.00	<0.20	2.0-4.0	.	
102	Mg 0.01-0.05	0.30-0.60	0.003-0.008	<0.08	.	14.0-16.0	.	5.0-9.0	<0.75	2.75-3.25	2.75-3.25	
200		.	.	<0.15	.	.	<0.25	<0.40	<0.35	.	.	
201		.	.	<0.02	.	.	<0.25	<0.40	<0.35	.	.	
205	Mg 0.01-0.08	.	.	<0.15	.	.	<0.15	<0.20	<0.35	.	.	
211		.	.	<0.20	.	.	<0.25	<0.75	4.25-5.25	.	.	
214	Y 0.002-0.04	4.0-5.0	<0.006	<0.05	<2.0	15.0-17.0	.	2.0-4.0	<0.50	<0.50	.	
220		.	.	<0.10	.	.	<0.10	<0.20	<0.20	.	.	
225	Mg 0.01-0.08	.	.	<0.15	.	.	<0.10	<0.10	<0.20	.	.	
230	Mg 0.04-0.08	.	.	<0.15	.	.	<0.10	<0.10	<0.15	.	.	
230	La 0.005-0.05	0.20-0.50	<0.015	0.05-0.15	<5.00	20.0-24.0	.	<3.00	0.30-1.00	1.0-3.0	.	
233	Mg 0.01-0.10	.	.	<0.15	.	.	<0.10	<0.10	<0.30	.	.	
270	Mg <0.001	.	.	<0.12	<0.001	<0.001	<0.001	<0.005	<0.001	.	.	
300	Mg 0.20-0.50	.	.	<0.40	.	.	<0.25	<0.60	<0.50	.	.	
301		4.00-4.75	.	<0.30	.	.	<0.25	<0.60	<0.50	.	.	
400		.	.	<0.03	.	.	rem	<2.50	<2.00	.	.	
401		.	.	<0.10	<0.25	.	rem	<0.75	<2.25	.	.	
404		<0.05	.	<0.15	.	.	rem	<0.50	<0.10	.	.	
502		2.5-3.5	.	<0.10	.	.	rem	<2.00	<1.50	.	.	
520		1.8-2.2	<0.010	<0.06	12.0-14.0	18.0-20.0	.	.	.	5.0-7.0	.	
600		.	.	<0.15	.	14.0-17.0	<0.50	6.0-10.0	<1.00	.	.	
601		1.0-1.7	.	<0.10	.	21.0-25.0	<1.00	rem	<1.00	.	.	
603GT	Y 0.05-0.15	2.4-3.0	.	0.20-0.40	.	24.0-26.0	<0.50	8.0-11.0	<0.15	.	.	
617		0.80-1.50	<0.006	0.05-0.15	10.0-15.0	20.0-24.0	<0.50	<3.00	<1.00	8.0-10.0	.	
625		<0.40	.	<0.10	.	20.0-23.0	.	<5.00	<0.50	8.0-10.0	3.15-4.15	
625LCF	N <0.02	<0.40	.	<0.03	<1.0	20.0-23.0	.	<5.00	<0.50	8.0-10.0	3.15-4.15	
686		.	.	<0.01	.	19.0-23.0	.	<5.00	<0.75	15.0-17.0	.	
690		.	.	<0.15	.	27.0-31.0	<0.50	7.0-11.0	<0.50	.	.	
702		2.75-3.75	.	<0.10	.	14.0-17.0	<0.50	<2.00	<1.00	.	.	
706		<0.40	<0.006	<0.06	.	14.5-17.5	<0.30	rem	<0.35	.	2.5-3.3	
713		5.5-6.5	0.005-0.015	0.08-0.20	.	12.0-14.0	.	<2.50	<0.25	3.8-5.2	1.8-2.8	
718		0.20-0.80	<0.006	<0.08	<1.0	17.0-21.0	<0.30	rem	<0.35	2.8-3.3	4.75-5.50	
718SPF	N <0.01	0.20-0.80	<0.006	<0.05	<1.0	17.0-21.0	<0.30	rem	<0.35	2.8-3.3	4.75-5.25	
720		2.0-3.0	<0.02	<0.03	14.0-16.0	15.0-17.0	.	rem	<0.50	2.5-3.5	.	
721		<0.10	.	<0.07	.	15.0-17.0	<0.20	<8.00	2.00-2.50	.	.	
722		0.4-1.0	.	<0.08	.	14.0-17.0	<0.50	5.0-9.0	<1.00	.	.	
725		<0.35	.	<0.03	.	19.0-22.5	.	rem	<0.35	7.0-9.5	2.75-4.00	
751		0.90-1.50	.	<0.10	.	14.0-17.0	<0.50	5.0-9.0	<1.00	.	0.7-1.2	
800		0.15-0.60	.	<0.10	.	19.0-23.0	<0.75	rem	<1.50	.	.	
800H		0.15-0.60	.	0.05-0.10	.	19.0-23.0	<0.75	rem	<1.50	.	.	
800HT	Al+Ti 0.85-1.20	0.15-0.60	.	0.06-0.10	.	19.0-23.0	<0.75	>39.5	<1.50	.	.	
801		.	.	<0.10	.	19.0-22.0	<0.50	rem	<1.50	.	.	
802		0.15-1.00	.	0.20-0.50	.	19.0-23.0	<0.75	rem	<1.50	.	.	
804		<0.60	.	<0.10	.	28.0-31.0	<0.50	rem	<1.50	.	.	
825		<0.2	.	<0.05	.	19.5-23.5	1.5-3.0	rem	<1.00	2.5-3.5	.	
901		<0.35	0.010-0.020	<0.10	.	11.0-14.0	<0.50	rem	<1.00	5.00-7.00	.	
903		0.30-1.15	<0.012	<0.06	13.0-17.0	<1.0	<0.50	rem	<1.00	.	2.4-3.5	
908		0.75-1.25	<0.012	<0.03	<0.50	3.75-4.5	<0.50	rem	<1.00	.	2.7-3.3	
926		<0.3	.	<0.04	.	14.0-18.0	3.5-5.5	>39.0	<1.50	2.5-3.5	.	
2120	N 0.02-0.15	<0.40	.	<0.010	<0.30	20.0-23.0	<0.50	<1.50	<0.50	19.0-21.0	.	
Type	Ni	P	S	Si	Ti	W	Zr					
20	CB3 Mod	32.0-36.0	<0.020	<0.015	<0.30	.	.	.	.	.	.
20	Mo-6HS	33.0-37.2	<0.030	<0.030	<0.50	.	.	.	.	.	.
31		30.0-32.0	<0.030	<0.005	<0.05	.	.	.	.	.	.
52		50.5	<0.025	<0.025	<0.30	.	.	.	.	.	.
59		rem	<0.015	<0.010	<0.10	.	.	.	.	.	.
100		rem	.	<0.015	<0.20	4.5-5.0	.	0.03-0.09	.	.	.	
102		rem	<0.010	<0.010	<0.40	0.4-0.7	2.72-3.25	0.01-0.05	.	.	.	
200		>99.0	.	<0.010	<0.35	.	.	.	.	.	.
201		>99.0	.	<0.010	<0.35	.	.	.	.	.	.
205		>99.0	.	<0.008	<0.15	0.01-0.05	.	.	.	.	.
211		>93.7	.	<0.015	<0.15	.	.	.	.	.	.
