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CRM PURITY COPPER DISC AND ROD SETS

available in SETS only, as grouped listed in mg/kg IMN CP: 40 mm Ø x 23mm IMN CS: 40 mm Ø x 25 mm or 6 mm Ø x 100 mm VS: ~40 mm Ø x 25 mm

Number	Ag	Al	As	B	Bi	Cd	Co	Cr	Fe	Mg	Mn	Ni	P	Pb	S	Sb	Se	Si	Sn	Te	Zn
IMN CS1	53.1	.	2.0	(1.1)	1.1	1.0	0.6	(0.3)	18.4	.	29.0	46.8	57.7	60.5	65.9	3.0	61.5	(3.0)	52.9	2.1	24.1
IMN CS2	45.6	.	7.4	(2.8)	6.2	7.4	3.6	35.8	30.5	.	35.3	26.7	33.8	38.6	44.9	7.5	39.0	(9.4)	33.7	5.6	8.9
IMN CS3	38.9	.	13.8	(4.2)	12.2	13.4	7.4	10.9	28.3	.	12.6	11.1	12.1	13.3	18.8	13.0	15.4	(22.2)	13.3	10.6	31.3
IMN CS4	237	.	42.2	(21.7)	39.6	35.5	24.3	7.0	82.0	.	8.3	7.2	6.3	7.6	41.3	36.8	6.7	(46.5)	6.2	32.9	44.0
IMN CS5	320	.	70.5	(35.2)	59.7	66.1	37.5	1.0	90.9	.	4.3	4.4	2.0	5.0	12.0	63.9	0.9	(54.8)	0.9	49.8	101
IMN CP1	12	.	0.4	.	1.0	0.6	0.2	0.3	10	.	1.3	3.4	2.0	1.7	6.3	11	<1	.	5.6	3.0	1.9
IMN CP2	36	.	140	.	.	72	39	0.5	8.1	.	5.9	20	11	120	35	160	77	(4)	4.8	12	92
IMN CP3	60	.	63	.	47	35	20	45	15	.	30	13	44	81	60	120	43	(8)	17	46	33
IMN CP4	110	.	14	.	13	11	4.2	86	44	.	55	3.4	130	28	94	48	10	(3)	40	75	17
IMN CP5	31	.	65	.	9.4	2.5	34	48	77	.	49	39	110	13	21	27	35	(82)	2.1	7.8	38
IMN CP6	20	.	0.85	.	.	.	<1	0.3	6.4	.	0.6	2.7	1.7	2.7	7.5	0.4	<1	.	0.7	.	1.4
VS MO-1	7.0	.	0.93	.	0.26	0.31	0.38	0.45	3.99	0.57	0.56	1.79	0.74	1.76	6.5	1.00	0.55	1.76	0.49	0.51	1.25
VS MO-2	10.9	1.01	1.90	.	1.39	1.54	2.03	1.66	3.0	1.39	5.1	5.40	2.1	.	34.5	3.0	1.00	1.17	2.78	2.1	.
VS MO-K1	8.7	3.1	8.6	.	2.80	2.11	3.14	3.14	3.8	6.6	5.7	7.3	11.5	5.1	9.5	5.0	4.8	5.5	3.5	8.5	4.1
VS MO-4	26.7	6.5	11.7	.	4.17	8.5	17.9	12.5	11.5	7.9	8.2	41.6	8.1	14.0	13.4	11.7	9.2	15.3	9.7	9.2	13.4
VS MO-5	20.0	4.9	20.0	.	8.6	15.3	4.39	4.9	19.1	6.4	4.2	24.5	9.6	27.2	14.5	19.1	11.4	5.8	17.2	14.3	33.5
VS MO-K2	34.6	(29)	37.8	.	20.7	15.5	22.0	26.2	70.4	(19)	22.8	47.1	45.3	75	39.3	36.0	24.0	29	36.4	27.7	74
VS MO-7	18.3	24.8	38.5	.	14.6	6.6	8.1	10.8	95	3.6	15.7	22.1	76	35.1	9.6	28.0	20.9	8.5	28.0	1.10	49.5

CRM COPPER SET

available in SET/8 only analysis listed in mass % except * which is mg/kg 40 mm Ø x ~26 mm

Number	Ag*	As	Bi*	Cd	Co*	Cr*	Fe	Mn	Ni	P	Pb	S	Sb	Se	Si*	Sn	Te	Zn
VS M1.3-1	940	0.0051	4.8	0.00068	5.7	7.4	0.0142	0.00139	0.00194	0.00052	0.0045	0.004	0.097	0.0097	8.5	0.00107	0.00550	0.105
VS M1.3-2	2930	0.00123	8.6	0.0013	14.3	20.2	0.00312	0.00098	0.0031	0.00309	0.00105	0.0087	0.00056	0.00084	11.1	(0.0004)	0.110	0.00086
VS M1.3-3	27.0	0.052	18.7	0.00283	.	.	0.095	0.0049	0.0117	0.00284	0.306	0.00195	0.00231	0.00158	40	0.0495	0.00287	0.00516
VS M1.3-4	474	0.00275	23.2	0.0068	.	.	0.00130	0.00234	0.0048	0.00097	0.00304	0.00116	0.227	0.00032	27.5	0.00057	0.00102	0.00123
VS M1.3-5	257	0.0252	47.3	0.0188	.	.	0.0183	0.0213	0.290	0.0101	0.0100	0.00591	0.0231	(0.008)	84	0.0055	0.0543	0.0487
VS M1.3-6	16.4	0.104	83	0.103	150	206	0.057	0.0451	0.0364	0.0056	0.0241	0.00166	0.0045	0.0264	202	0.104	.	0.00305
VS M1.3-7	20.4	0.0105	179	0.0298	.	.	0.0072	0.0093	(0.0019)	0.069	0.107	0.0138	0.0103	0.11	(25)	0.00208	0.0246	0.0105
VS M1.3-8	108	0.00065	(5)	0.058	.	.	0.0361	0.083	0.098	0.0249	0.00151	0.00159	0.0476	0.0245	8.2	0.0173	0.0102	0.0248

CRM COPPER ROD

analysis listed in mg/kg 6 mm Ø x 100 mm

Number	Ag	As	B	Bi	Cd	Co	Cr	Fe	Mn	Ni	P	Pb	S	Sb	Se	Si	Sn	Te	Zn
IMN CS7 R	13.7	0.9	<0.5	<0.5	(0.02)	0.09	19.7	4.9	2.2	4.4	(2.4)	(0.9)	7.0	1.0	<1.0	<1.0	0.5	<0.05	1.2

CRM ELECTROLYTIC COPPER ROD SET

available in SET/6 ONLY listed in mg/kg 3 or 6 mm Ø x 100 mm

Number	Ag	As	Bi	Fe	Ni	Pb	Sb	Sn	Zn	Cu
IMN CF1	45.0	6.7	12.5	42.0	29.0	33.0	24.0	21.0	57.0	Rem
IMN CF2	9.0	1.1	.	2.8	0.7	0.6	1.4	.	2.2	Rem
IMN CF3	3.2	1.8	.	20.0	6.4	8.9	2.2	3.2	3.4	Rem
IMN CF4	18.0	43.0	1.2	3.7	7.8	1.1	11.0	1.0	31.0	Rem
IMN CF5	12.0	2.3	0.25	98.0	3.0	3.2	1.9	1.3	4.7	Rem
IMN CF6	12.0	0.32	(0.012)	1.0	(0.4)	1.8	0.2	(0.06)	.	Rem

COPPER WIRE FOR GLOBULE ARC WORK

analysis listed in mg/kg wire form, intended for globule arc work ClC: CRM all others: RM 5 rods 3 mm Ø x 80 mm

Number	Ag	As	Bi	Cd	Co	Cr	Fe	Mn	Ni	Pb	Sb	Se	Sn	Te	Zn	O	P	S	Si
38X C6	104	98	22	32	33	1	107	0.3	166	111	45	.	120	30	40	.	.	.	.
38X C4	21.0	19.0	5.0	8.0	3.0	3.0	19.0	2.7	29.0	23.0	9.0	.	21.0	8.0	22.0	.	.	.	last
38X C1B	13	0.8	0.1	<0.01	0.03	0.06	1.2	1.2	1.0	0.8	0.6	.	<0.3	0.3	0.45	.	.	.	.
38X C1C	11	0.19	0.10	<0.01	.	<0.005	1.7	(0.005)	0.27	(0.05)	0.10	(0.25)	(0.01)	(0.21)	<0.1	266	<0.05	2.0	<0.1
38X C1A	8	<1	<1	<1	<1	<1	3	<1	1	0.3	<1	.	<1	<1	<2	.	.	.	.

CHILL CAST PHOSPHORUS DEOXIDIZED COPPER

= Class, where 1 = CRM and 2 = RM, typical analysis

#	Number	P	Cu	Ag	Fe	Al	As	Co	Mn	Ni	Pb	Sb	Sn	Zn
2	CURM 09.01	0.151	99.82	0.011	0.0019	<0.0005	<0.001	<0.0003	<0.0003	<0.0003	<0.0005	<0.0005	<0.001	0.0008
2	CURM 09.02	0.078	99.90	0.055	0.0042	<0.0005	<0.001	<0.0005	<0.0005	<0.0005	<0.001	<0.0005	<0.001	<0.001
1	SRM C1253a	0.0561	99.46	0.0494	0.0290	0.0176	0.0436	0.0454	0.0357	0.0491	0.0243	0.0139	0.0499	0.0329
2	CURM 09.03	0.056	99.82	0.012	0.0033	<0.0003	<0.001	<0.0003	<0.0003	<0.0003	<0.0005	<0.0005	<0.001	<0.001
1	SRM C1251a	0.0420	99.89	0.0080	0.0285	(<0.0020)	0.0016	0.00132	0.00046	0.00236	0.00235	0.00149	0.0016	0.0024
2	C09.05	0.027	Rem	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.005
2	CURM 09.04	0.0174	99.96	0.0033	0.0047	<0.0005	<0.001	<0.0005	<0.0005	<0.001	<0.0005	<0.001	<0.001	<0.001
1	SRM C1252a	0.0125	99.87	0.0158	0.0072	(<0.0020)	0.0118	0.0087	0.0043	0.0128	0.0060	0.0042	0.0120	0.00694

Number	Au	Bi	Cd	Cr	Mg	S	Se	Si	Te	Units
CURM 09.01	.	<0.0003	.	.	.	.	.	<0.001	.	50 mm Ø x 10-12 mm
CURM 09.02	.	<0.0005	.	.	.	.	.	<0.002	.	50 mm Ø x 10-12 mm
SRM C1253a	0.0072	(0.0056)	0.0070	0.0260	(0.0150)	(0.0050)	0.0136	(0.0580)	0.0168	32 mm x 32 mm x 19 mm
CURM 09.03	.	<0.0003	.	.	.	.	.	<0.001	.	50 mm Ø x 10-12 mm
SRM C1251a	0.00155	0.00037	(<0.0003)	(0.0003)	(<0.0020)	(0.0035)	0.0011	(<0.0050)	0.0016	32 mm x 32 mm x 19 mm
C09.05	.	<0.0005	.	.	.	.	.	<0.001	<0.002	50 mm Ø x 10 - 12 mm
CURM 09.04	.	<0.0005	.	.	.	.	.	<0.002	.	50 mm Ø x 10-12 mm
SRM C1252a	0.00339	(0.0019)	0.00169	0.0019	(<0.0020)	(0.0070)	0.0056	(<0.0100)	0.00546	32 mm x 32 mm x 19 mm

