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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 19+ 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	0.0024	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) also as XRF
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
219X 20500C	51.0	.	0.0212	0.0110	0.0101	1.515	0.299	0.0103	0.199	0.0117	45.46	0.0048	0.0137	1.288	.	W:0.0086
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)
VS NG4/3	18.5	0.38	0.011	.	0.043	0.93	0.40	0.120	.	0.62	.	(0.004)	0.0017	0.38	0.86	0.019
VS NG3/3	17.8	0.116	0.009	.	0.094	1.86	0.28	0.100	.	(0.1)	.	(0.004)	0.0020	1.00	1.18	0.059
VS NG1/3	17.3	1.76	0.051	.	0.068	1.32	1.23	0.16	.	0.41	.	(0.004)	0.0014	0.25	0.31	0.46
VS NG5/3	17.3	0.93	0.013	.	0.243	2.10	0.23	0.36	.	(0.1)	.	(0.004)	0.0016	0.65	0.46	0.30
VS NG2/3	17.0	0.106	0.040	.	0.148	0.42	2.22	0.120	.	(0.1)	.	(0.004)	0.0021	(0.3)	1.84	0.11
VS NG6/3	15.4	0.30	0.026	.	0.092	2.77	0.23	2.00	.	1.53	.	(0.004)	(0.002)	0.25	0.47	0.97
VS NG7/3	15.3	0.14	0.027	.	0.151	3.40	0.42	0.90	.	1.08	.	(0.004)	0.0022	0.37	0.214	1.66

## Co/Cr and Cr/Co NICKEL ALLOYS

# = class, where 1 = CRM and 2 = RM

\* Provisional Analysis

#	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	.	.	.	.	.	.
2	BS 617	22.44	12.42	1.20	1.76	9.64	.	0.28	0.06	0.079	0.062	0.057	0.007	<0.001	0.14	0.022
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)
2	27X 14184F	21.8	10.5	0.02	0.40	10.7	.	0.02	.	.	0.09	0.40	.	.	0.41	.
2	27X 14188D	21.17	10.4	<0.01	0.44	10.3	.	0.03	.	.	(0.003)	0.30	.	.	0.33	.
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	.	.	0.27	.	.	.	0.28	.
2	22X 904C	19.9	16.9	1.29	0.25	0.21	.	2.26	.	0.08	0.10	0.50	.	.	0.52	.
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	<b>BS 199B</b>	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	IARM 325A	18.52	10.46	1.56	0.07	9.98	(0.003)	3.16	(0.03)	0.067	(0.003)	(0.004)	(0.003)	0.0003	0.012	0.01
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	24X 7201A	16.01	14.79	2.44	0.09	3.01	.	5.10	1.32	0.0322	.	0.0022	(0.0024)	0.0024	0.036	.
1	IMZ 183	15.87	8.32	3.51	(0.046)	1.81	1.87	3.34	2.66	0.100	.	.	.	.	.	.
2	22X 1052C	15.7	18.6	4.08	0.65	4.48	.	1.09	.	0.19	0.13	0.26	.	.	0.51	.
1	IARM 277A	14.35	14.5	4.38	0.16	4.22	(0.02)	3.40	0.047	0.080	0.004	0.01	0.002	0.0010	0.037	0.011
1	IMZ 184	14.16	14.32	4.37	.	4.30	.	3.43	.	0.086	.	.	(0.001)	.	(0.018)	.
1	IMZ 185	9.91	4.47	5.56	(0.022)	3.92	.	2.73	5.12	0.152	.	.	.	.	.	.
1	IMZ 187	8.78	9.70	4.90	0.053	1.82	3.79	2.31	6.93	0.109	(0.001)	(0.0005)	(0.0006)	(0.0002)	(0.011)	.
1	IMZ 182	8.63	13.52	5.69	(0.04)	3.10	.	4.69	.	0.169	.	.	.	.	.	0.81
1	IMZ 202	8.39	10.02	5.67	(0.024)	0.63	3.25	1.01	10.04	0.152	.	.	.	.	(0.016)	.
1	IARM 333A *	8.32	9.4	5.53	0.036	0.49	3.15	0.73	9.7	0.072	(0.01)	(0.005)	(0.004)	0.0004	0.08	(0.002)
2	210X 11979G	8.07	14.32	3.76	0.56	3.28	.	5.22	.	0.025	0.07	0.13	.	.	0.30	0.82
1	IARM 283A	8.05	9.8	6.05	0.044	5.94	4.3	0.98	0.056	0.114	(0.01)	(0.001)	0.003	0.0006	0.019	0.0058
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)	.