214		rem	<0.015	<0.015	<0.20	.	<0.05	<0.05	.	.	.	
220		>99.0	.	<0.008	0.01-0.05	0.01-0.05	.	.	.	.	.
225		>99.0	.	<0.008	0.15-0.25	0.01-0.05	.	.	.	.	.
230		>99.0	.	<0.008	0.010-0.035	<0.005	.	.	.	.	.
230		rem	<0.030	<0.015	0.25-0.75	.	13.0-15.0	.	.	.	.
233		>99.0	.	<0.008	<0.10	<0.005	.	.	.	.	.
270		>99.97	.	<0.001	<0.001	.	.	.	.	.	.
300		>97.0	.	<0.010	<0.35	0.20-0.60	.	.	.	.	.
301		>93.0	.	<0.010	<1.00	0.25-1.00	.	.	.	.	.
400		63.0-70.0	.	<0.024	<0.50	.	.	.	.	.	.
401		40.0-45.0	.	<0.015	<0.25	.	.	.	.	.	.
404		52.0-57.0	.	<0.024	<0.10	.	.	.	.	.	.
502		63.0-70.0	.	<0.010	<0.50	<0.50	.	.	.	.	.
520		rem	.	.	.	2.8-3.2	0.8-1.2	.	.	.	.
600		>72.0	.	<0.015	<0.50	.	.	.	.	.	.
601		58.0-63.0	.	<0.015	<0.50	.	.	.	.	.	.
603GT		rem	<0.020	<0.010	<0.50	0.01-0.25	.	0.01-0.10	.	.	.	
617		>44.5	.	<0.015	<1.00	<0.06	.	.	.	.	.
625		rem	<0.015	<0.015	<0.50	<0.40	.	.	.	.	.
625LCF		>58.0	<0.015	<0.015	<0.15	<0.40	.	.	.	.	.
686		rem	<0.040	<0.020	<0.08	0.02-0.25	3.0-4.4	.	.	.	.
690		>58.0	.	<0.015	<0.50	.	.	.	.	.	.
702		rem	<0.010	<0.70	0.25-1.00	.	.	.	.	.	.
706		39.0-44.0	<0.020	<0.015	<0.35	1.5-2.0	.	.	.	.	.
713		rem	.	<0.50	0.5-1.0	.	0.05-0.15	.	.	.	.
718		50.0-55.0	<0.015	<0.015	<0.35	0.65-1.15	.	.	.	.	.
718SPF		50.0-55.0	<0.015	<0.002	<0.35	0.65-1.15	.	.	.	.	.
720		rem	.	<0.010	<0.15	4.5-5.5	1.0-2.0	<0.05	.	.	.	
721		rem	.	<0.010	<0.15	2.75-3.35	.	.	.	.	.
722		>70.0	.	<0.010	<0.07	2.00-2.75	.	.	.	.	.
725		55.0-59.0	<0.015	<0.010	<0.20	1.0-1.7	.	.	.	.	.
751		>70.0	.	<0.010	<0.50	2.0-2.6	.	.	.	.	.
800		30.0-35.0	<0.045	<0.015	<1.00	0.15-0.60	.	.	.	.	.
800H		30.0-35.0	<0.045	<0.015	<1.0	0.15-0.60	.	.	.	.	.
800HT		30.0-35.0	<0.045	<0.015	<1.0	0.15-0.60	.	.	.	.	.
801		30.0-34.0	.	<0.015	<1.0	0.75-1.5	.	.	.	.	.
802		30.0-35.0	.	<0.015	<0.75	0.25-1.25	.	.	.	.	.
804		39.0-43.0	.	<0.015	<0.75	<1.20	.	.	.	.	.
825		38.0-46.0	<0.030	<0.030	<0.50	0.6-1.2	.	.	.	.	.
901		40.0-45.0	.	<0.030	<0.60	2.35-3.10	.	.	.	.	.
903		36.0-40.0	.	<0.015	<0.35							

Type	Comment	Al	B	C	Co	Cr	Cu	Fe	Mn	Mo	Nb
ACI CN-7M		.	.	<0.07	.	19.0-22.0	3.0-4.0	rem	<1.50	2.00-3.00	.
ACI CY-40		.	.	<0.40	.	14.0-17.0	.	<11.0	<1.50	.	.
ACI CZ-100		.	.	<1.00	.	.	<1.25	<3.00	<1.50	.	.
ACI HT		.	.	0.35-0.75	.	13.0-17.0	.	rem	<2.00	<0.50	.
ACI HT-30		.	.	0.25-0.35	.	13.0-17.0	.	rem	<2.00	<0.50	.
ACI HT-50		.	.	0.40-0.60	.	15.0-19.0	.	rem	<1.50	<0.50	.
ACI HT-50C		.	.	0.40-0.60	.	13.0-17.0	.	rem	<2.00	<0.50	0.75-1.25
ACI HU		.	.	0.35-0.75	.	17.0-21.0	.	rem	<2.00	<0.50	.
ACI HU-50		.	.	0.40-0.60	.	17.0-21.0	.	rem	<1.50	<0.50	.
ACI HW		.	.	0.35-0.75	.	10.0-14.0	.	rem	<2.00	<0.50	.
ACI HW-50		.	.	0.40-0.60	.	10.0-14.0	.	rem	<1.50	<0.50	.
ACI HX		.	.	0.35-0.75	.	15.0-19.0	.	rem	<2.00	<0.50	.
ACI HX-50		.	.	0.40-0.60	.	15.0-19.0	.	rem	<1.50	<0.50	.
AF2-1DA	Ta 1-2; B, N, O, Pb limits	4.20-4.80	0.01-0.02	0.30-0.35	9.50-10.50	11.5-12.5	.	<1.00	<0.10	2.50-3.50	.
AL-6X		.	.	<0.035	.	20.0-22.0	.	rem	<2.00	6.0-7.0	.
AL-6XN	N 0.18-0.25	.	.	<0.030	.	20.0-22.0	.	rem	<2.00	6.0-7.0	.
Allcorr		<1.50	.	<0.15	<12.0	27.0-33.0	.	.	.	8.0-12.0	<2.00
Alumel		1.75-2.25	.	<0.15	.	.	.	.	.	.	.
ARMCO 20-45-5		.	.	<0.08	.	18.0-22.0	.	<0.50	2.00-3.00	1.5-3.0	<0.40
Astroloy M	Bi, N, Pb limits	3.85-4.15	0.020-0.030	0.02-0.06	16.0-18.0	14.0-16.0	<0.10	<0.50	<0.15	4.50-5.50	.
B-2		.	.	<0.02	<1.0	<1.0	.	<2.00	.	.	.
B-3	Ni+Mo 94.0-98.0; Ta, V <0.20	<0.50	.	<0.01	<3.0	1.0-3.0	<0.20	1.0-3.0	<1.00	26.0-30.0	<0.20
B-4		0.10-0.50	.	<0.01	<2.5	0.5-1.5	<0.50	1.0-6.0	<1.50	26.0-30.0	.
B-10		<0.5	.	<0.01	<1.0	6.0-10.0	<0.50	5.0-8.0	<1.00	21.0-25.0	.
Be-Ni	Be 1.85-2.05	.	.	.	.	.	.	.	.	.	.
BNi-1	Se <0.005, Other <0.50	<0.05	2.75-3.50	0.6-0.9	<0.10	13.0-15.0	.	4.0-5.0	.	.	.