CRM COPPER

analysis listed in mg/kg 40 mm Ø x 30 mm

Number	Fe	P	Sn
BAM 391	0.90	3.3	(<0.1)
BAM 390	0.79	1.3	(<0.1)
BAM 392	0.80	7.0	(<0.1)

COPPER

= class, where 1 = CRM and 2 = RM

39X: ~38-42 mm Ø x 15-20 mm
 BS: 38 mm Ø x 12 mm
 IARM: 31 mm Ø x 2 or 18 mm
 BAM, BCR, ERM: 40 mm Ø x 30 mm
 CTIF: 40 mm Ø x 18 mm
 IMN, VS: 40 mm Ø x 25-27 mm

#	Number	Al	As	Bi	Cd	Co	Cr	Fe	Mg	Mn	Ni	P	Pb	S
1	BAM 376	(0.01815)	0.01999	0.0200	0.01861	0.02079	(0.0400)	0.02346	0.0124	0.02059	0.0209	0.0203	0.0236	0.0133
1	39X 17873	0.015	0.0209	0.0233	0.0052	0.0233	0.0231	0.019	0.011	0.0182	0.0173	0.078	0.065	0.0206
1	39X 17872	0.0118	0.0203	0.0240	0.0013	0.0102	.	(0.045)	.	0.0055	0.0537	0.0045	0.293	0.0242
1	BAM EB386	0.00365	0.00242	0.00096	0.00078	0.000520	0.00124	0.00647	0.00361	0.00133	0.00250	0.00072	0.00234	0.00219
1	39X 17867 **	0.003	0.034	0.028	0.0035	0.0025	0.090	0.016	0.03	.	0.039	0.02	0.010	0.016
1	BAM EB385	0.00286	0.00114	0.000581	0.00058	0.000693	0.000981	0.00454	0.00291	0.00101	0.00119	0.00129	0.00113	0.00313
1	39X 17870 **	0.002	0.003	0.047	0.031	0.0015	.	0.042	.	0.006	0.001	0.044	0.003	
1	IARM 279A	(0.002)	(0.002)	(0.001)	.	(0.002)	0.86	0.025	.	(0.002)	0.014	(0.005)	(0.01)	0.0015
1	BAM 370	0.00126	.	.	.	.	.	.	.	.	.	0.00117	0.0016	.
1	39X 17868	0.0002	0.0196	0.0202	0.0023	0.0002	.	0.0015	.	0.0023	0.0211	(0.0020)	0.046	0.0056
1	BAM 383	(0.00023)	0.000193	0.000102	0.000148	0.000137	0.000103	0.00109	0.000237	0.000124	0.000359	.	0.000131	(0.00028)
1	BAM 382	<0.00025	(0.0053)	0.000053	0.000090	0.000073	0.000056	0.00060	(0.00014)	0.000076	0.00017	.	0.00010	(0.00032)
1	IARM 278A	<0.002	(0.001)	(0.001)	.	(0.001)	(0.001)	0.004	.	(0.0004)	<0.005	0.011	(0.003)	0.002
1	BS 14500	(<0.0006)	(<0.0005)	.	.	(<0.0001)	(<0.0001)	0.0041	(<0.0003)	0.00004	(<0.0003)	0.0075	0.0008	0.0033
1	BS 110B	<0.0002	<0.0001	.	.	<0.0001	<0.0001	0.0005	<0.0001	<0.0001	<0.0002	<0.0006	0.00052	0.00030
1	39X 27866	.	0.0383	0.0047	0.0139	0.0308	0.0012	0.0030	.	.	0.0487	0.0147	0.0054	0.0469
1	39X 17869	.	0.0381	0.0061	0.0062	0.0049	.	0.0004	.	.	0.0100	.	0.0120	0.0051
1	39X 17871	.	0.0288	0.0069	0.0037	0.0040	(0.0005)	0.0080	(0.0005)	0.0007	0.0329	(0.0005)	0.0131	0.0072
1	39X 17866	.	0.0100	0.0234	0.0019	0.0008	.	0.0005	.	.	0.0471	.	0.0073	0.0026
1	39X 27869	.	0.0098	0.0376	0.0028	0.0036	(0.0002)	0.0030	.	.	0.0190	0.0119	0.0225	0.0112
1	IMN CT6	.	0.0054	0.0040	.	0.011	.	0.014	.	.	0.011	0.011	0.0014	0.0069
1	BAM 372	.	0.00103	.	0.000163	.	.	.	.	0.00114	0.0012	.	.	.
1	BAM 366	.	0.000111	(<0.00003)	0.000027	.	.	0.00234	.	.	0.00032	0.0263	0.00108	0.00087
1	IMN CS7 D	.	0.00009	<0.00005	(0.000002)	0.000009	0.00197	0.00049	.	0.00022	0.00044	(0.00024)	(0.00009)	0.00070
1	BCR 074A	.	0.000078	(0.000010)	<0.000002	<0.000005	<0.00001	0.000114	.	0.000127	0.000104	.	0.000097	.
1	IMN CS6	.	0.00002	<0.00005	(0.000006)	(0.00002)	0.00002	0.00208	.	0.00007	0.00008	(0.00015)	(0.00004)	0.00054
1	BAM 381	<0.0001	<0.0001	<0.00004	<0.00004	0.000013	0.000028	(0.000034)	0.000027	0.000073	.	0.00005	0.00005	(0.00029)
1	IARM 70B	(0.0001)	<0.0002	.	<0.003	.	.	<0.001	.	<0.0003	<0.0002	0.002	(0.003)	(0.0005)
1	BCR 017A	.	.	.	.	.	.	.	.	.	0.00069	.	.	0.00104
1	BAM 369	.	.	0.00097	.	0.00104	0.00092	.	0.00036
1	BAM 371	0.0018	0.0013

#	Number	Al	As	Bi	Cd	Co	Cr	Fe	Mg	Mn	Ni	P	Pb	S
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continued analysis listed in mass % except * which is mg/kg

Number	Sb	Se	Si	Sn	Te	Ti	Zn	Zr	Ag*	Au*	C*	Be*	Cu	In*	O*	Other
BAM 376	0.0202	0.0210	.	0.02473	0.0215	(0.00045)	0.02173	0.00422	.	.	.	40.6	.	.	.	.
39X 17873	0.0229	0.0114	0.030	0.0274	0.0070	.	0.0231	.	228	.	.	.	212	.	.	.
39X 17872	0.0217	0.0103	.	0.180	0.0208	.	0.107	(0.0024)	214	(15)	.	.	241	.	.	.
BAM EB386	0.00312	0.00116	.	0.00283	0.00383	0.00331	0.00495	.	.	.	.	.	.	.	.	.
39X 17867 **	0.012	0.007	.	0.042	0.011	.	0.081	.	100	70	.	.	.	170	**	Provisional
BAM EB385	0.00191	0.00072	.	0.00180	0.00100	0.000383	0.0058	.	.	.	.	.	.	.	.	.
39X 17870 **	0.048	0.025	.	0.003	0.001	.	0.13	.	460	10	.	.	80	**	Provisional	
IARM 279A	(0.004)	.	0.020	0.021	.	.	(0.01)	0.012	(30)	(20)	.	99.1	.	(10)	.	.
BAM 370	0.0015	.	(0.0019)	0.00165	.	.	.	.	.	.	.	.	.	.	.	.
39X 17868	0.020	0.0120	.	(0.0037)	0.024	.	(0.0024)	.	323	1290	.	.	9	.	.	.
BAM 383	0.000144	(0.00016)	<0.0010	0.00047	0.000140	0.000156	(0.00078)	<0.0009	.	.	.	.	.	.	.	.
BAM 382	0.00007	0.00006	<0.0006	0.000429	0.000061	(0.00006)	0.00060	<0.0003	1.8	.	.	.	.	.	.	.
IARM 278A	<0.005	.	(0.002)	(0.001)	0.53	.	(0.002)	.	(10)	(30)	.	99.5	.	(4)	.	.
BS 14500	(<0.001)	.	(<0.002)	0.0002	0.53	.	0.004	.	(2)	(1)	99.4	.	7	.	.	.
BS 110B	<0.0005	.	<0.0004	<0.0002	<0.0002	.	<0.0003	.	<2	7	<1	99.94	.	363	Ca*	<3
39X 27866	0.0052	0.0028	.	0.0448	0.0032	.	0.0287	.	57	16	.	.	437	.	Ge*	29
39X 17869	0.0370	0.0177	.	0.0057	0.0105	.	(0.0013)	.	69	19	.	.	35	.	.	.
39X 17871	0.0147	0.0360	.	0.0119	0.0101	.	0.028	.	222	51	.	.	.	.	.	.
39X 17866	0.0054	0.0034	.	0.0122	0.0026	.	0.0030	.	423	89	.	.	170	.	.	.
39X 27869	0.0362	0.0127	.	0.0106	0.0153	.	0.0065	.	349	80	.	.	90	.	Ge*	123
IMN CT6	0.011	0.011	.	0.013	0.012	.	0.030	.	39	.	.	.	.	.	B*	60
BAM 372	.	0.00076	.	.	.	.	.	.	.	.	.	.	.	.	.	.
BAM 366	0.000099	(<0.00011)	.	0.0111	(<0.00003)	.	0.00156	.	.	.	.	.	.	.	.	.
IMN CS7 D	0.00010	<0.00010	<0.00010	0.00005	<0.00005	.	0.00012	.	137	.	.	.	.	.	B*	<0.5
BCR 074A	0.000058	0.000037	.	<0.000007	(0.000021)	.	0.000046	.	.	.	.	.	.	.	.	.
IMN CS6	0.00010	<0.00010	.	0.00106	<0.00005	.	0.00014	.	85	.	.	.	.	.	B*	<0.5
BAM 381	<0.00015	<0.0001	<0.0005	0.00040	.	<0.00005	0.000522	<0.0009	.	.	.	.	.	.	.	.
IARM 70B	(0.0002)	<0.0002	<0.0005	(0.0002)	.	.	<0.001	.	.	.	99.9	.	.	.	.	.
BCR 017A	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
BAM 369	0.0022
BAM 371	0.0014	0.00132	11.5

Number	Sb	Se	Si	Sn	Te	Ti	Zn	Zr	Ag*	Au*	C*	Be*	Cu	In*	O*	Other
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BERYLLIUM-COBALT ALLOY