#	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 or 18 mm
IMZ 186	(0.007)	.	.	.	.	10.22	.	.	.	0.40	1/4 of 78 mm Ø x 30 mm
BS 617	0.0020	.	(0.02)	0.0070	0.123	(51.6)	.	0.0001	.	.	1/4 of 100 mm Ø x ~15 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
27X 14184F	.	.	.	.	.	.	.	.	.	.	40 mm Ø x 15 mm
27X 14188D	.	.	.	.	.	.	.	.	.	.	40 mm Ø x 15 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
22X 904C	.	.	0.005	.	.	.	.	.	.	.	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
<b>BS 199B</b>	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
IARM 325A	0.0082	.	0.0044	0.0016	(0.007)	56.1	0.0005	.	(0.0002)	(0.002)	31 mm Ø x 2 or 18 mm
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
24X 7201A	0.0242	.	.	0.005	.	57.10	.	.	.	0.0433	40 mm Ø x 13 mm
IMZ 183	(0.010)	.	.	.	0.92	.	.	.	.	0.030	1/4 of 70 mm Ø x 40 mm
22X 1052C	.	.	0.002	.	.	.	.	.	.	.	40 mm Ø x 15 mm
IARM 277A	0.015	.	0.0021	0.0017	0.034	58.9	0.0005	.	<0.003	0.010	31 mm Ø x 2 or 18 mm
IMZ 184	0.016	.	.	.	(0.032)	.	.	.	.	(0.012)	1/4 of 80 mm Ø x 30 mm
IMZ 185	0.015	.	(0.002)	.	.	.	.	.	.	(0.014)	1/4 of 64 mm Ø x 45 mm
IMZ 187	0.0159	1.50	.	.	0.004	60.11	.	.	.	0.029	1/4 of 90 mm Ø x 20 mm
IMZ 182	0.013	.	.	.	.	.	.	.	.	0.031	1/4 of 64 mm Ø x 45 mm
IMZ 202	0.0152	1.42	.	.	0.028	(59.7)	.	.	.	0.031	1/4 of 90 mm Ø x 20 mm
IARM 333A *	0.015	1.4	0.0013	0.0013	(0.005)	61.1	0.0004	.	Re:(0.01)	0.009	31 mm Ø x 2 mm
210X 11979G	.	.	.	.	.	.	.	.	.	0.04	40 mm Ø x 15 mm
IARM 283A	0.014	.	0.0033	0.0003	0.020	64.4	0.0004	.	(0.0002)	0.053	31 mm Ø x 2 or 18 mm
IMZ 180	(0.017)	.	.	.	0.024	.	.	.	.	0.075	1/4 of 80 mm Ø x 30 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

#	Number	Cr	Al	Co	Fe	Mo	Nb	Si	Ti	B	C	Mn	N	Ni	P	S	Zr
2	HRT NI2017	19.34	1.43	0.018	0.59	.	0.34	0.17	2.66	0.0036	0.047	0.39	0.0091	74.93	0.003	0.002	.
1	SS 350	13.43	5.97	0.338	1.50	4.29	2.17	0.110	0.87	0.013	0.138	0.019	.	70.8	W:0.094	.	0.072
1	IMZ 203	11.80	6.13	(0.024)	0.032	4.32	2.04	(0.019)	0.62	0.0077	0.061	.	.	.	.	(0.0006)	0.059

**Cr/Fe NICKEL ALLOY**

# = class, where 1 = CRM and 2 = RM underlined BS samples are ISO 17025 Accredited \* Provisional Analysis

#	Number	Cr	Fe	Ni	Al	C	Co	Cu	Mn	Mo	Nb	P	S	Si	Ti	V	W
1	IARM 357A	27.0	34.3	31.9	0.09	0.0199	0.17	0.81	1.63	3.48	0.089	0.013	0.0021	0.458	0.079	0.091	0.108
1	IARM 282A	24.6	35.7	37.1	0.085	0.054	0.12	0.0615	0.81	0.210	0.57	0.016	0.0003	0.63	0.019	0.052	0.043
1	SRM 1247	23.4	26.5	43.5	0.060	0.021	0.089	1.75	0.38	2.73	(0.46)	0.018	0.002	0.32	0.75	(0.048)	(0.005)
1	<u>BS 825F</u>	23.2	30.7	38.9	0.081	0.012	0.064	1.78	0.521	3.19	(0.02)	0.018	(0.005)	0.59	0.91	0.086	0.015
1	IARM Ni825-18	22.4	29.5	40.8	0.11	(0.006)	0.55	1.81	0.49	2.80	0.31	0.013	.	0.17	0.96	0.047	0.230
2	HRT NI2013	22.03	31.86	38.65	0.10	(0.018)	.	1.92	0.72	3.15	.	(0.013)	(0.004)	0.30	1.00	.	.
1	IARM NiX-18	22.0	19.2	46.9	0.24	0.080	1.43	0.046	0.215	8.6	(0.024)	0.0107	(0.0050)	0.49	(0.017)	(0.037)	0.55
1	219X 08825A	21.94	31.82	39.12	0.149	0.016	0.0646	1.87	0.499	3.01	(0.007)	0.0189	(0.0007)	0.232	1.192	0.038	.
1	<u>BS 825E</u>	21.87	31.45	39.92	0.080	0.010	0.26	1.72	0.51	2.74	0.19	0.015	0.0010	0.24	0.82	0.049	0.166
1	<u>BS 800A</u>	21.09	42.7	33.3	0.362	0.075	0.069	0.244	0.883	0.117	0.021	0.013	(0.0007)	0.361	0.526	0.058	(0.030)
2	BS 925	20.82	26.92	43.53	0.17	0.011	0.34	1.74	0.50	3.00	0.23	0.016	0.0020	0.11	2.20	0.03	0.47
1	IARM 328B	20.5	15.0	53.7	0.116	0.010	0.063	2.0	0.077	3.12	3.99	(0.005)	(0.0006)	(0.05)	1.53	(0.014)	(0.04)
1	<u>BS 189A</u>	20.4	[48.1]	23.8	0.0129	0.0147	0.100	0.184	0.639	6.04	(0.13)	0.019	(0.001)	0.30	0.0065	0.054	0.037
1	IARMNi256Mo-18	20.3	44.0	25.5	0.17	0.0182	(0.02)	1.98	0.83	6.63	(0.010)	(0.004)	0.0011	0.41	(0.006)	(0.009)	(0.010)
1	IARM 347A	20.14	47.4	24.88	0.016	0.023	0.083	1.34	1.24	4.16	(0.01)	0.023	0.0009	0.56	0.007	0.078	0.020
1	SRM 1246	20.1	46.2	30.8	0.30	0.082	0.076	0.49	0.91	0.36	(0.09)	0.018	0.001	0.18	0.32	(0.040)	(<0.004)
1	IARM 25D	20.0	38.7	32.6	0.015	0.028	0.14	3.46	1.14	2.1	0.66	0.019	0.0013	0.70	0.009	0.089	0.13
1	<u>BS 187D</u>	19.91	[39.6]	32.3	0.0164	0.0337	0.089	3.52	0.938	2.17	0.621	0.0155	0.0021	0.669	0.0027	0.073	0.086
1	<u>BS 800</u>	19.90	46.0	31.29	0.279	0.073	0.054	0.323	0.789	0.195	0.0183	0.0161	0.00036	0.560	0.469	0.071	0.0056
1	23X 08811A*	19.7	45.7	31.3	0.45	0.066	0.082	0.24	1.0	0.24	0.01	0.023	<0.001	0.27	0.52	0.062	0.028
1	IARM 58B	19.6	47.7	30.7	0.45	0.073	0.02	0.011	0.51	0.01	0.01	0.010	0.001	0.282	0.50	0.035	0.01
2	HRT NI2018	18.64	18.49	52.93	0.57	0.017	(0.018)	0.04	0.06	2.93	5.03	(0.004)	(0.003)	0.12	1.00	.	.
1	IARM 7C	18.4	43.5	34.9	0.017	0.064	0.041	0.031	1.32	0.095	0.189	0.014	0.0004	1.21	0.022	0.060	(0.02)
1	IARM NiH214-18	16.24	3.48	75.6	4.28	0.036	(0.007)	0.0011	0.185	(0.004)	(0.003)	(0.0017)	(0.0004)	0.020	(0.003)	(0.003)	(0.02)
1	SS 387/1	11.35	38.4	41.2	0.24	0.033	0.020	0.0076	0.025	5.84	.	0.0033	0.0028	0.06	3.00	.	.
IARM Ni244H-18	6.9	39.9	41.1	0.23	0.052	(0.005)	0.013	10.9	(0.003)	0.70	(0.003)	0.0038	0.16	0.20	(0.004)	.	.