BNi-1a	Se <0.005, Other <0.50	<0.05	2.75-3.50	<0.06	<0.10	13.0-15.0	.	4.0-5.0	.	.	.
BNi-2	Se <0.005, Other <0.50	<0.05	2.75-3.50	<0.06	<0.10	6.0-8.0	.	2.5-3.5	.	.	.
BNi-3	Se <0.005, Other <0.50	<0.05	2.75-3.50	<0.06	<0.10	.	.	<0.50	.	.	.
BNi-4	Se <0.005, Other <0.50	<0.05	1.50-2.20	<0.06	<0.10	.	.	<1.50	.	.	.
BNi-5	Se <0.005, Other <0.50	<0.05	<0.03	<0.10	<0.10	18.5-19.5	.	.	.	.	.
BNi-5a	Se <0.005, Other <0.50	<0.05	1.0-1.5	<0.10	<0.10	18.5-19.5	.	4.0-5.0	.	.	.
BNi-5b	Se <0.005, Other <0.50	<0.05	1.0-1.6	<0.06	<0.10	14.5-15.5	.	<1.00	.	.	.
BNi-6	Se <0.005, Other <0.50	<0.05	.	<0.01	<0.10	.	.	.	.	.	.
BNi-7	Se <0.005, Other <0.50	<0.05	<0.010	<0.08	<0.10	13.0-15.0	.	<0.20	<0.04	.	.
BNi-8	Se <0.005, Other <0.50	<0.05	.	<0.10	<0.10	.	4.0-5.0	.	21.5-24.5	.	.
BNi-9	Se <0.005, Other <0.50	<0.05	3.25-4.00	<0.06	<0.10	13.5-16.5	.	<1.50	.	.	.
BNi-10	Se <0.005, Other <0.50	<0.05	2.00-3.00	0.40-0.55	<0.10	10.0-13.0	.	2.5-4.5	.	.	.
BNi-11	Se <0.005, Other <0.50	<0.05	2.20-3.10	0.30-0.50	<0.10	9.0-11.75	.	2.5-4.5	.	.	.
BNi-12	Se <0.005	<0.05	<0.02	<0.06	<0.10	24.0-26.0	.	<0.20	.	.	.
BNi-13	Se <0.005	<0.05	2.75-3.50	<0.06	<0.10	7.0-9.0	2.0-3.0	<0.40	.	1.5-2.5	1.5-2.35

Type	Ni	P	S	Si	Ti	W	Zr
ACI CN-7M	27.5-30.5	.	.	<1.50	.	.	.
ACI CY-40	rem	.	.	<3.00	.	.	.
ACI CZ-100	rem	.	.	<2.00	.	.	.
ACI HT	33.0-37.0	<0.040	<0.040	<2.50	.	.	.
ACI HT-30	33.0-37.0	<0.040	<0.040	<2.50	.	.	.
ACI HT-50	33.0-37.0	<0.040	<0.040	0.50-2.00	.	.	.
ACI HT-50C	33.0-37.0	.	.	.	.	.	.
ACI HU	37.0-41.0	<0.040	<0.040	<2.50	.	.	.
ACI HU-50	37.0-41.0	<0.040	<0.040	0.50-2.00	.	.	.
ACI HW	58.0-62.0	<0.040	<0.040	<2.50	.	.	.
ACI HW-50	58.0-62.0	<0.040	<0.040	0.50-2.00	.	.	.
ACI HX	64.0-68.0	<0.040	<0.040	<2.50	.	.	.
ACI HX-50	64.0-68.0	<0.040	<0.040	0.50-2.00	.	.	.
AF2-1DA	rem	<0.015	<0.015	<0.10	2.75-3.25	5.50-6.50	0.05-0.15
AL-6X	23.5-25.5	<0.030	<0.030	<1.00	.	.	.
AL-6XN	23.5-25.5	<0.040	<0.030	<1.00	.	.	.
Allcorr	rem	.	.	<1.50	<4.00	.	.
Alumel	rem	.	.	<1.60	.	.	.
ARMCO 20-45-5	43.0-49.0	<0.045	<0.030	<1.00	.	.	.
Astroloy M	rem	<0.015	<0.015	<0.20	3.35-3.65	<0.05	<0.06
B-2	rem	<0.040	<0.030	<0.10	.	.	.
B-3	>65.0	<0.030	<0.010	<0.10	<0.20	<3.00	<0.10
B-4	rem	<0.040	<0.010	<0.05	.	.	.
B-10	rem	<0.025	<0.010	<0.10	.	.	.
Be-Ni	rem	.	.	.	0.4-0.6	.	.
BNi-1	rem	<0.020	<0.020	4.0-5.0	<0.05	.	<0.05
BNi-1a	rem	<0.020	<0.020	4.0-5.0	<0.05	.	<0.05
BNi-2	rem	<0.020	<0.020	4.0-5.0	<0.05	.	<0.05
BNi-3	rem	<0.020	<0.020	4.0-5.0	<0.05	.	<0.05
BNi-4	rem	<0.020	<0.020	3.0-4.0	<0.05	.	<0.05
BNi-5	rem	<0.020	<0.020	9.75-10.5	<0.05	.	<0.05
BNi-5a	rem	<0.020	<0.020	7.0-7.5	<0.05	.	<0.05
BNi-5b	rem	<0.020	<0.020	7.0-7.5	<0.05	.	<0.05
BNi-6	rem	10.0-12.0	<0.020	<0.05	.	.	<0.05
BNi-7	rem	9.7-10.5	<0.020	<0.10	<0.05	.	<0.05
BNi-8	rem	<0.020	<0.020	6.0-8.0	<0.05	.	<0.05
BNi-9	rem	<0.020	<0.020	.	<0.05	.	<0.05
BNi-10	rem	<0.020	<0.020	3.0-4.0	<0.05	15.0-17.0	<0.05
BNi-11	rem	<0.020	<0.020	3.25-4.25	<0.05	11.50-12.75	<0.05
BNi-12	rem	9.0-11.0	<0.020	<0.10	<0.05	.	<0.05
BNi-13	rem	<0.020	<0.020	3.8-4.8	<0.05	.	<0.05

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Type	Comment	Al	B	C	Co	Cr	Cu	Fe	Mn	Mo	Nb
Comm.Pure Ni	Mg <0.005	.	.	<0.02	<0.10	<0.005	<0.01	<0.05	<0.003	.	.
Comm.Pure Ni	Mg, N <0.001; O <0.025	<0.001	.	<0.006	.	<0.001	<0.02	<0.015	<0.001	.	.
Creusot UR SB 8	N 0.17-0.25	.	.	<0.020	.	24.0-26.0	1.0-2.0	rem	<2.00	4.7-5.7	.
CT15C	.	.	.	0.05-0.15	.	19.0-21.0	.	rem	0.15-1.50	.	0.50-1.50
D979	Zr <0.05	0.75-1.30	0.008-0.015	<0.08	.	14.0-16.0	.	rem	<0.75	3.75-4.50	.
Eatonite	.	.	.	2.4	10.0	29.0	.	<6.50	.	.	.
Eatonite 3	.	.	.	1.80-2.20	.	28.0-30.0	.	1.0-8.0	<1.00	4.0-6.0	.