= class, where 1 = CRM and 2 = RM
F = Form, where w = wrought and c = cast

36X: 40-41 mm Ø x 15-17 mm

CTIF: 60 mm Ø x 5 mm

BS: 38 mm Ø x 12 mm
IARM: 31 mm Ø x 2 or 18 mm

#	F	Number	Be	Co	Cu	Al	Cr	Fe	Mn	Ni	Pb	Si	Sn	Zn	mass % except * = ppm
2	c	CTIF 4868	2.92	0.246	96.15	0.044	.	0.203	0.019	0.038	0.023	0.211	0.022	0.056	
2	c	CTIF 4584	2.53	0.04	97.05	0.033	.	0.120	(0.002)	0.015	(0.002)	0.166	0.022	0.022	
2	c	CTIF 4872	1.93	0.400	97.00	0.059	(0.04)	0.106	0.008	0.103	0.019	0.16	0.044	0.119	
2	w	BS 172 Be-1	1.89	0.206	97.68	(0.02)	0.0032	0.052	0.0010	0.039	(0.002)	0.055	0.033	0.0070	P: 0.003
1	w	36X CBC4	1.865	0.207	97.46	0.018	.	0.026	.	0.004	0.318	0.041	0.003	0.005	Mg: 0.0070
1	w	36X CBC3	1.840	0.209	97.77	0.019	.	0.046	.	0.007	0.0025	0.039	0.0021	0.004	Mg: 0.0040
1	w	IARM 71B	1.84	0.21	97.7	0.040	0.0030	0.042	0.0010	0.021	0.006	0.060	0.005	0.005	C: 0.003 P: 0.004
2	c	CTIF 4766	1.58	0.64	96.83	0.027	(0.2)	0.165	0.007	0.203	0.053	0.11	0.100	0.070	
2	c	CTIF 4583	0.84	(0.002)	96.35	0.029	.	(0.15)	0.064	2.02	0.084	0.08	0.25	0.094	
1	w	36X CBC2	0.450	2.47	96.96	0.0231	0.0044	0.0208	0.0015	0.0472	0.0099	0.0205	0.009	0.0103	Ag: 20*
1	w	BS 17500	0.43	2.31	(97.1)	0.0210	0.0015	0.0262	0.081	0.095	0.0005	0.0641	(0.0002)	0.0065	Ca: 54* C: 20* P: 31* Mg: 76* Sb: 1*
1	w	36X CBC5	0.32	0.14	97.6	0.021	0.006	0.028	(0.001)	1.69	0.009	0.036	0.01	0.038	
2	c	CTIF 4873	0.17	0.98	98.40	0.094	0.105	0.078	(0.002)	0.049	(0.003)	0.088	(0.007)	(0.003)	
2	c	CTIF 4594	0.129	2.96	95.55	0.029	0.066	(0.12)	.	0.055	(0.005)	0.114	(0.003)	(0.006)	Ag: 0.978

CRM

CADMIUM ALLOY

30 mm Ø x 15 mm

Number	Ag	Cd	Sn	Zn
36X CCD1	(0.0014)	1.01	<0.001	(0.0017)
36X CCD3	(0.0011)	1.10	0.473	(0.0018)

CHROMIUM COPPER

= class, where 1 = CRM and 2 = RM

#	Number	Cr	Ag	Al	Fe	Mn	Ni	Pb	Si	Sn	Zn	Zr	Cu
1	IARM 158C	1.04	(0.01)	0.002	0.090	0.019	0.32	0.01	0.02	0.01	0.014	.	98.5
1	36X CCR1	0.948	0.0016	(0.001)	0.0378	0.0010	0.0035	0.0017	0.015	0.0049	0.008	0.067	98.95
1	IARM 158B	0.85	(0.01)	0.002	0.090	0.019	0.32	0.01	0.02	0.01	0.014	.	98.5
1	36X CCZ	0.667	0.0019	0.0003	0.033	0.0008	0.0084	0.0023	0.0031	0.0045	0.0076	0.049	99.22

Number	As	Bi	C	Cd	Co	Mg	N	O	P	S	Sb	Units
IARM 158C	(0.001)	.	0.002	.	0.002	.	<0.0005	0.002	0.005	0.003	0.002	31 mm Ø x 2 or 18 mm
36X CCR1	.	.	.	.	.	0.0015	.	.	.	0.0018	.	50 mm Ø x 17 mm
IARM 158B	(0.001)	.	0.002	.	0.002	.	<0.0005	0.002	0.005	0.003	0.002	31 mm Ø x 2 or 18 mm
36X CCZ	.	.	(0.002)	0.0027	0.0012	.	.	.	0.0016	0.0010	.	50 mm Ø x 17 mm

RM

CONTINUOUS CAST COPPER ALLOY

38 mm Ø x 12 mm

informational values

Number	Grade	As	Cu	Fe	Mn	Ni	P	Pb	S	Sb	Sn	Zn	Ag	Al	Si
BS 932E	CDA 932	0.048	82.15	0.029	0.0001	0.16	0.022	7.3	0.053	0.145	7.33	2.86	0.007	<0.001	<0.005

CRM CONVERTER COPPER DISC AND ROD SETS

analysis listed in mass %				AVAILABLE IN SETS ONLY, AS GROUPED						IMN CT: 45 mm Ø x 30 mm			IMN CG, CH: 10 mm Ø x 100 mm			
Number	Ag	As	B	Bi	Co	Cu	Fe	Ni	P	Pb	S	Sb	Se	Sn	Te	Zn
IMN CT1	0.057	0.32	0.024	0.018	0.051	.	0.17	0.48	0.082	0.013	0.054	0.33	0.062	0.24	0.053	0.28
IMN CT2	0.042	0.22	0.033	0.013	0.033	.	0.10	0.29	0.059	0.086	0.036	0.24	0.041	0.14	0.036	0.19
IMN CT3	0.026	0.11	0.00093	0.0067	0.013	.	0.083	0.12	0.038	0.31	0.012	0.11	0.018	0.070	0.022	0.11
IMN CT4	0.016	0.050	0.0042	0.0043	0.011	.	0.045	0.049	0.020	0.88	0.0060	0.049	0.011	0.025	0.011	0.045
IMN CT5	0.0062	0.0056	(0.011)	0.0011	0.0061	.	0.016	0.0095	0.0059	(1.48)	0.0024	0.010	0.0069	0.0070	0.0064	0.0098
IMN CH6	0.18	.	.	.	0.18	Rem	0.028	0.40	.	0.50	.	.	.	.	.	0.19
IMN CH7	0.40	.	.	.	0.11	Rem	0.11	0.18	.	1.01	.	.	.	.	.	0.047
IMN CH8	0.039	.	.	.	0.020	Rem	0.0012	0.036	.	1.49	.	.	.	.	.	0.077
IMN CH9	0.010	.	.	.	0.0060	Rem	0.0060	0.010	.	1.97	.	.	.	.	.	0.015
IMN CG1	0.011	.	.	.	0.17	Rem	0.013	0.036	.	0.60	.	.	.	.	.	0.016
IMN CG2	0.25	.	.	.	0.098	Rem	0.015	0.011	.	0.30	.	.	.	.	.	0.026
IMN CG3	0.040	.	.	.	0.045	Rem	0.030	0.39	.	0.22	.	.	.	.	.	0.14
IMN CG4	0.10	.	.	.	0.057	Rem	0.25	0.23	.	0.11	.	.	.	.	.	0.12
IMN CG5	0.41	.	.	.	0.0079	Rem	0.069	0.10	.	0.053	.	.	.	.	.	0.18

CRM GILDING METAL

Number	Cu	Fe	Ni	P	Pb	Sn	Zn	method	Units
SRM 1114	96.4	0.01	0.021	0.009	0.012	0.02	3.4	wrought	31 mm Ø x 19 mm
SRM C1114	96.4	0.01	0.021	0.009	0.012	0.02	3.4	cast	31 mm x 31 mm x 19 mm
SRM 1113	95.0	0.04	0.057	0.008	0.026	0.06	4.8	wrought	31 mm Ø x 19 mm
SRM C1113	95.0	0.04	0.057	0.008	0.026	0.06	4.8	cast	31 mm x 31 mm x 19 mm
SRM 1112	93.3	0.07	0.10	0.009	0.057	0.12	6.3	wrought	31 mm Ø x 19 mm
SRM C1112	93.3	0.07	0.10	0.009	0.057	0.12	6.3	cast	31 mm x 31 mm x 19 mm

CRM GILDING METAL SET

available in SET/5 only

wrought 40 mm Ø x 25 mm

Number	Ag	Al	As	Be	Bi	Cd	Cu	Fe	Mn	Ni	P	Pb	S	Sb	Si	Sn	Te	Zn
IMN MI1	0.0038	0.0400	0.0720	0.000091	0.00063	0.0230	95.69	0.2500	0.0030	0.0059	0.0280	0.0060	0.0430	0.000044	0.0032	0.1500	0.0065	3.57
IMN MI2	0.0090	0.0550	0.0540	0.00085	0.00056	0.0160	93.35	0.1600	0.0081	0.0180	0.0220	0.0160	0.0490	0.0019	0.0120	0.1000	0.0110	6.19
IMN MI3	0.0200	0.0150	0.0340	0.0019	0.0026	0.0110	91.46	0.0860	0.0350	0.0730	0.0150	0.0420	0.0230	.	0.0310	0.0670	0.0031	8.01
IMN MI4	0.0260	0.0079	0.0031	0.0065	0.0026	0.0054	88.35	0.0410	0.0500	0.1400	0.0073	0.0700	0.0120	0.0006	0.0600	0.0130	0.0021	11.13
IMN MI5	0.0330	0.0021	0.0150	0.0072	0.0043	0.0012	94.71	0.0150	0.0690	0.2500	0.0026	0.0960	0.0019	0.0096	0.0820	0.0040	.	4.44

GUN METAL

C, CURM: 50 mm Ø x 10 - 12 mm

GM24: wrought 44 mm Ø x 17 mm

GM29: wrought 33 mm Ø x 19 mm

other GM: chill cast ~40 mm Ø x ~15 mm

Number	Zn	Sn	Pb	Ni	Fe	Cu	Ag	Al	As	Bi	Cr	Mn	P	S	Sb	Si
CRM																
33X GM4	7.13	2.56	4.69	1.795	0.053	82.96	0.0265	(0.001)	0.287	0.084	Co:0.259	0.0007	0.0088	0.112	0.0261	(0.0006)
33X GM8	5.45	4.13	6.11	1.148	0.098	83.81	0.0097	0.0005	0.0159	0.0248	(0.0004)	0.0008	0.0029	0.0119	0.0146	(0.001)
33X GM5	4.19	5.22	5.13	1.008	0.136	83.98	0.0099	(0.007)	0.059	0.0225	Co:0.0662	0.0018	0.0112	0.061	0.093	(0.0005)
33X GM7	2.72	9.61	1.119	0.511	0.050	85.40	0.050	0.0110	0.103	0.119	Co:0.095	0.0088	0.082	0.064	0.1092	(0.0033)
33X GM6	2.01	6.56	3.90	0.833	0.0338	85.99	0.0065	0.0098	0.180	0.0313	Co:0.0056	0.0307	0.0406	0.093	0.279	0.069
RM																
typical analysis																
CURM 71.32	6.52	6.46	4.43	0.70	0.35	80.48	0.34	0.12	0.25	0.051	0.05	0.046	0.016	0.08	0.26	0.022
CURM 71.31	4.27	4.38	6.44	2.07	0.098	82.30	0.052	0.045	0.11	0.027	<0.01	0.010	0.060	0.050	0.11	0.006
33X GM29	4.23	6.12	0.050	0.0289	0.0102	89.36	0.0026	(0.0004)	0.0017	0.0019	(0.0004)	(0.0005)	0.138	0.0024	0.0015	0.0027
33X GM24	3.67	3.85	3.35	0.0087	0.0083	88.88	0.0046	(0.0001)	0.0010	0.0009	(0.0013)	<0.0005	0.190	0.003	0.0012	0.0028
CURM 71.33	3.60	4.96	6.84	0.938	0.018	83.60	<0.002	<0.001	<0.001	<0.002	<0.0005	<0.0005	<0.001	<0.001	<0.002	<0.005
C71.34	1.55	8.20	2.47	<0.01	0.29	rem	0.025	0.007	0.18	0.029	0.03	0.05	0.020	0.16	0.071	0.04

Number	Zn	Sn	Pb	Ni	Fe	Cu	Ag	Al	As	Bi	Cr	Mn	P	S	Sb	Si
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* Provisional Analysis