Number	As	B	Ca	Ga	Mg	N	O	Pb	Sb	Sn	Ta	Zr	Type	Units	mmØ	x mmH
IARM 357A	.	(0.0014)	.	.	(0.005)	(0.011)	(0.005)	.	.	.	.	.	028	31 x 2	or 18	
IARM 282A	(0.003)	0.005	<0.003	.	(0.004)	0.207	0.0023	(0.001)	(0.0004)	(0.003)	(0.005)	(0.002)	HR-120	38 x 2	or 18	
SRM 1247	(0.003)	0.002	.	(0.011)	.	(0.017)	(0.005)	(<0.0001)	.	.	(<0.001)	.	825	35 x 19		
<u>BS 825F</u>	(0.004)	0.0023	(0.001)	.	0.0013	0.0085	0.0009	(0.0008)	.	(0.0036)	.	(0.002)	825			
IARMNi825-18	.	0.0023	CRM	.	.	0.0093	(0.0020)	.	.	0.0023	(0.0011)	(0.002)	825	31 x 2	or 18	
HRT NI2013	.	.	.	.	.	.	.	.	.	.	.	.	825	30 x 20		
IARM NiX-18	.	0.0038	.	.	0.0030	0.042	(0.0012)	.	.	.	.	.	HastX	31 x 2	or 18	
219X 08825A	.	0.0028	.	.	(0.003)	.	.	.	.	.	.	0.0021	825	~40 x ~15		
<u>BS 825E</u>	.	0.0025	(0.0004)	.	.	0.0105	(0.004)	.	.	.	.	.	825	38 x ~7		
<u>BS 800A</u>	(0.002)	0.0018	(0.000006)	.	0.0022	0.0126	0.0014	(0.001)	(0.0005)	0.0041	(0.005)	(0.002)	800	38 x ~7	or 19+	
BS 925	.	0.002	.	.	.	0.0042	(0.0075)	.	.	(0.002)	.	.	925	38 x ~7	or 19+	
IARM 328B	.	(0.0010)	.	.	.	(0.006)	.	.	.	.	.	.	945X	31 x 2	or 18	
<u>BS 189A</u>	0.0039	(0.0002)	(0.0004)	.	.	0.198	0.0024	.	.	0.0035	.	(0.001)	AL6XN	38 x ~7	or 19+	
IARMNi256Mo-18	.	0.0009	0.0014	.	.	0.022	.	.	.	.	.	.	25-6Mo	31 x 2	or 18	
IARM 347A	0.006	0.0020	0.0029	.	0.0008	0.062	0.0026	0.0003	0.0013	0.011	(0.005)	(0.002)	904L	31 x 2	or 18	
SRM 1246	(0.004)	<0.001	.	(0.004)	.	(0.018)	(0.003)	(<0.0001)	.	.	(<0.001)	.	800	35 x 19		
IARM 25D	.	0.0036	.	.	0.0016	0.034	(0.005)	.	.	0.008	.	.	20	31 x 2	or 18	
<u>BS 187D</u>	(0.0035)	0.0026	0.0063	.	(0.0009)	0.046	0.0026	0.0019	(0.0011)	0.0085	0.0008	(0.0012)	20	38 x ~7	or 19+	
<u>BS 800</u>	0.0036	0.0032	0.00030	last	(0.002)	0.0112	(0.0009)	0.00004	0.00046	0.0026	(0.001)	0.0018	800	44 x ~12		
23X 08811A *	.	0.005	.	.	0.005	0.010	.	.	.	0.005	.	.	Incoloy	~40 x ~15		
IARM 58B	.	(0.0003)	.	.	(0.001)	0.010	0.001	(0.0001)	.	(0.002)	.	<0.005	800	31 x 2	or 18	
HRT NI2018	.	0.0034	.	.	.	0.0098	.	.	.	.	.	.		31 x 20		
IARM 7C	.	0.0027	.	.	0.0015	0.034	0.0021	(0.001)	last	0.0020	(0.002)	(0.001)	330	31 x 2	or 18	
IARM NiH214-18	.	0.0033	.	.	0.0053	0.0026	.	.	Y:(0.008)	.	.	0.026	HAY214	31 x 2	or 18	
SS 387/1	.	0.017	.	.	.	.	.	.	.	.	.	.	901	41 x 13		
IARMNi244H-18	0.0009	(0.002)	CRM	.	0.0014	0.0087	(0.0009)	.	0.00012	(0.0003)	.	(0.0008)	244H	31 x 2	or 18	