Eatonite 5	.	.	.	1.80-2.20	.	28.0-30.0	.	1.0-8.0	<1.00	7.0-9.0	.
ER330	.	.	.	0.18-0.25	.	15.0-17.0	<0.75	rem	1.0-2.5	<0.75	.
ERNi-C1	Other <1.00	.	.	<1.00	.	.	<4.00	<4.00	<2.50	.	.
ERNiCr-6	Pb <0.010	<0.40	.	0.08-0.15	.	19.0-21.0	<0.50	<2.00	<1.00	.	.
ERNiCr-A	Se <0.005	.	2.00-3.00	0.30-0.60	<1.50	8.0-14.0	.	1.25-3.25	.	.	.
ERNiCr-C	Se <0.005	.	2.00-4.00	0.40-0.80	<1.25	10.0-16.0	.	3.0-5.0	.	.	.
ERNiCr-C	Se <0.005	.	2.50-4.50	0.50-1.00	<1.0	12.0-18.0	.	3.5-5.5	.	.	.
ERNiCr-D	.	.	0.35-0.60	0.6-1.1	<0.10	8.0-12.0	.	1.0-5.0	.	.	.
ERNiCr-E	Sn 0.5-0.9	.	0.7-1.4	0.1-0.5	<0.10	15.-20.	.	3.5-7.5	.	.	.
ERNiCrMo-5A	V <0.40	.	.	<0.12	.	14-18	.	4.0-7.0	<1.00	14-18	.
ERNi-Cu-8	Pb <0.010	2.0-4.0	.	<0.25	.	.	rem	<2.00	<1.50	.	.
ERNiFeMn-C1	Other <1.00	<1.00	.	<0.50	.	.	<2.50	rem	10.0-14.0	.	.
ERNiMo-8	.	.	.	<0.10	.	0.5-3.5	<0.50	.	<1.00	18.0-21.0	.
ERNiMo-9	.	<1.00	.	<0.10	.	.	0.3-1.3	.	<1.00	19.0-22.0	.
Filler 72	Other <0.50	.	.	0.01-0.10	.	42.0-46.0	<0.50	<0.50	<0.20	.	.
FM 52	Al+Ti <1.50	<1.10	.	<0.04	.	28.0-31.5	<0.30	7.0-11.0	<1.00	<0.50	<0.10
FM60	.	<1.25	.	<0.15	.	.	rem	<2.50	<4.00	.	.
FM61	.	<1.50	.	<0.15	.	.	<0.25	<1.00	<1.00	.	.
FM65	.	<0.20	.	<0.05	.	19.5-23.5	1.5-3.0	>2.0	<1.00	2.5-3.5	.
FM69	.	0.40-1.00	.	<0.08	.	14.0-17.0	<0.50	5.0-9.0	<1.00	>70.0	0.7-1.2
FM82	.	.	.	<0.10	.	18.0-22.0	<0.50	<3.00	2.5-3.5	.	2.0-3.0
FM92	.	.	.	<0.08	.	14.0-17.0	<0.50	<8.00	2.00-2.75	.	.

Type	Ni	P	S	Si	Ti	W
Comm.Pure Ni	>99.9	.	<0.003	<0.005	<0.005	.
Comm.Pure Ni	rem	.	<0.0008	<0.001	.	.
Creusot UR SB 8	24.0-26.0	<0.025	<0.010	<0.50	.	.
CT15C	31.0-34.0	<0.030	<0.030	0.50-1.50	.	.
D979	42.0-48.0	<0.015	<0.015	<0.75	2.70-3.30	3.75-4.50
Eatonite	39.0	.	.	0.70	.	15.0
Eatonite 3	rem	<0.030	<0.030	0.8-1.2	.	.
Eatonite 5	rem	<0.030	<0.030	0.80-1.20	.	.
ER330	34.0-37.0	<0.030	<0.030	0.30-0.65	.	.
ERNi-C1	rem	.	<0.030	<0.75	.	.
ERNiCr-6	>75.0	<0.030	<0.015	<0.30	0.15-0.50	.
ERNiCr-A	rem	.	.	1.25-3.25	.	.
ERNiCr-C	rem	.	.	3.0-5.0	.	.
ERNiCr-C	rem	.	.	3.5-5.5	.	.
ERNiCr-D	rem	.	.	4.0-6.6	.	1.0-3.0
ERNiCr-E	.	.	.	5.5-8.0	.	0.5-1.5
ERNiCrMo-5A	rem	.	.	<1.00	.	3.0-5.0
ERNi-Cu-8	63.0-70.0	<0.030	<0.015	<1.00	0.25-1.00	.
ERNiFeMn-C1	35.0-45.0	.	<0.030	<1.00	.	.
ERNiMo-8	>60.0	<0.015	<0.015	<0.50	.	2.0-4.0
ERNiMo-9	>65.0	<0.015	<0.015	<0.50	.	2.0-4.0
Filler 72	rem	<0.020	<0.015	<0.20	0.3-1.0	.
FM 52	rem	.	<0.015	<0.50	<1.00	.
FM60	62.0-69.0	<0.020	<0.015	<1.25	1.5-3.0	.
FM61	>93.0	<0.030	<0.015	<0.75	2.0-3.5	.
FM65	38.0-46.0	<0.030	<0.030	<0.50	0.60-1.2	.
FM69	.	<0.030	<0.015	<0.50	2.00-2.75	.
FM82	>67.0	<0.030	<0.015	<0.50	<0.75	.
FM92	>67.0	<0.030	<0.015	<0.35	2.50-3.50	.