CRM MANGANESE ALLOY SET

AVAILABLE IN SET/6 ONLY

40 mm Ø x 13 mm

Number	Ag	As	Fe	Mn	Ni	P	Pb	Sb	Si	Sn	Zn
IMN CK1	0.012	0.013	0.029	1.06	0.44	0.0011	0.0021	0.0049	0.049	0.13	0.24
IMN CK2	0.0094	0.010	0.11	1.51	0.38	0.0022	0.0062	0.0015	0.091	.	0.14
IMN CK3	0.0066	0.0095	0.17	1.78	0.27	0.0043	0.0098	0.0026	0.033	0.075	0.095
IMN CK4	0.0041	0.0055	0.26	1.91	0.13	0.0056	0.017	0.0041	0.0025	0.042	0.065
IMN CK5	.	0.0015	0.29	2.30	0.011	.	.	0.0051	0.011	0.0048	0.033
IMN CK6	0.0012	0.0039	0.40	2.64	0.073	0.013	.	0.0052	0.21	0.025	0.034

NICKEL ALLOY

#	Number	Ni	Ag	Al	Bi	Co	Cr	Cu	Fe	Mn	Nb	P	Pb	S	Si	Sn	Zn
1	36X CN5	32.26	.	0.006	.	0.018	0.118	65.1	0.791	0.090	0.441	0.041	0.027	0.074	0.80	0.015	0.232
1	36X CN6 *	32	(0.01)	0.06	0.03	0.06	2.6	bal	0.6	0.45	0.21	0.01	0.01	0.007	0.15	.	0.38
1	IARM 85C	31.3	<0.002	<0.01	.	0.016	0.002	67.3	0.63	0.65	.	(0.003)	0.004	(0.002)	0.01	0.005	0.057
1	SRM 1276a	30.8	(0.004)	.	(<0.0001)	0.045	(0.0002)	67.5	0.56	1.01	.	0.006	0.004	(0.008)	(0.001)	0.023	0.038
1	36X CN8	30.61	.	0.0009	0.103	0.104	1.28	65.51	0.86	0.881	0.18	0.046	0.095	0.022	0.132	0.046	0.159
2	BS 715A	30.22	.	(0.01)	.	.	.	68.0	0.61	0.82	.	0.006	(0.007)	0.001	0.10	0.008	0.10
1	IARM 236A	30.0	.	0.003	0.003	0.004	0.002	66.7	0.91	1.04	.	0.003	0.004	0.003	0.19	0.005	0.002
1	36X CN7	29.95	.	.	(0.014)	0.108	1.51	65.58	1.021	0.659	0.58	(0.021)	0.028	0.0151	0.304	0.039	0.203
2	C62.11	29.8	.	.	.	<0.005	.	rem	0.60	0.52	.	.	<0.005	<0.005	0.36	0.04	0.097
2	CTIF CN33	29.75	.	(0.01)	0.0212	.	.	66.9	1.6	0.45	0.06	0.02	0.053	0.013	0.47	(0.003)	0.37
1	36X CN10	29.3	.	1.23	0.014	0.081	1.59	61.01	4.28	0.262	0.89	(0.020)	0.004	0.055	1.02	(0.009)	0.026
1	36X CN9	28.90	.	(0.094)	.	0.323	1.84	64.96	0.722	1.019	1.40	0.008	0.020	0.0130	0.413	0.0291	0.060
1	36X CN4	27.49	.	0.0013	0.0077	0.052	0.022	69.48	2.67	0.164	0.0139	0.0078	(0.023)	0.0076	0.025	0.009	0.041
2	C62.15	25.9	.	.	.	0.042	.	rem	2.36	0.23	.	.	0.016	0.023	0.014	0.03	0.04
1	BAM 389	24.7	.	.	0.0044	0.0770	0.0153	74.3	0.107	0.415	.	0.0093	0.0098	.	.	0.0262	0.1125
2	C62.14	20.2	.	.	.	0.03	.	rem	1.49	0.24	.	.	0.01	0.083	0.022	0.12	0.12
1	36X CN3	19.95	.	0.0055	.	0.072	0.050	76.3	1.07	0.920	0.15	0.032	0.053	0.029	0.490	0.063	0.80
2	C65.30	19.8	.	.	.	.	.	55.0	1.0	0.09	.	0.05	0.25	0.04	0.10	0.04	23.5
1	34X NS5	17.16	0.0102	0.674	.	0.197	0.0014	55.11	0.717	0.127	.	0.067	1.29	.	0.158	0.194	(23.1)
2	C65.29	16.8	.	.	.	.	.	58.9	0.39	0.17	.	0.07	0.11	0.07	0.02	0.08	23.4
1	34X NS4	16.61	0.0324	0.0454	.	0.152	.	64.97	0.447	0.304	.	0.0570	0.071	0.0110	0.102	0.0300	17.09
1	36X SP2	15.72	0.0181	0.0003	(0.0027)	0.119	.	74.91	(0.09)	0.0019	.	(0.0006)	0.026	0.0030	(0.0023)	8.92	0.029
1	36X CN2	15.47	.	0.005	0.0045	0.264	0.240	80.78	1.70	1.26	(0.032)	0.015	0.048	0.035	0.044	0.061	0.0358
1	36X CN24	15.41	0.0466	(0.0010)	.	0.0096	0.0065	52.56	0.127	23.60	.	0.0037	0.0056	.	.	(0.0023)	8.00
2	C65.28	15.3	.	.	.	.	.	56.9	0.13	0.57	.	0.07	0.06	0.03	0.01	0.15	26.7
1	36X CN11	14.96	.	1.457	.	0.0049	0.380	77.56	0.992	4.34	0.124	(0.002)	(0.003)	0.0012	0.083	(0.002)	(0.006)
1	34X NS3	14.96	0.100	(0.0003)	.	0.0922	.	64.16	0.285	0.0377	.	0.0295	0.178	0.0028	(0.0017)	0.056	19.96
1	36X CN23	14.38	0.042	0.007	.	0.0509	0.0029	70.22	0.140	0.0095	.	0.0299	0.115	.	.	0.102	14.88
2	C62.13	14.2	.	.	.	0.055	.	rem	<0.005	0.95	.	.	0.046	0.12	0.071	0.06	0.01
2	C65.27	13.9	.	.	.	.	.	57.0	0.26	0.13	.	0.02	0.04	0.03	<0.002	0.01	28.7
1	34X NS2	13.39	0.0026	.	.	0.0118	(0.001)	61.09	0.085	0.0013	.	0.0091	0.063	(0.020)	(0.003)	0.019	25.31
2	C65.26	11.9	.	.	.	.	.	56.7	<0.01	0.70	.	0.11	0.06	0.0006	<0.002	<0.01	30.5
2	CTIF CN4	11.2	.	(0.02)	.	.	.	84.0	1.8	1.5	0.7	.	0.006	(0.001)	(0.01)	0.058	0.07
2	BS 706B	10.9	.	<0.003	.	0.005	.	87.00	1.56	0.61	.	0.009	0.006	0.009	<0.002	0.006	0.054
2	BS 706	10.49	.	<0.005	.	.	.	(87.3)	1.61	0.55	.	0.005	<0.01	0.015	<0.01	0.016	0.08
2	BS 706A	10.18	.	(0.002)	.	0.007	.	87.80	1.30	0.66	.	0.006	0.008	0.012	<0.005	0.011	0.13
1	36X CN1	10.11	.	0.006	.	0.154	0.0258	84.90	2.15	1.80	.	0.0436	0.160	0.0070	0.089	0.0578	0.412
2	CTIF CuNi 10	10.08	.	.	.	.	.	87.4	1.69	0.70	.	.	0.0027	(0.002)	.	(<0.01)	0.033
1	IARM 84B	10.03	0.005	(0.002)	.	0.013	(0.003)	87.9	1.30	0.62	.	0.004	0.008	0.008	0.01	0.014	0.082
1	BAM 367	9.72	.	.	.	0.0498	.	87.88	1.443	0.723	.	0.0124	0.0298	.	.	0.0105	0.0715
1	36X CN1	9.31	.	<0.001	.	0.131	0.118	85.3	2.41	2.27	(0.019)	0.008	0.008	0.010	0.058	0.006	0.331
1	36X SP1	8.33	0.005	0.0020	0.0039	0.057	.	84.90	0.45	0.084	(0.031)	(0.003)	0.0115	0.005	0.004	5.75	0.344
2	CURM 62.12	7.94	.	.	.	0.081	.	89.42	0.45	1.59	.	.	0.053	0.034	0.109	0.111	0.180
1	34X NS1	7.81	0.069	(0.003)	.	0.052	0.0003	58.63	0.064	0.0009	.	0.0140	0.0141	(0.0004)	(0.002)	0.0110	33.41
2	CTIF CN2	7.80	.	(0.012)	.	.	.	88.40	1.68	1.19	(0.007)	.	0.055	0.028	0.26	(0.0065)	0.515
1	36X CN21	5.50	0.0064	1.95	.	0.0079	0.0050	92.17	0.0316	0.0391	.	0.053	0.051	.	.	0.038	0.0203
1	36X 274	2.54	.	0.0013	.	0.0028	0.531	96.23	0.0779	0.0148	.	0.0011	0.0021	0.0035	0.594	0.0140	0.0395
1	37X 218	2.52	.	0.0022	.	0.0013	0.032	96.57	0.074	0.0883	.	0.0014	0.0025	0.007	0.58	0.015	0.027
1	36X CN22	1.806	0.0196	6.09	.	0.0231	0.0144	91.80	0.088	(0.016)	.	0.0178	0.0260	.	.	0.0371	0.0175