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

Number	Cr	Fe	Al	Mn	Si	Ti	C	Co	Cu	Mo	V	Ni
22X 801D	20.75	0.57	1.33	0.56	0.51	2.19	0.14	0.25	0.22	0.25	.	.
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
22X 804D	19.72	0.66	1.33	0.54	0.56	2.34	0.07	0.20	0.21	0.09	.	.
22X 806D	19.66	0.18	1.35	0.09	0.10	2.48	0.007	0.03	0.004	0.01	.	.

**Need a larger size?  
Most BS items are  
available in any height.**

Number	Ag	As	B	Bi	Nb	P	Pb	S	Sn	W	Zr	Units
22X 801D	.	0.03	.	.	.	.	.	.	.	.	.	cast, 40 mm Ø x 15 mm
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 ~19 mm
22X 804D	.	0.004	.	.	.	.	.	.	.	.	.	cast, 40 mm Ø x 15 mm
22X 806D	.	.	0.004	.	.	.	0.007	.	.	0.02	0.004	cast, 40 mm Ø x 15 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, 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	<b>BS 690B</b>	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	<b>BS 690A</b>	29.5	9.08	0.209	0.0003	0.0321	0.0056	0.0072	0.0058	0.214	0.0025	0.0069	0.0039	60.5	0.036	0.340	0.0095
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
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

Number	As	Ca	O	P	Pb	S	Sb	Sn	Ta	W	Zr	Units
<b>BS 690B</b>	(0.0004)	(0.0005)	0.0024	(0.003)	.	0.0005	.	(0.0006)	.	(0.002)	(0.002)	51 mm Ø x ~7 or 19+ mm <b>17025</b>
<b>BS 690A</b>	(0.0004)	0.0009	0.0009	0.0052	(0.0001)	0.0004	(0.0002)	(0.0003)	(0.0011)	0.0011	0.0018	38 mm Ø x ~7 or 19+ mm <b>17025</b>
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)
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 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

**Need a larger size?**  
**Most BS items are**  
**available in any height.**

## Cr/Fe NICKEL ALLOY TYPE 718

# = class, where 1 = CRM and 2 = RM

#	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 Ni718P-18	19.6	17.0	4.95	3.13	1.01	0.49	.	0.036	0.097	(0.018)	0.026	(0.006)	(0.0013)	0.036	53.6
1	28X 07718A	18.62	19.55	5.05	3.01	0.945	0.544	0.0034	0.026	0.172	0.038	0.055	0.0063	0.0015	0.076	51.99
1	NCS HS41746	18.56	18.54	5.15	3.28	1.03	0.635	0.0025	0.027	0.111	0.023	0.057	0.0033	0.0005	0.080	52.27
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	28X 7181J	18.42	18.98	4.88	3.25	0.125	0.070	0.0021	0.0198	(0.014)	0.042	0.150	0.0146	0.0089	0.811	53.10
1	28X 7181K	18.37	18.98	4.88	3.25	0.125	0.07	0.0021	0.0198	(0.014)	0.042	0.150	0.0146	0.0089	0.811	53.10
1	<b>BS 718D</b>	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 56H	17.9	18.6	5.20	2.90	0.97	0.507	0.0045	0.0243	0.048	0.012	0.039	(0.005)	0.0005	0.055	53.8

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 Ni718P-18	.	.	(0.010)	0.014	.	.	(0.006)	0.017	(0.010)	.	31 mm Ø x 2 or 18 mm
28X 07718A	.	.	0.0056	.	.	.	.	.	.	.	wrought 38 mm Ø x ~15 mm.
NCS HS41746	.	.	.	.	.	.	(0.008)	.	.	.	40 mm Ø x 30 mm
SRM 1249	.	(0.0012)	(0.007)	.	(0.00001)	(0.0024)	(0.0027)	(0.0338)	(0.0846)	(0.0029)	41 mm Ø x 19 mm
28X 7181J	.	.	0.038	.	.	.	.	.	.	.	cast ~40 mm Ø x ~15 mm last
28X 7181K	.	.	0.038	.	.	.	.	.	.	.	cast ~40 mm Ø x ~15 mm
<b>BS 718D</b>	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 19+ mm <b>17025</b>
SS 351	.	.	.	.	.	.	.	.	.	.	wrought 41 mm Ø x 13 mm
IARM 56H	.	0.0011	0.0066	(0.0003)	.	(0.0003)	(0.006)	0.026	(0.010)	(0.0004)	31 mm Ø x 2 or 18 mm

**Need a larger size?**  
**Most BS items are**  
**available in any height.**

## 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	<b>BS 750C</b>	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)
1	<b>BS 750D</b>	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	.