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Type	Comment	Al	B	C	Co	Cr	Cu	Fe	Mn	Mo
Hastelloy B	V <0.60	.	.	<0.12	<2.5	<1.00	.	<6.00	<1.00	26.0-33.0
Hastelloy C	V <0.35	.	.	<0.08	<2.5	14.5-16.5	.	4.0-7.0	<1.00	15.0-17.0
Hastelloy C-4	.	.	.	<0.015	<2.0	14.0-18.0	<3.00	.	<1.00	14.0-17.0
Hastelloy C-22	V <0.35	.	.	<0.015	<2.5	20.0-22.5	.	2.0-6.0	<0.50	12.5-14.5
Hastelloy C-276	V <0.35	.	.	<0.02	<2.5	14.5-16.5	.	4.0-7.0	<1.00	15.0-17.0
Hastelloy C-2000	.	<0.50	.	<0.010	<2.0	22.0-24.0	1.3-1.9	<3.00	<0.50	15.0-17.0
Hastelloy F	.	.	.	<0.05	<2.5	21.0-23.0	.	rem	1.0-2.0	5.5-7.5
Hastelloy G	.	.	.	<0.05	<2.5	21.0-23.5	1.5-2.5	18.0-21.0	1.0-2.0	5.5-7.5
Hastelloy G-2	.	.	.	<0.03	.	23.0-26.0	0.7-1.2	rem	<1.00	5.0-7.0
Hastelloy G-3	Nb+Ta <0.50	.	.	<0.015	<5.0	21.0-23.5	1.5-2.5	18.0-21.0	<1.00	6.0-8.0
Hastelloy G-30	.	.	.	<0.03	<5.00	28.0-31.5	1.0-2.4	13.0-17.0	<1.50	4.0-6.0
Hastelloy G-50	.	.	.	<0.015	<2.5	19.0-21.0	<0.50	15.0-20.0	<1.00	8.0-10.0
Hastelloy H-9M	.	.	.	<0.03	<5.0	20.5-23.0	.	17.0-20.0	<1.00	8.0-10.0
Hastelloy N	V <0.50	<0.50	<0.010	0.04-0.08	<0.20	6.0-8.0	<0.35	<5.00	<1.00	15.0-18.0
Hastelloy S	La 0.01-0.10	0.10-0.50	<0.015	<0.02	<2.0	14.5-17.0	<0.35	<3.00	0.30-1.00	14.0-16.5
Hastelloy W	V <0.60	.	.	<0.12	.	4.00-6.00	.	4.0-7.0	<1.00	23.0-26.0
Hastelloy X	.	.	.	0.05-0.15	0.5-2.5	20.5-23.0	.	17.0-20.0	<1.00	8.0-10.0
Haynes 20 Mod	.	.	.	<0.05	.	21.0-23.0	.	rem	<2.50	4.0-6.0
Haynes 230	La <0.050	0.20-0.50	<0.003	0.05-0.15	<3.0	20.0-24.0	<0.50	<3.00	0.3-1.0	1.0-3.0
Haynes 242	.	<0.50	<0.006	<0.03	<1.0	7.0-9.0	<0.50	<2.00	<0.80	24.0-26.0
HL	.	.	.	0.20-0.60	.	28.0-32.0	.	rem	<2.00	<0.50
HL-30	.	.	.	0.25-0.35	.	28.0-32.0	.	rem	<1.50	<0.50
HL-40	.	.	.	0.35-0.45	.	28.0-32.0	.	rem	<1.50	<0.50
HP	.	.	.	0.35-0.75	.	24.0-28.0	.	rem	<2.00	<0.50
HR-120	N 0.15-0.30	<0.40	<0.010	0.02-0.1	<3.0	23.0-27.0	<0.50	rem	<1.50	<2.50
HR-160	.	.	.	<0.15	27.0-33.0	26.0-30.0	.	<3.50	<1.50	<1.0
HT	.	.	.	0.35-0.75	.	15.0-19.0	.	rem	<2.00	<0.50
HT-30	.	.	.	0.25-0.35	.	13.0-17.0	.	rem	<2.00	<0.50
INCO 032	.	.	.	<0.03	.	20.0-23.0	.	rem	<1.00	4.0-5.0
Inconle FM62	.	.	.	<0.035	.	14.0-17.0	<0.50	6.0-10.0	<1.00	.
JS 700	Pb <0.005, Sn <0.035	.	.	<0.04	.	19.0-23.0	<0.50	rem	<2.00	4.3-5.0
K500	.	2.30-3.15	.	<0.25	.	.	rem	<2.00	<1.50	.
M220C	Be 1.80-2.30	.	.	0.30-0.50	.	.	.	.	.	.
M252	.	0.75-1.25	0.003-0.01	0.10-0.20	9.0-11.0	18.0-20.0	.	<5.00	<0.50	9.0-10.5
MA754	Y2O3 0.5-0.7	0.20-0.50	.	<0.05	.	19.0-23.0	.	<2.50	.	.
MAR-M-Alloy	Hf 1.50-2.0, Ta 1.25-1.75	5.25-5.75	0.01-0.02	0.13-0.17	9.0-10.0	8.0-10.0	<0.10	<1.00	<0.20	2.25-2.75
MAT21	Ta 1.5-2.2, V <0.35	.	.	<0.015	<1.0	18.0-20.0	<1.00	<0.50	<0.50	18.0-20.0

Type	Nb	Ni	P	S	Si	Ta	Ti	W	Zr
Hastelloy B	.	rem	<0.040	<0.030	<1.00	.	.	.	.
Hastelloy C	.	rem	<0.040	<0.030	<1.00	.	.	3.0-4.5	.
Hastelloy C-4	.	rem	<0.040	<0.030	<0.08	.	<0.70	.	.
Hastelloy C-22	.	rem	<0.020	<0.020	<0.08	.	.	2.5-3.5	.
Hastelloy C-276	.	rem	<0.030	<0.030	<0.08	.	.	3.0-4.5	.
Hastelloy C-2000	.	rem	<0.025	<0.010	<0.08	.	.	.	.
Hastelloy F	1.8-2.5	44.0-47.0	<0.040	<0.010	<1.00	.	<0.03	<1.00	.
Hastelloy G	1.75-2.50	rem	<0.040	<0.030	<1.0	.	.	<1.00	.
Hastelloy G-2	.	47.0-52.0	<0.030	<0.030	<1.00	.	0.7-1.5	.	.
Hastelloy G-3	.	rem	<0.040	<0.030	<1.00	.	.	<1.00	.
Hastelloy G-30	0.3-1.5	rem	<0.040	<0.020	<0.8	.	.	1.5-4.0	.
Hastelloy G-50	<0.50	>50.0	<0.040	<0.015	<1.00	.	.	<1.00	.
Hastelloy H-9M	.	rem	<0.040	<0.030	<1.00	.	.	1.0-2.0	.
Hastelloy N	.	rem	<0.015	<0.020	<1.00	.	.	<0.50	.
Hastelloy S	.	rem	<0.020	<0.015	0.20-0.75	.	.	<1.00	.
Hastelloy W	.	rem	<0.050	<0.050	<1.00	.	.	.	.
Hastelloy X	.	rem	<0.040	<0.030	<1.00	.	.	0.2-1.0	.
Haynes 20 Mod	.	25.0-27.0	<0.040	<0.030	<1.0	.	4\mtC min	.	.
Haynes 230	.	rem	<0.030	<0.015	0.25-0.75	.	.	13.0-15.0	.
Haynes 242	.	rem	<0.030	<0.015	<0.80	.	.	.	.
HL	.	16.0-22.0	<0.040	<0.040	<2.00	.	.	.	.
HL-30	.	18.0-22.0	<0.040	<0.040	0.50-2.00	.	.	.	.
HL-40	.	18.0-22.0	<0.040	<0.040	0.50-2.00	.	.	.	.
HP	.	35.0-37.0	<0.040	<0.040	<2.50	.	.	.	.
HR-120	0.4-0.9	35.0-39.0	<0.040	<0.030	<1.00	.	<0.20	<2.50	.
HR-160	<1.00	rem	<0.030	<0.015	2.4-3.0	.	0.20-0.80	<1.00	.
HT	.	33.0-37.0	<0.040	<0.050	<2.50	.	.	.	.
HT-30	.	33.0-37.0	<0.040	<0.040	<2.50	.	.	.	.
INCO 032	.	30.0-34.0	<0.030	<0.005	<0.05	.	.	.	.
Inconle FM62	1.0-3.0	>72.0	<0.030	<0.015	<0.50	.	.	.	.
JS 700	8*C <0.50	24.0-26.0	<0.040	<0.030	<1.00	.	.	.	.
K500	.	63.0-70.0	<0.040	<0.010	<0.05	.	0.35-0.85	.	.
M220C	.	rem	.	.	.	.	.	.	.
M252	.	rem	<0.015	<0.015	<0.50	.	2.25-2.75	.	.
MA754	.	rem	.	.	.	.	0.3-0.6	.	.