Number	As	B	Be	C	Cd	Mg	Sb	Te	Ti	Zr	Units
36X CN5	.	0.0091	0.011	0.0253	.	0.014	.	.	.	.	40 mm Ø x 15 mm
36X CN6 *	.	.	.	0.006	.	.	.	.	0.055	0.05	~40 mm Ø x ~15 mm
IARM 85C	0.0009	.	.	0.008	.	0.01	.	.	.	.	31 mm Ø x 2 or 18 mm
SRM 1276a	(<0.001)	(0.0001)	.	.	0.002	0.12	0.0004	0.005	(0.0002)	.	32 mm Ø x 19 mm
36X CN8	.	0.0025	.	0.0225	.	0.021	.	.	.	.	40 mm Ø x 15 mm
BS 715A	(0.0014)	.	.	0.03	.	.	(0.003)	.	.	.	38 mm Ø x 12 mm
IARM 236A	.	.	.	0.010	.	.	<0.005	.	.	.	31 mm Ø x 2 or 18 mm
36X CN7	.	(0.004)	.	0.0106	0.0024	0.0041	.	.	(0.037)	(0.003)	40 mm Ø x 17 mm
C62.11	.	.	.	.	.	0.03	.	.	.	.	50 mm Ø x 10 - 12 mm
CTIF CN33	.	.	.	0.02	0.006	<0.06	.	0.0224	.	.	60 mm Ø x 5 mm
36X CN10	.	0.0029	.	0.064	.	0.0026	.	.	.	(0.055)	40 mm Ø x 15 mm
36X CN9	.	0.0065	.	0.0098	.	.	.	.	0.150	0.0019	40 mm Ø x ~15 mm
36X CN4	.	.	.	0.0053	.	(0.0004)	.	.	(0.004)	.	40 mm Ø x 17 mm
C62.15	.	.	.	.	.	0.004	.	.	.	.	50 mm Ø x 10 - 12 mm
BAM 389	.	.	.	.	0.0016	0.067	0.0046	.	0.0660	0.098	40 mm Ø x 30 mm
C62.14	.	.	.	.	.	0.002	.	.	.	.	50 mm Ø x 10 - 12 mm
36X CN3	.	0.0064	0.0163	0.035	.	0.012	.	.	.	.	40 mm Ø x 15 mm
C65.30	.	.	.	.	.	0.01	.	.	.	.	50 mm Ø x 10 - 12 mm
34X NS5	.	.	.	.	.	0.704	.	.	.	.	42 mm Ø x 17 mm
C65.29	.	.	.	.	.	0.01	.	.	.	.	50 mm Ø x 10 - 12 mm
34X NS4	.	.	.	.	.	0.0009	.	.	.	.	40 mm Ø x ~15 mm
36X SP2	.	0.0005	.	.	.	0.0002	0.006	.	(0.0008)	.	40 mm Ø x 15 mm
36X CN2	.	.	.	0.004	.	0.0006	.	.	0.0102	.	40 mm Ø x 17 mm
36X CN24	(0.0011)	.	.	0.0436	.	.	.	.	.	.	38 mm x 13 mm x 13
C65.28	.	.	.	.	.	0.01	.	.	.	.	50 mm Ø x 10 - 12 mm
36X CN11	.	.	.	(0.001)	.	0.0241	.	.	.	.	40 mm Ø x ~17 mm
34X NS3	.	.	.	.	.	(0.0005)	.	.	.	.	40 mm Ø x ~15 mm
36X CN23	0.047	.	.	.	0.0021	.	.	.	.	.	40 mm Ø x ~17 mm
C62.13	.	.	.	.	.	0.014	.	.	.	.	50 mm Ø x 10 - 12 mm
C65.27	.	.	.	.	.	<0.01	.	.	.	.	50 mm Ø x 10 - 12 mm
34X NS2	.	.	.	.	.	<0.0005	.	.	.	.	42 mm Ø x 17 mm
C65.26	.	.	.	.	.	<0.01	.	.	.	.	50 mm Ø x 10 - 12 mm
CTIF CN4	.	.	.	(0.001)	.	.	.	.	.	.	60 mm Ø x 5 mm
BS 706B	<0.0005	.	.	(0.004)	.	.	<0.002	.	.	.	38 mm Ø x 12 mm
BS 706	<0.005	.	.	(0.003)	.	.	<0.005	.	.	.	38 mm Ø x 12 mm
BS 706A	<0.0005	.	.	0.004	.	.	0.0006	.	.	.	38 mm Ø x 12 mm
36X CN1	.	0.0013	.	(0.0026)	.	.	.	.	.	.	40 mm Ø x ~17 mm
CTIF CuNi 10	.	.	.	(0.009)	.	.	.	.	.	.	40 mm Ø x 18 mm
IARM 84B	.	.	.	(0.01)	.	.	(0.002)	.	.	.	31 mm Ø x 2 or 18 mm
BAM 367	.	.	.	.	.	0.0347	.	.	.	.	40 mm Ø x 30 mm
36X CN1	.	(0.0008)	(0.0001)	0.008	.	(0.0003)	.	.	.	.	40 mm Ø x 15 mm
36X SP1	.	0.0007	.	.	.	.	0.0177	.	(0.0004)	.	40 mm Ø x 15 mm
C62.12	.	.	.	.	.	0.002	.	.	.	.	60 mm Ø x 10 mm
34X NS1	.	.	.	(0.0018)	.	0.0020	.	.	.	.	42 mm Ø x 18 mm
CTIF CN2	.	.	.	(0.008)	.	.	.	.	.	.	60 mm Ø x 5 mm
36X CN21	0.0067	.	.	.	0.0021	.	.	.	.	.	40 mm Ø x ~17 mm
36X 274	0.0011	.	.	(0.0033)	.	.	.	.	.	<0.005	46 mm Ø x 17 mm
37X 218	.	.	.	0.0022	.	.	.	.	.	.	38 mm Ø x 17 mm
36X CN22	0.0208	.	.	.	0.0083	.	.	.	.	.	40 mm Ø x ~17 mm

CRM NICKEL ALLOY SETS

Number	analysis listed in mass %																	
	Ni	Al	As	Bi	C	Cd	Co	Cu	Fe	Mg	Mn	P	Pb	S	Sb	Si	Sn	Zn
IMN NC1	23.17	.	0.0056	0.0011	0.0320	0.0142	0.0062	.	0.0501	0.0016	0.552	0.0147	0.0025	0.0709	0.0024	0.0854	0.0374	0.776
IMN NC2	24.21	0.0219	0.0104	0.0046	(0.0026)	0.0189	0.0115	.	0.290	0.0024	0.413	.	0.0021	0.0837	0.0049	0.196	0.0457	0.508
IMN NC3	24.68	0.229	0.0167	0.0077	(0.0036)	0.0120	0.0282	.	0.106	0.0561	0.148	0.0312	0.0027	(0.0202)	0.0084	0.0609	0.0171	0.244
IMN NC4	25.39	0.332	0.0251	0.0117	0.0500	0.0049	0.101	.	0.426	0.0170	0.0172	0.0113	0.0120	0.0022	0.0113	0.0197	0.0087	0.0099
IMN NC5	25.82	0.0749	0.0427	0.0213	0.0050	0.0018	0.151	.	0.369	0.0861	0.0623	0.0222	0.0409	.	0.0161	0.0198	0.0044	0.0152
IMN NB1	23.77	0.071	0.024	0.011	0.040	0.016	0.010	75.71	0.11	0.017	0.029	0.025	0.011	0.0019	0.0025	0.093	0.0038	0.052
IMN NB2	24.38	0.043	0.0045	0.0082	0.019	0.0053	0.023	74.73	0.085	0.0059	0.46	0.030	0.014	0.0084	0.0036	0.13	0.014	0.037
IMN NB3	25.87	0.12	0.0076	0.0070	0.034	0.0082	0.017	73.20	0.14	0.013	0.23	0.019	0.011	0.011	0.0057	0.068	0.040	0.20
IMN NB4	25.78	0.013	0.0097	0.0040	0.018	0.0064	0.013	73.45	0.21	0.028	0.015	0.0085	0.0084	0.015	0.0092	0.024	0.065	0.33
IMN NB5	24.94	0.0014	0.011	0.0010	0.012	0.0012	0.0067	73.42	0.28	0.036	0.57	0.0036	0.0060	0.028	0.012	0.0057	0.10	0.57
IMN N1	25.38	.	.	.	.	.	0.0050	Rem	0.0056	.	0.0018	.	0.0019	.	.	0.0070	0.0089	0.019
IMN N2	24.28	.	.	.	.	.	0.023	Rem	0.35	.	0.21	.	0.011	.	.	0.025	0.012	0.16
IMN N3	22.57	.	.	.	.	.	0.055	Rem	0.77	.	0.50	.	0.020	.	.	0.062	0.023	0.33
IMN N4	21.39	.	.	.	.	.	0.080	Rem	1.07	.	0.71	.	0.039	.	.	0.13	0.038	0.47
IMN NA1	7.19	.	.	.	(0.020)	.	.	Rem	2.52	.	1.51	.	0.081	(0.081)	.	.	.	0.80
IMN NA2	9.05	.	.	.	(0.023)	.	.	Rem	2.03	.	1.03	.	0.056	(0.065)	.	.	.	0.55
IMN NA3	10.35	.	.	.	(0.019)	.	.	Rem	1.15	.	0.60	.	0.035	(0.036)	.	.	.	0.30
IMN NA4	12.15	.	.	.	(0.012)	.	.	Rem	0.50	.	0.21	.	0.0066	(0.0069)	.	.	.	0.019
IMN MN1	3.21	.	0.0007	0.00011	.	.	.	Rem	0.0041	.	.	(0.00027)	0.0062	.	0.00019	.	.	.
IMN MN2	4.50	.	0.0011	0.00071	.	.	.	Rem	0.033	.	.	0.010	0.012	.	0.00078	.	.	.
IMN MN3	5.29	.	0.0017	0.0012	.	.	.	Rem	0.062	.	.	0.016	0.016	.	0.0013	.	.	.
IMN MN4	5.90	.	0.0038	0.0018	.	.	.	Rem	0.083	.	.	0.026	0.024	.	0.0019	.	.	.

CRM PHOSPHORUS ALLOY SET

Number	P	As	Bi	Fe	Ni	Pb	Sn	Sb	Se	Te	Zn	Cu
IMN CO2	11.60	0.0050	0.0049	0.096	0.013	0.070	0.35	0.065	(0.0045)	(0.0055)	0.15	REM
IMN CO5	9.45	0.0023	0.00095	0.11	0.0082	0.0044	0.55	0.034	(0.0015)	(0.0023)	0.061	REM
IMN CO3	8.56	0.011	0.015	0.11	0.10	0.10	0.037	0.14	(0.0073)	(0.0080)	0.24	REM
IMN CO4	5.54	0.016	0.0086	0.29	0.25	0.29	0.13	0.092	(0.010)	(0.012)	0.029	REM

CRM SEBILOY / ENVIROBRASS / FEDERALLOY

Number	Sn	Zn	Bi	Se	As	Co	Fe	Ni	P	Pb	Sb	Cu
32X SEB4	9.26	8.60	2.65	0.105	0.0012	0.48	0.366	0.0091	(0.006)	0.011	0.0056	78.6
32X SEB6	7.14	4.55	0.615	0.322	0.083	0.231	0.151	0.860	0.0118	0.0463	0.235	85.66
32X SEB2 *	7.0	1.4	4.4	0.04	0.01	0.013	0.08	0.043	0.04	0.10	0.02	Rem
IARM 266A	6.9	3.48	2.37	0.001	0.004	(0.001)	0.035	0.46	0.032	0.010	0.010	(87)
32X SEB5	5.28	6.64	1.17	0.512	0.0121	0.0048	0.360	0.308	0.183	0.0149	0.0344	85.5
IARM 226A	5.1	4.8	1.7	0.93	0.003	0.001	0.054	0.54	0.005	0.040	0.004	86.7
IARM 227A	5.1	4.70	2.3	1.21	0.003	0.001	0.060	0.53	0.003	0.042	<0.01	85.9
IARM 265A	4.4	2.45	2.4	(0.002)	(0.005)	(0.001)	0.013	0.69	0.024	0.011	0.015	(90)
32X SEB1	4.23	8.79	5.31	0.97	0.043	0.0089	0.0293	0.101	0.0054	0.209	0.355	79.6
IARM 228A	4.1	4.1	1.53	0.67	0.003	0.001	0.052	0.45	0.032	0.026	0.010	89.0
IARM 263A	3.5	15.8	2.55	(0.002)	0.003	0.001	0.047	0.66	0.040	0.022	0.06	(78)
32X SEB7	3.20	4.42	3.58	1.19	0.038	0.119	0.074	1.165	0.0206	0.343	0.262	85.46
IARM 264A	3.03	5.33	3.6	(0.001)	(0.004)	(0.001)	0.048	0.54	0.027	0.057	0.074	(87.3)
32X SEB3 **	2.07	0.85	(5.4)	1.42	0.0161	0.025	0.082	1.52	0.040	0.109	0.054	(88.4)