  

Number	As	B	Ca	Mg	N	O	Pb	Sb	Sn	V	W	Zr	Units
<b>BS 750C</b>	(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 ~7 or 19+ mm wrought
<b>BS 750D</b>	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 and 725

# = 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 625E	22.44	8.77	3.81	3.56	0.065	0.27	0.016	0.214	0.0022	0.049	0.031	0.024	0.050	0.004	0.0005	60.7
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	BS 625D	22.33	8.74	3.81	3.54	0.072	0.276	0.014	0.21	0.0019	0.048	0.041	0.019	0.069	0.0039	0.0004	60.9
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	28X 06625A	21.94	9.15	0.917	3.52	0.273	0.238	.	0.184	0.0009	0.020	0.031	0.0288	0.090	(0.0022)	0.0037	63.49
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	28X 6256A	21.29	8.81	(0.034)	3.75	0.041	0.266	.	0.301	.	0.0173	.	0.018	(0.0004)	0.0033	(0.0016)	65.4
1	IARM 54H *	21.95	8.68	4.05	3.51	0.144	0.286	<0.08	0.31	(0.002)	0.018	0.099	(0.10)	0.105	0.0060	(0.0010)	60.7
1	IARM 54G	21.1	8.52	4.03	3.48	0.27	0.240	(0.03)	0.15	0.0027	0.053	0.060	0.066	0.172	0.007	(0.0020)	61.9
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 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 6252Q	20.33	8.78	4.73	3.14	0.982	0.113	.	0.130	.	0.078	0.279	0.230	0.331	0.0110	0.0014	60.62
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	61.16
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

Number	As	Ca	Mg	N	O	Pb	Sb	Sn	Ta	V	Zr	Units
BS 625E	(0.003)	(0.0006)	0.0021	0.0074	0.0015	(0.00005)	(0.0001)	(0.0006)	(0.0036)	0.020	(0.003)	wrought 38 mm Ø x ~7 or 19+ mm
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
BS 625D	0.0007	(0.0009)	.	0.0067	0.0012	.	(0.0004)	(0.0006)	(0.004)	0.018	.	wrought 38 mm Ø x ~7 mm
HRT NI2009	.	.	.	.	.	.	.	.	.	.	.	35 mm Ø x 20
28X 06625A	.	.	.	0.0219	.	.	.	.	.	.	.	wrought 40 mm Ø x ~15 mm
ECRM 377-2	.	.	.	.	.	.	.	.	.	.	.	wrought 40 mm Ø x 20 mm
ECRM 377-1	.	.	.	.	.	.	.	.	.	.	.	wrought 40 mm Ø x 20 mm
28X 6256A	.	.	.	0.007	.	.	.	.	.	.	.	HIP 40 mm Ø x 13 mm
IARM 54H *	.	.	<0.001	<0.02	<0.001	.	.	<0.001	<0.03	<0.02	<0.002	38 mm Ø x 2 or 18
IARM 54G	.	.	0.0040	0.022	.	.	.	(0.0009)	.	0.025	.	31 mm Ø x 2 or 18 mm
IARM 274A	.	.	0.0019	0.007	0.0006	.	.	0.001	(0.002)	0.019	(0.001)	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)	.	.	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	.	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)	38 mm Ø x 2 or 18
IARM 362B	.	.	0.008	0.0060	(0.0006)	.	.	.	.	(0.010)	.	31 mm Ø x 2 or 18 mm
28X 6252Q	.	.	.	0.085	.	.	.	.	(0.004)	.	.	c.cast ~40 mm Ø x ~15 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)	31 mm Ø x 2 or 18 mm
HRT NI2004	.	.	.	.	.	.	.	.	0.010	0.012	.	35 mm Ø x 20 mm last

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## VARIOUS INCOLOY ALLOYS

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

#	Number	Cr	Fe	Mn	Si	Ti	Al	C	Co	Cu	Mo	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
2	23X DS 4E	16.83	Rem	1.02	2.01	0.20	0.037	0.05	0.48	0.30	0.29	.	.	37.1
2	23X DS 5E	8.64	Rem	1.04	1.98	0.17	0.083	0.080	0.50	0.30	0.30	.	.	36.6

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
23X DS 4E	cast 40 mm Ø x 15 mm
23X DS 5E	cast 40 mm Ø x 15 mm

## RM Cr/Nb NICKEL ALLOY

cast typical analysis

Number	Cr	Nb	Co	Cu	Fe	Mn	Mo	Si	W	Units
25X 10221F	20.0	7.43	0.26	0.11	0.62	0.28	6.57	0.45	2.23	40 mm Ø x 15 mm

## RM Cr/Mo/Nb/W TYPE

cast last of stock ~40 mm Ø x ~11 mm

Number	Co	Cr	Cu	Fe	Mn	Mo	Nb	Si	W
25X 10235E	0.53	19.87	0.26	1.26	0.53	5.85	7.25	0.56	3.14