MAR-M-Alloy	.	rem	.	<0.015	<0.20	1.25-1.75	1.25-1.75	9.0-11.0	0.03-0.08
MAT21	.	rem	<0.020	<0.020	<0.08

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Type	Comment	Al	B	C	Co	Cr	Cu	Fe	Hf	Mn
N03260	ThO2 1.80-2.60	.	.	<0.02	<0.20	<0.05	<0.15	<0.05	.	.
N04019	.	.	.	<0.25	.	.	27.0-31.0	<2.50	.	<1.50
N04020	.	<0.50	.	<0.25	.	.	26.0-33.0	<2.50	.	<1.50
N04406	.	<0.10	.	<0.25	.	.	26.0-28.0	<2.00	.	<1.50
N06602	.	.	.	<0.02	.	14.0-17.0	<0.50	6.0-10.0	.	<1.00
N07002	nominal concentrations	0.05	.	0.05	0.50	16.00	.	.	.	2.30
N07013	Other 7.3-7.7	3.20-3.60	0.010-0.020	0.07-0.20	8.50-9.50	12.2-13.0	.	<0.50	0.75-1.05	<0.10
N07048	.	0.40-0.90	.	<0.035	<2.0	20.0-23.5	1.0-2.2	18.0-21.0	.	<0.80
N07626	N <0.05	0.40-0.80	.	<0.05	<1.0	20.0-23.0	<0.50	<6.00	.	<0.50
N07716	.	<0.35	.	<0.03	.	19.0-22.0	.	rem	.	<0.20
N07752	Nb+Ta 0.70-1.20, V <0.10	0.40-1.00	.	0.020-0.060	<0.050	14.5-17.0	<0.50	5.0-9.0	.	<1.00
N07924	Mg <0.005, N <0.02	<0.75	.	<0.020	<3.0	20.5-22.5	1.0-4.0	7.0-13.0	.	<0.20
N08021	Nb+Ta 8\mtC-1.0	.	.	<0.07	.	19.0-21.0	3.0-4.0	rem	.	<1.00
N08022	Nb+Ta 8\mtC-1.0	.	.	<0.025	.	19.0-21.0	3.0-4.0	rem	.	1.5-2.0
N08024	.	.	.	<0.03	.	22.5-25.0	0.5-1.5	rem	.	<1.00
N08221	.	<0.20	.	<0.025	.	20.0-22.0	1.5-3.0	rem	.	<1.00
N08310	N 0.20-0.40	.	.	<0.02	.	24.0-26.0	.	rem	.	2.00-4.00
N08421	.	<0.2	.	<0.025	.	20.0-22.0	1.5-2.0	rem	.	<1.00
N08535	.	.	.	<0.03	.	24.0-27.0	<1.50	rem	.	<1.00
N08826	.	.	.	<0.05	.	19.5-23.5	1.5-3.5	>22.0	.	<1.00
N08904	.	.	.	<0.020	.	19.0-23.0	1.0-2.0	rem	.	<2.00
N08925	N 0.10-0.20	.	.	<0.020	.	19.0-21.0	0.8-1.5	rem	.	<1.00
N08926	N 0.15-0.25	.	.	<0.020	.	19.0-21.0	0.5-1.5	rem	.	<2.00
N0925	.	.	.	<0.03	.	19.5-23.5	1.5-3.0	>22.0	.	<1.00
N13009	Bi <0.5 ppm, Pb <10 ppm	0.10-0.50	0.010-0.020	0.12-0.17	9.00-11.00	8.0-10.0	<0.10	<1.50	.	<0.20
N13010	Bi, Pb <0.5 ppm; Ta 4-5	5.75-6.25	0.010-0.020	0.08-0.13	9.50-10.50	7.50-8.50	.	<0.35	.	<0.20
N13020	Bi <0.5 ppm	3.75-4.75	0.025-0.035	0.03-0.10	17.0-20.0	14.0-16.0	<0.10	<2.00	.	<0.15
N13021	Ag, Bi, Pb limits	4.5-4.9	0.003-0.010	0.12-0.17	18.0-22.0	14.0-15.7	<0.20	<1.00	.	<1.00
N14076	.	.	.	<0.05	<0.50	2.0-3.0	4.0-6.0	rem	.	<1.50
N14080	.	.	.	<0.05	<0.50	<0.30	<0.30	rem	.	<0.80
N19907	.	<0.20	<0.012	<0.06	12.0-16.0	<1.0	<0.50	rem	.	<1.00
N19909	.	<0.15	.	<0.06	12.0-16.0	<1.00	<0.50	rem	.	<1.00
N22000	.	.	.	<0.1	.	<1.0	2.0-4.0	rem	.	<1.00
N24025	.	.	.	<0.25	.	.	27.0-33.0	<3.50	.	<1.50
N24030	.	.	.	<0.30	.	.	27.0-33.0	<3.50	.	<1.50
N24130	.	.	.	<0.30	.	.	26.0-33.0	<3.50	.	<1.50
N24135	.	.	.	<0.35	.	.	26.0-33.0	<3.50	.	<1.50
N26022	V <0.35	.	.	<0.02	.	20.0-22.5	.	2.0-6.0	.	<1.00
N26055	Bi, Sn 3.0-5.0	.	.	<0.05	.	11.0-14.0	.	<2.00	.	<1.50
N26455	.	.	.	<0.02	.	15.0-17.5	.	<2.00	.	<1.00
N26625	.	.	.	<0.06	.	20.0-23.0	.	<5.00	.	<1.00
N26641	.	.	.	<0.08	.	10.0-15.0	.	2.0-5.0	.	<1.00
N26985	Nb+Ta <0.5	.	1.2-2.0	0.2-0.8	<5.0	21.5-23.5	1.5-2.5	18.0-21.0	.	<1.00
N28825	.	.	.	<0.05	.	19.5-23.5	1.5-3.0	28.0-32.0	.	<1.00
N30002	V 0.2-0.4	.	.	<0.12	.	15.5-17.5	.	4.5-7.5	.	<1.00
N30007	.	.	.	<0.07	.	<1.0	.	<3.00	.	<1.00
N30012	V 0.2-0.6	.	.	<0.12	.	<1.00	.	4.0-6.0	.	<1.00
N30107	.	.	.	<0.17	.	17.0-20.0	.	<3.00	.	<1.00
N94620	Mg <0.010	<0.01	.	<0.02	25 nom	<0.03	<0.20	rem	.	<0.14
N94630	Mg <0.010	<0.01	.	<0.02	17 nom	<0.03	<0.20	rem	.	<0.35

Type	Mo	Nb	Ni	P	S	Si	Ta	Ti	W	Zr
N03260	.	.	rem	.	<0.0025	.	.	<0.05	.	.
N04019	.	.	>60.0	.	<0.015	3.5-4.5	.	.	.	.
N04020	.	.	rem	.	.	<2.00	.	.	.	.
N04406	.	.	>72.0	.	<0.015	<0.65	.	.	.	.
N06602	.	.	>72.0	.	<0.015	<0.50	.	.	.	.
N07002	.	.	rem	.	.	0.05	.	3.10	.	.
N07013	1.70-2.10	<0.10	rem	<0.015	<0.015	<0.10	3.85-4.5	3.85-4.15	3.85-4.50	0.05-0.15
N07048	5.0-7.0	<0.05	rem	<0.020	<0.010	<0.10	.	1.5-2.1	.	.
N07626	8.0-10.0	4.50-5.50	rem	<0.020	<0.015	<0.60	.	<0.60	.	.