Number	Ag	Al	B	C	Cd	Cr	Mn	N	O	S	Si	Units
32X SEB4	.	.	0.0021	.	0.0004	.	.	.	.	.	.	42 mm Ø x 17 mm
32X SEB6	.	.	.	.	0.0036	.	.	.	.	.	.	40 mm Ø x 15 mm
32X SEB2 *	0.04	*	Provisional Analysis		0.025	In:	0.07	.	.	0.02	.	~40 mm Ø x ~15 mm
IARM 266A	(0.001)	0.002	.	(0.002)	.	(0.002)	(0.002)	.	.	(0.002)	0.002	31 mm Ø x 2 or 18 mm
32X SEB5	.	.	0.0028	.	0.0067	.	.	.	.	.	.	40 mm Ø x 17 mm
IARM 226A	0.004	0.002	.	0.003	.	(0.001)	0.002	<0.0005	(0.001)	0.005	0.002	31 mm Ø x 2 or 18 mm
IARM 227A	0.004	0.002	.	0.003	.	(0.001)	0.001	(0.0002)	0.0013	0.005	0.002	31 mm Ø x 2 or 18 mm
IARM 265A	(0.002)	0.003	.	.	.	(0.001)	(0.002)	.	.	(0.002)	0.003	31 mm Ø x 2 or 18 mm
32X SEB1	.	.	.	.	(0.0002)	.	.	.	.	0.0011	.	40 mm Ø x 17 mm
IARM 228A	0.003	0.002	.	0.003	.	0.001	0.001	<0.0005	(0.002)	0.004	0.002	31 mm Ø x 2 or 18 mm
IARM 263A	(0.006)	(0.002)	.	<0.005	.	(0.002)	(0.002)	.	.	(0.002)	0.003	31 mm Ø x 2 or 18 mm
32X SEB7	.	.	.	.	0.0074	.	.	.	.	0.067	.	42 mm Ø x 17 mm
IARM 264A	(0.005)	0.003	.	(0.004)	.	(0.002)	(0.002)	.	.	0.0013	0.003	31 mm Ø x 2 or 18 mm
32X SEB3 **	.	.	0.0021	.	0.0016	** Bi and Cu are inhomogeneous in this sample	.	.	.	.	.	40 mm Ø x 17 mm

RM SILVER ALLOY

31 mm Ø x 2 or 18 mm

Number	Ag	C	P	S	Zr
IARM 159A	3.48	(0.002)	(<0.01)	(<0.01)	.
IARM 160A	3.03	0.003	(0.004)	(<0.003)	0.40

Al, Co, Cr, Fe, Mn, Ni, Pb, Si, Sn, and Zn: (<0.01)

RM TIN COPPER

cast typical analysis

32X: 40 mm Ø x 15 mm

C: 50 mm Ø x 10-12 mm

Number	Sn	Al	As	Bi	Cu	Fe	Mg	Mn	Ni	P	Pb	S	Sb	Si	Zn
C11.04	9.6	<0.005	<0.005	<0.0005	rem	<0.005	<0.001	<0.005	<0.005	0.05	0.01	<0.001	<0.005	<0.005	<0.005
C11.03	7.4	<0.005	<0.005	<0.0005	rem	<0.005	<0.001	<0.005	<0.005	0.04	0.01	<0.001	<0.005	<0.005	<0.005
32X 14956	7.35	.	.	.	.	.	.	.	.	.	.	.	.	.	.
C11.02	5.5	<0.005	<0.005	<0.0005	rem	<0.005	<0.001	<0.005	0.006	0.02	0.02	<0.001	<0.005	<0.005	<0.005
32X 14955	5.25	.	.	.	.	.	.	.	.	.	.	.	.	.	.
C11.01	3.4	<0.005	<0.005	<0.0005	rem	<0.005	<0.001	<0.005	0.006	0.009	0.01	<0.001	<0.005	<0.005	<0.005
32X 14954	3.15	.	.	.	.	.	.	.	.	.	.	.	.	.	.
32X 14953	1.37	.	.	.	.	.	.	.	.	.	.	.	.	.	.

CRM TIN COPPER SET

available in SET/5 only

40 mm Ø x 30 mm

Number	Ag	As	Bi	Cu	Fe	Ni	P	Pb	Sb	Sn	Zn
IMN CM1	0.010	0.0098	0.010	Rem	0.019	0.0086	0.0088	0.012	0.012	0.61	0.021
IMN CM2	0.0061	0.0068	0.0072	Rem	0.0064	0.0055	0.0058	0.0067	0.0068	0.84	0.0061
IMN CM3	0.0029	0.0036	0.0033	Rem	0.012	0.0031	0.0041	0.0038	0.0040	1.06	0.0060
IMN CM4	0.0011	0.0011	0.00093	Rem	0.0042	0.0011	0.0009	0.0023	0.0019	1.30	0.0020
IMN CM5	.	(0.015)	0.014	Rem	0.0094	0.014	0.015	0.019	0.018	1.14	0.013

CRM BRASS SETS

wrought available in SETS only, as grouped MB: 40 mm Ø x 18 mm MD, WC: 40 mm Ø x 12 mm ME, MG: 40 mm Ø x 30 mm

Number	Cu	Zn	Al	As	Bi	Fe	Mn	Ni	P	Pb	Sb	Si	Sn
IMN MG1	91.14	Rem	0.040	.	0.00058	0.0081	0.0013	0.048	(0.0019)	0.049	0.00077	.	0.0062
IMN MG2	90.08	Rem	(0.0026)	.	0.00039	0.0067	0.0007	0.0022	0.0012	0.0048	(0.00084)	.	0.018
IMN MG3	93.19	Rem	0.020	.	0.0014	0.062	0.0096	0.013	0.018	0.015	0.0026	.	0.033
IMN MG4	94.00	Rem	.	.	0.0017	0.091	0.024	0.0042	0.012	0.008	0.0045	.	0.023
IMN MG5	95.09	Rem	0.0011	.	0.0026	0.149	0.0036	0.0021	0.0069	0.0054	0.0061	.	0.013
IMN MG6	92.27	Rem	0.0067	.	0.00088	0.028	0.045	0.030	0.0026	0.031	0.0015	.	0.053
IMN WC1	75.10	Rem	0.0034	0.0043	0.0028	0.031	.	.	0.015	0.046	0.0034	0.26	0.0032
IMN WC2	75.05	Rem	0.0016	0.0024	0.0020	0.015	.	.	0.011	0.031	0.0023	0.41	0.0025
IMN WC3	75.28	Rem	0.0018	0.0011	0.00093	0.021	.	.	0.0058	0.0085	0.0010	0.89	0.0011
IMN WC4	75.32	Rem	0.00096	.	0.00047	0.067	.	.	0.0048	0.0051	0.00080	0.76	0.0010
IMN WC5	75.03	Rem	0.00084	0.0022	0.0019	0.18	.	.	.	0.0055	0.0011	0.48	0.0044
IMN WC6	75.32	Rem	0.0019	0.00097	0.0012	0.051	.	.	0.0037	0.0036	0.00057	0.58	0.0028
IMN MD1	67.92	Rem	.	0.0015	0.0026	0.043	0.097	0.021	0.0082	0.19	0.0096	0.078	0.0013
IMN MD2	68.99	Rem	.	0.072	0.0025	0.18	0.082	0.050	0.0061	0.015	0.0011	0.059	0.0054
IMN MD3	69.43	Rem	.	0.055	0.0018	0.085	0.062	0.070	0.0043	0.010	0.012	0.097	0.010
IMN MD4	71.53	Rem	.	0.038	0.00053	0.018	0.015	0.091	.	0.054	0.0038	0.0066	0.21
IMN MD5	71.06	Rem	.	0.018	(0.00004)	0.081	0.017	0.064	0.00089	0.0023	0.0065	0.016	0.021
IMN MD6	70.77	Rem	.	(0.00022)	0.000044	.	0.00073	0.039	.	0.044	0.00058	.	0.019
IMN ME2	71.29	Rem	.	.	.	.	.	.	.	.	.	.	0.87
IMN ME3	70.70	Rem	.	.	.	.	.	.	.	.	.	.	1.11
IMN ME4	69.40	Rem	.	.	.	.	.	.	.	.	.	.	1.21
IMN ME5	68.53	Rem	.	.	.	.	.	.	.	.	.	.	1.42
IMN MB1	60.66	39.39	.	.	.	.	.	.	.	.	.	.	.
IMN MB2	67.17	32.80	.	.	.	.	.	.	.	.	.	.	.
IMN MB3	73.26	26.67	.	.	.	.	.	.	.	.	.	.	.
IMN MB4	78.77	21.20	.	.	.	.	.	.	.	.	.	.	.
IMN MB5	84.25	15.63	.	.	.	.	.	.	.	.	.	.	.
IMN MB6	90.07	9.95	.	.	.	.	.	.	.	.	.	.	.
IMN MB7	95.00	4.99	.	.	.	.	.	.	.	.	.	.	.

RM TRACE ELEMENTS IN BRASS

cast 50 mm Ø x 10 - 12 mm

Number	Cu	Zn	Al	As	Bi	Fe	Mn	Ni	Pb	Sb	Si	Sn
C30.10	93.8	6.1	<0.002	<0.005	<0.002	<0.005	<0.005	<0.01	<0.01	<0.005	<0.005	<0.01
C30.09	89.5	rem	<0.002	<0.005	<0.002	<0.005	<0.005	<0.01	<0.01	<0.005	<0.005	<0.01
C30.08	85.1	rem	<0.002	<0.005	<0.002	<0.005	<0.005	<0.01	<0.01	<0.005	<0.005	<0.01
C30.07	82.0	rem	<0.002	<0.005	<0.002	<0.005	<0.005	<0.01	<0.01	<0.005	<0.005	<0.01
C30.06	74.8	rem	<0.005	<0.005	<0.002	<0.005	<0.005	<0.01	<0.01	<0.005	<0.005	<0.01
CURM 30.05	69.48	30.53	<0.001	<0.001	<0.003	<0.003	<0.0005	<0.0005	0.002	<0.005	0.001	<0.001
CURM 30.04	64.34	35.62	<0.001	<0.001	<0.003	0.009	<0.001	<0.001	0.003	<0.005	0.016	0.009
C38.06	~62	rem	<0.001	<0.005	<0.001	<0.002	<0.002	<0.005	<0.005	<0.002	<0.002	<0.002
C30.17	61.6	rem	<0.005	<0.005	<0.005	1.4	<0.005	0.01	0.01	<0.005	<0.005	<0.01
C30.16	61.2	rem	<0.002	<0.005	<0.002	0.90	<0.005	<0.01	<0.01	<0.005	<0.005	<0.01
C38.01	61	rem	0.003	0.03	<0.0005	0.01	0.009	0.01	0.20	0.02	<0.0005	0.20
C38.02	61	rem	0.004	0.06	0.005	0.09	0.14	0.03	0.10	0.06	0.01	0.10
C38.03	61	rem	0.07	0.08	0.008	0.05	0.07	0.13	0.06	0.08	0.07	0.05
C38.04	61	rem	0.02	0.04	0.008	0.04	0.22	0.06	0.03	0.12	0.12	0.02
C38.05	61	rem	0.12	0.01	0.01	0.008	0.02	0.19	0.02	0.01	0.14	0.01
C30.12	60.85	rem	<0.005	<0.005	<0.002	<0.005	0.90	0.52	<0.01	<0.005	<0.005	<0.01
C30.03	60.6	39.3	<0.002	<0.005	<0.005	<0.005	<0.005	<0.01	<0.01	<0.005	<0.005	<0.01
C30.13	60.6	rem	<0.002	<0.005	<0.002	<0.005	1.9	<0.01	<0.01	<0.005	<0.005	<0.01
C30.15	60.6	rem	<0.002	<0.005	<0.002	0.55	<0.005	<0.01	<0.01	<0.005	<0.005	<0.01
C30.14	60.5	rem	<0.005	<0.005	<0.005	<0.01	2.4	1.0	<0.01	<0.005	<0.005	<0.005
C30.22	58.28	rem	<0.003	0.011	<0.005	0.006	<0.005	<0.01	1.05	<0.012	<0.005	0.009
C30.02	55.6	rem	<0.002	<0.005	<0.005	<0.005	<0.005	<0.005	<0.01	<0.005	<0.005	<0.01
C30.01	51.48	rem	<0.002	<0.005	0.005	<0.005	<0.005	<0.005	<0.01	<0.005	<0.005	<0.01