## CRM Cr/W TYPE 'HAYNES 230'

analysis listed in mass %

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
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	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
IARM 68E	. La:(0.008)		0.0007	.	(0.0005)	.	.	.	0.015	.	31 mm Ø x 2 or 18 mm

17025

## CRM Cr/Fe/Mn/Nb ALLOY

analysis listed in mass %

~40 mm Ø x ~15 mm

Number	C	Co	Cr	Cu	Fe	Mn	Mo	Nb	Ni	P	S	Si	Ta	Ti
219X 20004A	0.224	(0.104)	13.63	0.319	9.46	14.05	0.104	1.53	59.1	0.0147	0.0028	0.916	0.077	0.52

## '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
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
1 SS 363/1	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
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 4001Q	28.92	(0.038)	0.503	2.95	1.48	(0.094)	0.0130	0.111	0.0795	0.0016	.	0.100	0.0198	0.0703	0.0206	65.49
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
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 212X NA 2G	29.6	.	1.53	1.06	2.50	.	0.07	.	.	0.008	.	.	.	0.02	0.023	.
1 212X 4007B	28.95	0.0307	2.02	1.08	2.18	0.099	0.0483	0.0205	0.498	0.050	0.048	2.40	0.025	0.0192	0.0039	62.4
1 212X 4005G	21.53	1.399	1.053	1.437	2.52	1.005	0.0494	0.156	0.20	(0.0026)	0.102	0.341	0.0106	0.0091	0.0038	(70.1)

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	.	.	.	.	.	.	.	.	.	.	.	.	.	wrought	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 363/1	.	.	.	.	.	.	.	.	.	.	.	.	.	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	
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 4001Q	.	.	.	.	.	.	.	.	(0.056)	.	.	.	.	cast	~40 mm Ø x ~15 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	
212X NA 2G	.	.	.	.	.	.	.	.	.	.	.	.	.	cast	40 mm Ø x 15 mm	
212X 4007B	.	.	0.040	.	(0.0025)	.	.	Se:0.019	0.0110	.	(0.093)	.	.	cast	~40 mm Ø x ~15 mm	
212X 4005G	.	.	.	.	.	.	.	.	.	.	.	.	.	cast	~40 mm Ø x ~15 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 or 18 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	215X HB1P	33.04	0.252	1.090	5.78	.	58.00	.	0.0422	0.0718	0.697	0.0156	0.0056	0.0506	0.150	.	0.504
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	<b>BS H1C</b>	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)
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	215X HC3M	17.38	0.973	17.86	4.84	4.63	.	0.111	0.0897	0.0988	0.685	0.0066	0.0211	0.0131	0.944	0.150	0.399
1	SRM C2402	17.1	1.50	16.15	7.3	4.29	51.5	.	0.010	0.19	0.64	.	0.007	0.018	0.85	.	0.22
1	215X HC4M	16.93	0.709	18.44	6.01	4.99	(50.3)	(0.052)	0.141	0.331	0.441	0.071	0.0390	0.0222	1.15	(0.094)	0.491
1	215X HC5V	16.03	0.0460	20.05	8.15	6.19	(45.9)	0.721	0.201	0.485	0.400	0.0081	0.054	0.038	1.379	0.198	0.607
1	<b>BS H2E</b>	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	<b>BS H2C</b>	15.36	0.178	16.14	5.99	3.25	58.3	0.124	0.0027	0.116	0.415	0.0126	0.0086	0.00030	0.031	0.0172	0.0222
1	<b>BS H2D</b>	15.34	0.180	16.08	6.01	3.25	58.4	0.129	0.0025	0.117	0.414	0.0126	0.0081	0.00034	0.030	0.0129	0.022
1	<b>BS H6B</b>	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	IARM 65D	13.1	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	<b>BS H3C</b>	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	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 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	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

#	Number	Mo	Co	Cr	Fe	W	Ni	Al	C	Cu	Mn	N	P	S	Si	Ti	V
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Number	As	B	Ca	Mg	Nb	O	Pb	Sb	Sn	Ta	Zr	Units
215X HB1P	.	.	.	.	0.203	.	.	.	.	.	.	~40 mm Ø x ~15 mm
215X HB4G	.	.	.	.	0.056	.	.	.	.	.	(0.016)	~40 mm Ø x ~15 mm
<b>BS H1C</b>	(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 <b>17025</b>
BS H1B	.	0.003	.	.	<0.005	.	.	.	.	.	last	38 mm Ø x ~7, ~12, or 19 mm
215X HC1M	.	.	.	.	.	.	.	.	.	.	.	~40 mm mm Ø x ~15 mm
215X HC2K	.	(0.006)	.	.	.	.	.	.	.	.	.	~40 mm mm Ø x ~15 mm
215X HC3M	.	.	.	.	.	.	.	.	.	.	.	~40 mm mm Ø x ~15 mm
SRM C2402	.	.	.	.	.	.	.	.	.	.	.	32 mm Ø x 19 mm
215X HC4M	.	.	.	.	.	.	.	.	.	.	.	~40 mm mm Ø x ~15 mm
215X HC5V	.	.	.	.	.	.	.	.	.	.	.	~40 mm mm Ø x ~15 mm
<b>BS H2E</b>	(0.0006)	(0.0028)	(0.0004)	0.0019	(0.009)	0.0005	(0.002)	(0.00004)	(0.001)	(0.02)	(0.002)	32 mm Ø x ~7 or 19+ mm <b>17025</b>
215X I0276A	.	.	.	0.0090	0.031	.	.	.	.	.	0.009	~40 mm Ø x ~15 mm
HRT NI2012	.	.	.	.	.	.	.	.	.	.	.	38 mm Ø x 20 mm
<b>BS H2C</b>	0.0008	0.0008	0.0004	0.0061	0.032	0.0012	0.00014	0.0006	0.0011	(0.00008)	(0.00012)	32 mm Ø x ~7 or 19+ mm <b>17025</b>
<b>BS H2D</b>	0.0010	0.0013	0.0004	0.0065	0.029	0.0012	last	0.0006	0.0010	0.0005	0.0008	32 mm Ø x ~15 mm <b>17025</b>
<b>BS H6B</b>	(0.0015)	0.0016	.	0.0010	(0.1)	0.0007	.	(0.006)	(0.0007)	.	.	38 mm Ø x 19+ mm <b>17025</b>
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
<b>BS H3C</b>	(0.003)	0.0020	(0.0003)	0.0020	0.095	0.0013	.	(0.0003)	0.0019	(0.0001)	(0.005)	38 mm Ø x ~7 or 19+ mm <b>17025</b>
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 67C	.	(0.001)	.	0.0068	0.36	0.0016	.	(0.0003)	0.0014	(0.006)	(0.002)	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)	31 mm Ø x 2 or 18 mm