N07716	7.0-9.5	2.75-4.00	57.0-63.0	<0.015	<0.010	<0.20	.	1.0-1.6	.	.
N07752	.	.	>70.0	<0.008	<0.003	<0.50	.	2.25-2.75	.	<0.05
N07924	5.50-7.00	2.75-3.50	52.0	<0.030	<0.005	<0.20	.	1.0-2.0	<0.50	.
N08021	2.0-3.0	.	32.0-36.0	<0.030	<0.030	<0.60	.	.	.	.
N08022	2.0-3.0	.	32.0-36.0	<0.030	<0.030	<0.60	.	.	.	.
N08024	3.50-5.00	0.15-0.35	35.0-40.0	<0.035	<0.035	<0.50	.	.	.	.
N08221	5.00-6.50	.	36.0-46.0	.	<0.030	<0.50	.	0.6-1.0	.	.
N08310	2.00-4.00	.	18.0-22.0	<0.035	<0.015	<0.05	.	.	.	.
N08421	5.0-6.5	.	39.0-41.0	<0.030	<0.030	<0.50	.	0.6-1.0	.	.
N08535	2.5-4.0	.	29.0-36.5	<0.030	<0.030	<0.50	.	.	.	.
N08826	2.5-3.5	0.6-1.2	38.0-44.0	<0.030	<0.030	<1.00	.	.	.	.
N08904	4.00-5.00	.	23.0-28.0	<0.045	<0.035	<1.00	.	.	.	.
N08925	6.0-7.0	.	24.0-26.0	<0.045	<0.030	<0.50	.	.	.	.
N08926	6.0-7.0	.	24.0-26.0	<0.030	<0.010	<0.50	.	.	.	.
N0925	2.50-3.50	<0.50	38.0-46.0	<0.030	<0.030	<0.50	.	1.9-2.4	.	.
N13009	.	0.75-1.25	rem	.	<0.015	<0.20	.	1.75-2.25	11.5-13.5	0.03-0.08
N13010	5.75-6.25	.	rem	<0.015	<0.015	<0.25	.	0.8-1.2	<0.10	0.05-0.10
N13020	4.50-5.50	.	rem	.	.	<1.0	.	2.75-3.75	.	<0.06
N13021	4.5-5.5	.	rem	.	<0.015	<0.50	.	0.9-1.5	.	.
N14076	<0.50	.	75.0-78.0	<0.020	<0.010	<0.50	.	.	.	.
N14080	3.5-6.0	.	79.0-82.0	<0.020	<0.010	<0.50	.	.	.	.
N19907	.	4.3-5.2	35.0-40.0	<0.015	<0.015	<0.35	.	1.2-1.8	.	.
N19909	.	4.3-5.2	35.0-40.0	<0.015	<0.015	0.25-0.50	.	1.3-1.8	.	.
N22000	.	.	rem	<0.030	<0.030	8.5-10.0	.	.	.	.
N24025	.	.	rem	<0.030	<0.030	3.5-4.5	.	.	.	.
N24030	.	.	rem	<0.030	<0.030	2.7-3.7	.	.	.	.
N24130	.	1.0-3.0	rem	<0.030	<0.030	1.0-2.0	.	.	.	.
N24135	.	<0.50	rem	<0.030	<0.030	<1.25	.	.	.	.
N26022	12.5-14.5	.	rem	<0.025	<0.025	<0.80	.	.	2.5-3.5	.
N26055	2.0-3.0	.	rem	<0.030	<0.030	<0.80	.	.	.	.
N26455	15.0-17.5	.	rem	<0.030	<0.030	<0.80	.	.	<1.00	.
N26625	8.0-10.0	3.15-4.50	rem	<0.015	<0.015	<1.00	.	.	.	.
N26641	.	.	rem	.	.	1.2-5.0	.	.	.	.
N26985	6.0-8.0	.	rem	<0.025	<0.030	<0.00	.	<1.50	.	.
N28825	2.5-3.5	0.7-1.0	rem	<0.030	<0.030	0.75-1.20	.	.	.	.
N30002	16.0-18.0	.	rem	<0.040	<0.030	<1.00	.	.	3.75-5.25	.
N30007	30.0-33.0	.	rem	<0.040	<0.030	<1.00	.	.	.	.
N30012	26.0-30.0	.	rem	<0.040	<0.030	<1.00	.	.	.	.
N30107	17.0-20.0	.	rem	<0.040	<0.030	<1.00	.	.	.	.
N94620	<0.06	.	27 nom	<0.006	<0.006	<0.06	.	<0.01	.	<0.01
N94630	<0.06	.	29 nom	<0.006	<0.006	<0.15	.	<0.01	.	<0.01

These are specifications
for reference purposes
only, not samples for sale

Type	Comment	Al	B	C	Co	Cr	Cu	Fe	Mn
Ni-20 Cr +Nb		.	.	<0.15	.	19.0-21.0	.	<1.00	<2.50
NiC 52		.	.	<0.03	.	23.0-27.0	0.5-1.0	rem	<1.00
NiC42M		.	.	<0.03	.	20.0-23.0	1.5-3.0	rem	<1.00
Nichrome		.	.	<0.15	.	14.0-18.0	.	rem	<1.00
Nichrome V		.	.	<0.15	.	19.0-21.0	.	<1.00	<2.50
Nicofer 45	0.05-0.15 rare earths with 50% Ce	.	.	0.05-0.12	.	26.0-29.0	<0.30	21.0-25.0	<1.00
Nicofer 6219Si		<0.50	.	<0.05	<1.0	18.0-22.0	<0.50	2.0-4.0	<0.50
Ni-Cr 30		<0.20	.	<0.15	.	29.0-31.0	.	<1.00	<0.10
Nicrofer 5020hMo	N 0.05-0.20, Other <0.50	0.50-0.50	.	<0.03	.	18.0-21.0	.	12.0-16.0	<0.50
Nicrofer 6025 HT	Y 0.05-0.12	1.8-2.4	.	0.15-0.25	.	24.0-26.0	<0.10	8.0-11.0	<0.15
Ni-Cu		.	.	<0.04	.	.	28.0-34.0	<2.50	<2.00
Nimonic 263	Al+Ti 2.4-2.8	0.30-0.60	.	0.04-0.08	19.0-21.0	19.0-21.0	<0.20	<0.70	<0.60
Nimonic 75		.	.	0.08-0.15	.	18.0-21.0	<0.50	<5.00	<1.00
Nimonic 80A		1.0-1.8	<0.008	<0.10	<2.0	18.0-21.0	<0.20	<3.00	<1.00
Nimonic 90		0.8-2.0	.	<0.13	15.0-21.0	18.0-21.0	.	<3.00	<1.00
Ni-Span-C 902		0.30-0.80	.	<0.06	.	4.90-5.75	.	rem	<0.80
Nitiono 55	H <0.005, O <0.05	.	.	<0.07	<0.05	<0.01	<0.01	<0.05	.
PH3	Mo+0.5W = 2.5-5.5	<2.00	.	<0.03	.	18.0-27.0	.	rem	<1.00
PH6		<2.00	.	<0.03	.	12.0-22.0	.	rem	<1.00
PH7		<0.35	.	<0.03	.	14.0-19.0	.	rem	<1.00
Pyromet 31		1.00-1.70	0.003-0.007	0.03-0.06	.	22.0-23.0	.	rem	<0.20
Pyromet 31V		1.15-1.40	.	0.03-0.06	<1.0	22.3-22.9	.	rem	.