RM BRASS MUSHROOMS

chill cast typical analysis

60 mm Ø x 5 mm

Number	Zn	Cu	Al	As	Be	Fe	Ni	Mg	Mn	P	Pb	Sb	Si	Sn
CTIF L 7	42.45	55.6	0.308	.	.	0.031	0.020	.	0.62	.	0.71	.	0.13	0.038
CTIF L 1-1	39.7	59.60	0.015	.	.	0.017	0.106	.	.	0.080	0.062	.	0.36	0.046
CTIF L 2	35.55	61.55	0.485	.	.	0.216	0.71	.	0.350	.	0.408	.	0.202	0.48
CTIF L 4-1	34.55	61.75	0.100	.	.	0.466	0.227	.	0.109	.	2.017	.	0.12	0.693
CTIF L 3	32.70	62.35	0.91	.	.	0.36	0.90	.	0.205	.	1.02	.	0.034	1.50
CTIF L 5-1	31.5	60.9	0.64	0.13	.	(1.0)	0.494	.	0.50	(0.15)	2.99	0.174	(0.47)	0.88
CTIF L 6	30.26	66.55	0.139	.	.	0.085	1.21	.	0.055	.	0.205	.	1.25	0.250
CTIF L 23	17.90	81.20	.	0.051	.	0.246	0.033	.	.	0.05	0.058	.	0.280	0.20
CTIF UZ 52	16.90	81.18	.	.	0.014	0.32	0.084	0.04	0.002	0.068	0.11	0.08	0.12	1.06
CTIF UZ 53	16.67	82.60	.	0.01	.	0.255	0.025	.	<0.001	0.055	0.025	.	0.145	0.205
CTIF L 21	15.40	82.50	.	0.103	.	0.086	0.156	.	0.004	0.05	0.209	0.10	0.036	1.5
CTIF L 22	15.0	84.3	<0.02	<0.006	.	0.20	0.10	.	<0.01	.	0.10	.	<0.05	1.0
CTIF L 20	13.10	85.55	0.008	0.122	.	0.115	0.205	.	0.043	.	0.27	.	0.035	0.56

BRASS

= class, where 1 = CRM and 2 = RM SRM: wrought 31 mm Ø x 19 mm CURM: cast 50 mm Ø x 10-12 mm others: chill cast ~40-43 mm Ø x ~15-18 mm

#	Number	Zn	Cu	Al	As	Bi	Fe	Mn	Ni	Pb	Sb	Si	Sn
1	31X B1	43.76	56.07	0.0011	0.0029	0.0044	0.0193	0.0022	0.0089	0.039	0.0040	0.0141	0.0234
1	31X B25	40.83	56.95	0.470	0.0284	0.0594	0.056	0.127	0.236	0.298	0.0843	0.254	0.613
1	31X B2	39.57	60.13	0.0172	0.0222	0.0107	0.0191	0.0249	0.0124	0.0129	0.0207	(0.0072)	0.151
1	31X B18	39.11	59.82	0.0235	0.0196	0.0051	0.0185	0.00110	0.0143	0.916	0.0129	0.018	0.045
2	CURM 30.15	38.88	60.66	<0.001	.	.	0.50	<0.001	<0.001	<0.005	.	<0.005	<0.002
2	CURM 30.16	38.33	60.53	<0.001	.	.	1.14	<0.001	<0.001	<0.005	.	<0.005	<0.002
2	CURM 30.11	38.17	59.86	<0.001	.	.	0.002	0.23	1.70	0.005	.	<0.001	<0.002
2	SRM 1107	37.3	61.2	.	.	.	0.037	.	0.098	0.18	.	.	1.04
1	31X TB2	37.16	61.97	0.084	0.101	0.031	0.072	0.088	0.093	0.107	0.051	0.042	0.105
1	31X TB1	36.90	61.39	0.210	0.153	0.049	0.038	0.314	0.220	0.201	0.104	0.093	0.231
1	31X B11	36.65	60.72	0.0262	0.0061	0.0054	0.802	0.653	1.033	0.0134	0.0057	0.0063	0.0117
1	31X TB3	36.56	62.98	0.0247	0.0496	0.0214	0.032	0.0350	0.0401	0.110	0.026	0.0226	0.075
1	31X B28	35.47	64.02	0.034	.	.	0.0490	0.094	0.083	0.081	.	.	0.0126
1	31X B10	35.36	61.01	0.472	0.0062	0.0086	1.25	0.206	1.572	0.0161	0.0126	0.034	0.0386
1	31X TB4	34.86	65.00	(0.0004)	0.0065	0.0056	0.0229	0.0021	0.0114	0.0225	0.0064	(0.0027)	0.0356
1	31X B3	33.89	65.80	0.0114	0.0200	0.0127	0.065	0.0187	0.059	0.024	0.0096	0.017	0.0268
1	31X B21	29.50	69.24	0.121	0.108	0.114	0.129	0.0647	0.107	0.120	0.130	0.147	0.132
1	31X B4	28.39	71.10	.	0.046	0.0076	0.026	0.0074	0.0571	0.064	0.0076	0.025	0.073
1	31X B5	23.60	76.22	(0.001)	0.0054	0.0063	0.056	0.0006	0.0085	0.021	0.0057	(0.001)	0.045
2	31X B6	20.0	80.0	(<0.005)	(<0.005)	(<0.005)	(<0.005)	(<0.005)	(<0.005)	(<0.005)	(<0.005)	(<0.005)	(<0.005)
1	31X B27	17.65	80.65	0.0015	0.048	0.0320	0.111	0.0059	0.0315	0.492	0.0243	0.0044	0.985
1	31X B22 *	15.5	rem	0.04	0.16	0.17	0.16	0.097	0.14	0.15	0.15	0.045	0.16
1	SRM 1110	15.2	84.5	.	.	.	0.033	.	0.053	0.033	.	.	0.051
1	31X B7	15.01	84.80	<0.005	0.0016	0.066	0.018	(0.0002)	0.020	0.010	0.0019	<0.005	0.101
1	SRM 1111	12.8	87.1	.	.	.	0.010	.	0.022	0.013	.	.	0.019
1	31X B23	9.97	89.57	0.0048	0.0482	0.0463	0.060	0.0053	0.047	0.046	0.0448	0.0046	0.060
1	31X B8	9.52	90.28	(0.0013)	0.0081	0.0031	0.0267	0.0012	0.0083	0.072	0.0108	0.0051	0.035
2	31X B95	4.99	94.4	(<0.005)	(0.008)	(0.007)	(0.007)	(<0.001)	(<0.001)	(<0.001)	(<0.001)	(0.01)	0.45
1	31X B9	3.83	96.05	(0.0005)	0.0053	0.0068	0.0168	0.0017	0.0129	0.0549	0.0075	0.0036	0.0245
1	31X B24	1.99	95.65	(0.0024)	0.0116	0.0126	0.0342	0.0030	0.134	0.050	0.118	.	1.93

#	Number	Zn	Cu	Al	As	Bi	Fe	Mn	Ni	Pb	Sb	Si	Sn
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Number	B	C	Cd	Co	Cr	Hg	P	S	Se
31X B1	0.0019	0.0184	.	.
31X B25	(0.0045)	0.093	.	.
31X B2	0.0056	.	.	(0.0002)
31X B18	.	.	.	.	.	.	0.0117	<0.005	.
CURM 30.15	.	.	.	.	.	.	.	.	.
CURM 30.16	.	.	.	.	.	.	.	.	.
CURM 30.11	.	.	.	.	.	.	.	.	.
SRM 1107	.	.	.	.	.	.	.	.	.
31X TB2	.	0.0040	.	.	.	.	.	.	.
31X TB1	0.0006	.	0.0114	.	0.084	.	.	.	0.006
31X B11	.	.	.	.	.	.	.	.	.
31X TB3	0.0004	0.0023	.	.	.	.	.	.	.
31X B28	.	.	0.0072	.	0.073	0.0007	.	(0.0018)	.
31X B10	.	.	.	.	.	.	.	.	.
31X TB4	0.0021	0.0018	.	.	.	.	.	.	.
31X B3	0.0031	.	.	.	.	.	.	.	.
31X B21	0.0050	.	.	.	.	.	0.100	(0.002)	.
31X B4	.	.	0.0330	0.033	0.087	.	(0.023)	0.0091	.
31X B5	0.0002	.	0.00050	0.0062	0.0002	.	.	.	.
31X B6	.	.	.	.	.	.	.	.	.
31X B27	(0.0005)	(0.0014)	.	.	.	.	0.0159	0.0080	.
31X B22 *	0.004	.	0.011	0.14	.	.	0.20	0.03	.
SRM 1110	.	.	.	.	.	.	.	.	.
31X B7	0.0030	.	.	.	.	.	.	.	.
SRM 1111	.	.	.	.	.	.	.	.	.
31X B23	.	.	0.0010	0.0472	.	.	0.030	0.053	.
31X B8	0.0021	.	.	.	.	.	.	.	.
31X B95	.	.	.	.	.	.	<0.001	(<0.001)	.
31X B9	(0.0003)	0.0029
31X B24	.	.	0.0008	.	.	.	0.0065	0.050	.

* Provisional Analysis

Number	B	C	Cd	Co	Cr	Hg	P	S	Se
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ALUMINUM BRASS