Number	As	B	Ca	Mg	Nb	O	Pb	Sb	Sn	Ta	Zr	Units
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**Need a larger size?**  
**Most BS items are**  
**available in any height.**

**NICKEL ALLOY XRF SET**

-7 mm discs **17025**

Part Number: BS NI-18 AVAILABLE INDIVIDUALLY

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	<b>BS 200A</b>	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)
Inconel 400	<b>BS 400D</b>	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)	(0.009)	0.064	(0.0002)	(0.0004)	(0.0003)
Inconel® K500	<b>BS 500E</b>	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	<b>BS 625D</b>	0.21	0.0007	0.0019	0.048	0.041	22.33	0.019	3.81	.	0.069	8.74	0.0067	3.54	60.9	0.0012	0.0039	.	0.0004	0.072	(0.0006)	(0.004)	0.276	0.018	0.014	.
Inconel® 690	<b>BS 690A</b>	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	0.0011	0.0018
Inconel® 718	<b>BS 718D</b>	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	<b>BS 800A</b>	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	<b>BS 825E</b>	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 H-1B	0.12	.	0.003	0.006	<0.02	<0.01	(0.01)	1.00	.	0.82	26.52	.	<0.005	[71.3]	.	0.003	.	0.0005	0.049	.	.	0.11	<0.01	.	.
Hastelloy C-276	<b>BS H2C</b>	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:4ppm	0.0172	0.0222	3.25	Sb:6ppm
Hastelloy X	<b>BS H2C</b>	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	<b>BS H2B</b>	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	.
Hastelloy	<b>BS 192B</b>	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	<b>BS 187D</b>	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	ALLOY	ISO?	NUMBER
028		IARM 357A	800, 800HT		IARM 58B			
20	17025	BS 187D	800		SRM 1246			
20		IARM 25D	801		HH 5196A			
25-6Mo		IARM Ni256Mo-18	825		13X 08825			
200	17025	BS 200-1	825		219X 08825A			
200	17025	BS 200-2	825	17025	BS 825E			
200	17025	BS 200-4	825	17025	BS 825F			
200	17025	BS 200A	825		HRT Ni2013			
200		IARM 50C	825		IARM Ni825-18			
200		IARM 187A	825		SRM 1247			
200		IARM 188A	901		SS 387/1			
200		IARM 189A	903		SRM 1250			
200		IARM 190A	904L		IARM 347A			
200		IARM 191A	909		IARM 203A			
205	17025	BS 200-3	925		BS 925			
244H		IARM Ni244H-18	945		IARM 328A			
282		IARM Ni282-18	945X		IARM 328B			
330		IARM 7C	AL6XN	17025	BS 189A			
400		212X 04400	B1900		IARM 283A			
400	17025	BS 400D	Hastelloy		215X HB4			
400		BS 400-1	Hastelloy B		215X HB1			
400		BS 400-2	Hastelloy B		BS H1B			
400		BS 400-3	Hastelloy B	17025	BS H1C			
400		IARM 51D	Hastelloy C		HRT Ni2012			
400		SS 363/1	Hastelloy C		SRM C2402			
405 (R405)		BS 405	Hastelloy C-22	17025	BS H6B			
405 (R405)	17025	BS 405A	Hastelloy C-22		HRT NI2014			
500		212X 05500	Hastelloy C-22		IARM 65D			
500+Si	17025	BS 500E	Hastelloy C-22HS		IARM 276A			
500		IARM 52D	Hastelloy C-276	17025	BS H2C			
600		28X 6001	Hastelloy C-276	17025	BS H2D			
600		28X 6002	Hastelloy C-276	17025	BS H2E			
600		28X 6003	Hastelloy G-30		IARM 67C			
600		28X 6004	Hastelloy G-35		IARM 329A			
600		28X 6005	Hastelloy X	17025	BS H3C			
600		BS 600-2	Hastelloy X		IARM NiX-18			
600		BS 600-3	Haynes 214		IARM NiH214-18			
600		BS 600-4	Haynes 230	17025	BS H230			
600		BS 600-5	Haynes 230		IARM 68E			
600		BS 600-6	HR-120		IARM 282A			
600		IARM 53F	IN 100		IMZ 182			
600		SRM 1244	IN 100		SS 345			
602CA		IARM 338A	IN 100		SS 346A			
617		BS 617	Incoloy		23X DS4			
617		IARM 272A	Incoloy		23X DS5			
625		28X 06625	Incoloy		HH 5157A			
625		28X 6251	Incoloy		HH 5179A			
625		28X 6252	Incoloy		HH 5300A			
625		28X 6255	Inconel		28X 6256			
625	17025	BS 625D	Magnetic		SRM 1159			
625	17025	BS 625E	Magnetic		SRM 1160			
625		IARM 54H	Mar M 247		IMZ 202			
625		ECRM 377-1	Monel		212X 4001			
625		ECRM 377-2	Monel		212X NA2			
625		IARM 54G	Monel		212X NA3			
625		NCS HS41745	MP 35N		SRM 1775			
686		IARM 362B	Nimonic 80A		22X 801			
690	17025	BS 690A	Nimonic 80A		22X 804			
690	17025	BS 690B	Nimonic 80A		22X 806			
690		IARM Ni690-18	Nimonic 80A		CT ISO122A			
693		IARM 372A	Nimonic 90		22X 904			
713		SS 350	RA 333		BS 197A			
718		28X 07718	RA 333		BS 197B			
718		28X 7181	Rene 41		IARM 325A			
718	17025	BS 718D	Rene 77		IARM 277A			
718		IARM 56H	Udimet 500		IARM 287A			
718		IARM Ni718P-18	Waspaloy		24X 07001			
718		NCS HS41746	Waspaloy		24X 7201			
718		SRM 1249	Waspaloy	17025	BS 199B			
718		SS 351	Waspaloy		IARM NiWasp-18			
718		SS 351/1	Waspaloy		SRM 1243			
725		BS 725	X750		IARM 57E			
725		IARM 274A						
725		IARM Ni725-18						
738		IMZ 183						
740		IARM 358A						
750	17025	BS 750C						
750	17025	BS 750D						
750		HT 8209X						
750		HT 8211X						
800	17025	BS 800						
800, 800HT	17025	BS 800A						