R405		.	.	<0.30	.	.	rem	<2.50	<2.00
RA 330	Pb <0.005, Sn <0.025	.	.	<0.08	.	17.0-20.0	<1.00	rem	<2.00
RA 330-04		.	.	0.18-0.29	.	17.0-20.0	<0.50	rem	4.25-6.5
RA 330TX	Pb <0.005, Sn <0.025	0.10-0.50	.	0.05-0.10	.	17.0-20.0	<1.00	rem	<2.00
RA 333	Pb <0.025, Sn <0.025	.	.	<0.08	2.5-4.0	24.0-27.0	<0.50	rem	<2.00
Rene 41		1.40-1.80	0.003-0.010	<0.12	10.0-12.0	18.0-20.0	.	<5.00	<0.10
Sanicro 28		.	.	<0.03	.	26.0-28.0	0.6-1.4	rem	<2.50
SM2035		.	.	<0.03	.	20.5-23.5	<0.70	rem	<1.00
SM2050		.	.	<0.02	.	20.0-23.0	0.25-1.25	rem	<1.00
SM2060Mo		.	.	<0.03	.	19.0-22.0	0.25-1.25	rem	<1.50
SM2550		.	.	<0.03	.	23.0-26.0	<1.20	rem	<1.00
Udimet 500		2.05-3.25	0.003-0.01	<0.15	13.00-20.00	15.0-20.0	<0.15	<4.00	<0.75
Waspaloy		1.20-1.60	0.003-0.01	0.03-0.10	12.00-15.00	18.0-21.0	<0.50	<2.00	<1.00
W-Ni-3		.	.	<0.15	.	.	<0.25	<0.60	<0.35
W-NiAl-1		4.0-6.0	.	.	.	.	.	.	.
W-NiAl-2	Other <1.00	17.0-27.0	.	.	.	.	.	.	.
W-NiCrFe-2		.	.	<0.10	.	14.0-7.0	<0.50	6.0-10.0	<1.00
W-NiCrMo	Other 3.0-4.0+Z86	.	.	.	.	21.0-23.0	.	1.0-2.0	.
W-NiCrTi		.	.	.	.	44-46	.	.	.
X750		0.40-1.00	.	<0.08	.	14.0-17.0	<0.50	5.0-9.0	<1.00
X782	nominal concentrations	.	.	2.00	0.50	26.00	.	4.00	0.30

Type	Mo	Nb	Ni	P	S	Si	Ti	W	Zr
Ni-20 Cr +Nb	.	0.75-1.50	rem	.	<0.010	0.75-1.60	.	.	.
NiC 52	6.0-8.0	.	48.0-56.0	<0.030	<0.003	.	0.6-1.5	.	.
NiC42M	5.0-4.0	.	40.0-44.0	<0.030	<0.003	<0.50	0.6-1.2	.	.
Nichrome	.	.	>57.0	.	<0.010	0.75-1.60	.	.	.
Nichrome V	.	.	rem	.	<0.010	0.75-1.60	.	.	.
Nicofer 45	.	.	>45.0	<0.020	<0.010	2.5-3.0	.	.	.
Nicofer 6219Si	7.0-9.0	.	rem	<0.020	<0.010	0.70-1.10	<0.50	.	.
Ni-Cr 30	.	.	rem	<0.030	<0.010	0.75-1.60	.	.	.
Nicrofer 5020hMo	9.5-12.5	0.05-0.60	rem	<0.020	<0.010	<0.50	.	0.05-2.5	.
Nicrofer 6025 HT	.	.	rem	<0.020	<0.010	<0.50	0.1-0.2	.	0.01-0.10
Ni-Cu	.	.	>63.0	.	<0.025	<0.50	.	.	.
Nimonic 263	5.6-6.1	.	rem	<0.015	<0.007	<0.40	1.9-2.4	.	.
Nimonic 75	.	.	rem	.	.	<1.00	0.20-0.60	.	.
Nimonic 80A	.	.	rem	<0.045	<0.015	<1.00	1.8-2.7	.	.
Nimonic 90	.	.	rem	.	.	<1.50	1.8-3.0	.	.
Ni-Span-C 902	.	.	41.0-43.5	<0.040	<0.040	<1.0	2.20-2.75	.	.
Nitiono 55	.	<0.025	54.0-57.0	.	.	.	rem	.	.
PH3	2.5-5.5	2.5-6.0	45.0-60.0	<0.030	<0.010	<0.50	<2.00	<0.50	.
PH6	9.0-15.0	4.0-6.0	50.0-60.0	<0.030	<0.010	<0.50	<1.00	0.5-2.5	.
PH7	2.5-5.5	<0.10	34.0-42.0	<0.030	<0.010	<0.50	.	2.0-3.0	.
Pyromet 31	1.70-2.30	0.6-1.2	55.0-58.0	<0.015	<0.015	<0.20	2.10-2.60	.	.
Pyromet 31V	1.70-2.30	0.75-0.95	55.0-58.0	<0.015	<0.015	.	2.10-2.40	.	.
R405	.	.	63.0-70.0	.	0.025-0.060	<0.50	.	.	.
RA 330	.	.	34.0-37.0	<0.030	<0.030	0.75-1.50	.	.	.
RA 330-04	<0.70	.	33.0-37.0	<0.025	<0.020	0.65-1.30	.	.	.
RA 330TX	.	.	34.0-37.0	<0.030	<0.030	0.75-1.50	0.20-0.60	.	.
RA 333	2.50-4.00	.	44.0-47.0	<0.030	<0.030	0.75-1.50	.	2.5-4.0	.
Rene 41	9.0-10.5	.	rem	.	<0.015	<0.50	3.0-3.3	.	.
Sanicro 28	3.0-4.0	.	30.0-34.0	<0.030	<0.030	<1.00	.	.	.
SM2035	4.0-5.0	.	33.0-38.0	<0.030	<0.030	<0.75	.	0.2-0.8	.
SM2050	10.1-12.0	.	50.0-54.0	<0.030	<0.005	<0.09	.	0.25-1.25	.
SM2060Mo	12.0-14.0	0.50-1.25	54.0-60.0	<0.030	<0.005	<0.50	.	0.25-1.25	.
SM2550	6.0-9.0	.	47.0-52.0	<0.030	<0.030	<1.00	<0.69	<3.00	.
Udimet 500	3.0-5.0	.	rem	<0.015	<0.015	<0.75	2.50-3.25	.	.
Waspaloy	3.50-5.00	.	rem	<0.030	<0.030	<0.75	2.75-3.25	.	0.02-0.12
W-Ni-3	.	.	>97.0	.	<0.040	<0.50	.	.	.
W-NiAl-1	.	.	rem	.	.	.	.	.	.
W-NiAl-2	.	.	rem	.	.	.	.	.	.
W-NiCrFe-2	.	.	>72.0	.	<0.020	<0.50	.	.	.
W-NiCrMo	9.0-11.0	.	rem	.	.	.	.	.	.
W-NiCrTi	.	.	rem	.	.	.	3.0-4.0	.	.
X750	.	0.7-1.2	>70.0	.	<0.010	<0.50	2.25-2.75	.	.
X782	.	.	rem	.	.	0.30	.	8.75	.