Please use the Adobe Acrobat "search" function to find the complete chemistry of these samples listed within this catalog.

The best efforts have been made in the construction of this chart. Some samples do not perfectly fit the alloy specifications, but are considered acceptable for the purposes of calibration and type standardization.

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	.	.	<0.015	.	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	.	.	.	<0.75	4.25-5.25	.	.
214	Y 0.002-0.04	4.0-5.0	<0.006	<0.05	<2.0	15.0-17.0	<0.25	2.0-4.0	<0.50	<0.50	.
220	Mg 0.01-0.08	.	.	<0.15	.	.	<0.10	<0.10	<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	.	.	<0.02	<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	.	.	<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		.	.	<0.05	.	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	<0.20	.	.	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		<0.02	.	<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	<0.50	<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	<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	.	.	.	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	1.00-1.25	.	.
908	47.0-51.0	<0.015	<0.005	<0.50	1.2-1.8	.	.
926	26.0-30.0	<0.015	<0.015	<0.75	1.5-2.3	.	.
2120	rem	<0.015	<0.010	<0.10	.	<0.30	.

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

FOR 750 see X750 (last chart)

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	<0.50	<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	.	.	.	<0.50	2.00-3.00	.	.
ARMCO 20-45-5	.	.	.	<0.08	.	18.0-22.0	.	rem	3.0-7.0	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	<1.00	26.0-30.0	.
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	<3.00	27.0-32.0	<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	.	<0.50	.	.	.
BNi-5b	Se <0.005, Other <0.50	<0.05	1.0-1.6	<0.06	<1.0	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	<1.00	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	>22.0	<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	.
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	<0.010	<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	.	<0.010	<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	ThO <sub>2</sub> 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	.	<0.35	.	.	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	.	<0.015	<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	.	<2.50
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
N09925		0.10-0.50	.	<0.03	.	19.5-23.5	1.5-3.0	>22.0	.	<1.00
N13009	Bi <0.5 ppm, Pb <10 ppm	4.75-5.25	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		.	.	<0.12	.	<1.0	2.0-4.0	.	.	<1.50
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		.	1.2-2.0	0.2-0.8	.	10.0-15.0	.	2.0-5.0	.	.
N26985	Nb+Ta <0.5	.	.	<0.02	<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		.	.	<0.07	.	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	.	.	rem	.	.	<0.025	.	.	.	.
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	<0.50	.	<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	<0.015	<0.020	<0.15	.	.	.	.
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	.	.	.	.
N09925	2.50-3.50	<0.50	38.0-46.0	.	<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	.	.	.	.	2.75-3.75	.	<0.06
N13021	4.5-5.5	.	rem	.	<0.015	<1.0	.	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	2.0-3.5	.	rem	<0.030	<0.030	<0.50	.	.	.	.
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	<1.00	.	<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	<0.15	.	<0.01	.	<0.01
N94630	<0.06	.	29 nom	<0.006	<0.006	<0.15	.	<0.01	.	<0.01

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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
Nicofer 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
Nicofer 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	.	.	.
Nicofer 5020hMo	9.5-12.5	0.05-0.60	rem	<0.020	<0.010	<0.50	.	0.05-2.5	.
Nicofer 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	<0.20	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	.

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