= class, where 1 = CRM and 2 = RM

#	Number	Al	Zn	Cu	As	Bi	Fe	Mn	Ni	Pb	Sb	Si	Sn	Other	Units
2	CTIF LH 1-1	7.99	16.75	65.05	.	.	4.48	5.18	0.0944	0.022	0.081	0.205	(0.007)	P: 0.079	60 mm Ø x 5 mm
2	CTIF LH 2	6.20	21.95	61.98	.	.	2.98	3.65	3.00	0.080	.	0.086	0.055	.	60 mm Ø x 5 mm
2	CTIF LH 6-1	6.09	18.98	63.18	.	.	(3.1)	4.54	3.19	0.25	.	0.20	0.257	.	60 mm Ø x 5 mm
1	31X B17	6.05	33.9	60.0	(0.015)	(<0.005)	(0.02)	(<0.005)	(0.01)	(0.05)	(<0.005)	(0.007)	0.010	.	~40 mm Ø x ~15-18 mm
1	BAM 388	4.972	4.81	89.27	.	.	0.0303	0.0512	0.00736	0.000969	.	.	0.857	.	40 mm Ø x 30 mm
2	C30.19	4.65	rem	69.9	<0.005	<0.002	<0.005	<0.005	<0.01	<0.01	<0.01	<0.005	1.07	.	50 mm Ø x 10-12 mm
1	31X B14	4.22	36.2	58.9	(<0.005)	(<0.005)	0.019	(0.0009)	0.0049	(0.025)	(<0.002)	0.055	0.52	.	~40 mm Ø x ~15-18 mm
2	CTIF LH 5-1	3.65	25.72	66.0	.	.	1.26	1.37	1.57	0.110	.	0.114	0.141	.	60 mm Ø x 5 mm
2	CURM 30.18	3.28	32.33	63.66	.	.	0.006	<0.001	<0.001	<0.005	.	0.131	0.58	.	50 mm Ø x 10-12 mm
2	CTIF LH 7	3.16	(26.85)	63.40	.	.	(2.35)	2.96	0.70	0.327	.	0.055	0.227	.	60 mm Ø x 5 mm
1	31X B15	2.98	36.80	59.07	0.0048	0.0074	0.0176	0.0122	0.0102	0.0073	0.0111	0.109	0.944	Ag:0.0071 Co:0.0046	~40mmØ x ~15mm
2	C30.18	2.91	rem	64.36	<0.005	<0.003	<0.005	<0.005	<0.005	<0.01	<0.005	0.10	0.65	.	50 mm Ø x 10-12 mm
2	CURM 43.01	2.75	22.44	74.36	0.118	<0.002	0.008	0.064	0.121	<0.002	<0.001	0.063	0.116	.	50 mm Ø x 10-12 mm
2	CTIF LH 10	2.66	28.90	59.05	.	.	(1.0)	3.57	1.49	1.76	.	1.30	0.203	.	60 mm Ø x 5 mm
2	CURM 43.02	2.40	20.82	76.21	0.083	<0.001	0.128	0.035	0.068	0.064	<0.001	0.038	0.060	.	50 mm Ø x 10-12 mm
2	CURM 30.20	2.32	35.71	61.46	.	.	<0.005	<0.001	<0.001	<0.002	.	0.17	0.40	.	50 mm Ø x 10-12 mm
1	31X B16 **	2.0	37	Rem	0.003	0.003	0.005	0.002	0.005	0.025	0.01	0.20	2.1	Ag:0.003 Co:0.002	~40 mm Ø x ~15 mm
2	CTIF LH 13	2.00	31.8	55.75	.	.	(2.00)	3.14	3.22	0.67	.	0.21	1.19	.	60 mm Ø x 5 mm
2	C43.03	1.6	rem	79.7	<0.005	<0.005	0.07	<0.002	<0.005	0.10	<0.01	<0.005	<0.005	.	50 mm Ø x 10-12 mm
1	BAM 368 *	1.972	rem	77.049	0.0246	.	0.0193	0.0203	0.0258	0.01313	(0.002)	.	0.0147	P: 0.00899	40 mm Ø x 30 mm
2	C30.21	1.44	rem	56.0	<0.005	.	<0.005	<0.005	<0.005	<0.005	<0.01	0.18	1.96	.	50 mm Ø x 10-12 mm
2	CURM 30.21	1.44	40.08	56.23	.	.	0.003	<0.001	<0.001	0.004	.	0.213	2.01	.	50 mm Ø x 10-12 mm
2	CTIF LH 12	1.13	33.15	62.75	.	.	(1.2)	0.125	0.505	0.21	.	(0.06)	0.83	.	60 mm Ø x 5 mm
2	CTIF LH 11	0.46	26.20	66.80	.	.	0.36	0.71	2.91	1.26	.	0.88	0.44	.	60 mm Ø x 5 mm

* BAM 368 also contains 62.1 ppm Mg

** Provisional Analysis

CRM ALUMINUM BRASS SET

available in SET/4 only

40 mm Ø x 35 mm

Number	Al	As	Bi	Cd	Cr	Cu	Fe	Mg	Mn	Ni	P	Pb	Sb	Si	Sn	Zn
IMN W01	1.33	0.056	0.0003	0.013	0.013	78.85	0.13	0.00060	0.014	0.0043	0.0023	0.15	0.0083	0.044	0.011	Rem
IMN W02	1.76	0.041	0.0014	0.032	0.0098	77.80	0.050	0.0066	0.16	0.031	0.0090	0.098	0.00098	0.013	0.056	Rem
IMN W03	2.15	0.015	0.0047	0.039	0.0027	77.58	0.029	0.0055	0.051	0.11	0.0062	0.054	0.0035	0.007	0.0071	Rem
IMN W04	2.50	0.030	0.0098	0.0063	0.00034	76.20	0.022	0.013	0.074	0.077	0.015	0.020	0.0058	0.001	0.13	Rem

CRM BISMUTH BRASS

cast and chill cast

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

40-42 mm Ø x ~15-18 mm

Number	Bi	Zn	Cu	Al	As	B*	Cd*	Fe	Mn	Ni	P	Pb	S*	Sb	Se	Si	Sn
31X BIB3	4.05	32.46	62.48	0.0298	0.057	.	29	0.099	0.243	0.098	0.0175	0.149	(5)	0.0417	0.003	0.061	0.111
31X BIB1	1.948	36.67	59.93	0.0718	0.0282	.	82	0.113	0.0479	0.313	0.0637	0.211	(10)	0.0154	0.0064	0.099	0.488
31X BIB4	0.980	36.89	60.88	0.358	.	8	5	0.148	0.0039	0.175	0.0064	0.091	(7)	0.0144	0.0162	0.0018	0.400
31X BIB2	0.921	33.85	62.05	0.411	0.084	.	20	0.379	0.0451	0.466	0.0358	0.0617	(14)	0.119	0.0142	0.322	1.186

RM CARTRIDGE BRASS

cast typical analysis listed in mass %

50 mm Ø x 10 - 12 mm

Number	Zn	Cu	Al	As	Bi	Cd	Cr	Fe	Mg	Mn	Ni	P	Pb	S	Sb	Si	Sn
CURM 48.01	32.6	66.98	<0.001	0.067	0.038	<0.0003	*	0.049	0.0008	<0.001	0.134	0.016	0.106	<0.001	0.047	0.041	<0.002
CURM 48.02	32.58	67.16	0.013	0.025	0.004	*	0.004	0.053	*	0.067	<0.001	0.012	0.084	0.007	0.037	0.010	0.035
CURM 48.05	31.0	68.69	<0.002	<0.001	*	<0.0003	*	0.066	*	0.016	0.117	0.007	<0.003	0.013	*	0.026	0.083
C48.03	rem	70.45	0.007	0.079	0.029	0.013	0.0005	<0.001	0.001	0.040	0.030	<0.001	0.054	0.004	0.097	<0.002	0.047
C48.06	rem	71.6	0.002	0.008	0.004	0.008	0.0006	0.02	0.001	0.006	0.11	0.002	0.02	0.006	0.006	0.006	0.03
CURM 48.04	26.99	72.68	<0.001	0.034	0.014	<0.0003	<0.002	0.008	0.0005	0.012	0.096	0.006	0.043	0.011	0.026	0.004	0.018

* For the above chart, * indicates a value of <0.0005

CRM CARTRIDGE BRASS SET

available in SET/5 only

remainder is Zinc

wrought 40 mm Ø x 25 mm

Number	Ag	Al	As	Be	Bi	Cd	Cu	Fe	Mn	Ni	P	Pb	S	Sb	Si	Sn	Te
IMN MH1	0.0029	0.0010	0.0670	0.0088	0.0037	0.0260	65.93	0.0170	0.0350	0.2600	0.0160	0.0065	0.0034	0.0004	0.0740	0.1400	0.0004
IMN MH2	0.0110	0.0190	0.0410	0.0015	0.0022	0.0180	68.25	0.0270	0.0110	0.2200	0.0055	0.0210	0.0055	0.0240	0.0540	0.0970	0.0015
IMN MH3	0.0065	0.0081	0.0160	0.0003	0.0011	0.0089	71.28	0.0810	0.0850	0.1000	0.0035	0.0780	0.0090	0.0130	0.0310	0.0240	0.0046
IMN MH4	.	0.0027	0.0011	0.0045	0.0006	0.0029	69.94	0.1300	0.0017	0.0520	0.0022	0.3300	0.0043	0.0170	0.0160	0.0110	0.0035
IMN MH5	0.0250	0.0140	0.0038	0.00004	.	0.0012	72.87	0.1900	0.0720	0.0072	0.0011	0.2000	0.0180	0.0035	0.0039	0.0021	0.0047

CRM CARTRIDGE BRASS SETS

available in SETs only, as grouped

40 mm Ø x ~28 mm

Number	Cd	Cr	Cu	Se	Zn	Zr
IMN MJ1	0.00355	0.0120	67.77	0.00062	Rem	.
IMN MJ2	0.00377	0.00440	66.40	0.00037	Rem	.
IMN MJ3	0.00165	0.00158	67.39	0.00035	Rem	.
IMN MJ4	0.00130	0.00374	68.06	0.0124	Rem	.
IMN MJ5	0.000360	0.00065	(67.82)	0.00288	Rem	.
IMN MJJ1	.	.	67.82	.	Rem	0.0454
IMN MJJ2	.	.	(68.03)	.	Rem	0.00017
IMN MJJ3	.	.	67.87	.	Rem	0.00070
IMN MJJ4	.	.	67.75	.	Rem	0.0074

CRM FREE CUTTING BRASS SET

available in SET/5 only

40 mm Ø x 25 mm

Number	Al	As	Bi	Cu	Fe	Mn	Ni	P	Pb	Sb	Si	Sn	Zn
IMN WN1	0.33	0.035	0.023	58.44	0.23	0.57	0.29	0.031	0.51	0.099	0.16	1.00	Rem
IMN WN2	0.24	0.011	0.035	60.38	0.29	0.73	0.19	0.051	1.58	0.10	0.22	0.68	Rem
IMN WN3	0.14	0.032	0.020	62.32	0.062	0.39	0.098	0.034	2.62	0.020	0.12	0.39	Rem
IMN WN4	0.047	0.021	0.0094	57.97	0.11	0.13	0.050	0.014	0.86	0.061	0.036	0.13	Rem
IMN WN5	(0.0004)	0.030	0.0028	64.36	0.0085	0.0020	0.0049	0.0051	3.78	0.0035	(0.0013)	0.019	Rem

CRM LEADED BRASS

= class, where 1 = CRM and 2 = RM

#	Number	Pb	Sn	Zn	Cu	Al	As	Bi	Co	Fe	Mn	Ni	P	Sb	Si
1	IARM 250A	7.2	2.46	9.7	80.2	(0.002)	.	0.02	(0.002)	0.17	<0.002	0.33	0.003	0.052	0.003
1	IARM 86D	5.4	4.9	4.6	(84.5)	(0.002)	0.007	0.042	0.004	0.035	0.0011	0.40	0.072	0.112	(0.002)
2	BS 836A-1	5.32	4.59	4.52	84.64	(0.001)	0.008	.	.	0.023	(0.002)	0.46	0.08	0.068	0.003
1	33X RB1	5.02	2.137	7.95	83.25	0.0048	0.0030	0.0029	0.0558	0.928	0.0167	0.0539	0.020	0.432	0.063
1	31X B20	4.43	0.0244	37.03	58.53	0.0025	0.0028	0.0025	.	0.024	0.0005	0.021	0.0230	0.0039	(0.0051)
1	33X RB2	3.85	3.19	9.14	82.67	0.0362	0.0211	0.101	0.0352	0.493	0.0028	0.255	0.0208	0.019	0.0116
1	BAM 375	2.90	0.2090	38.02	58.32	0.0270	0.0231	0.00686	0.01964	0.207	0.0222	0.1053	(0.00086)	0.0122	0.0211
1	BS 360B	2.77	0.15	35.7	(61.2)	(0.001)	0.002	.	(0.002)	0.117	0.0094	0.040	(0.002)	0.017	0.002
1	31X 7835-1	2.699	0.293	35.31	61.20	0.0319	0.0201	0.0113	0.0232	0.118	.	0.143	0.0222	0.0161	0.010
1	31X B19	2.51	0.035	38.50	58.85	(0.004)	0.0110	0.0047	.	0.028	0.0055	0.0127	0.031	0.0134	0.004
1	31X 7835-7	2.29	0.137	7.50	88.87	0.0084	.	0.048	0.0120	0.030	.	0.943	0.080	0.0327	0.039
1	31X 7835-2	2.08	0.211	31.86	64.03	0.172	0.0225	0.0084	0.0279	0.094	.	1.35	0.0276	0.0240	0.0217
1	31X 7835-5	1.64	0.116	6.23	91.25	0.078	0.104	.	.	0.126	.	0.249	0.018	0.114	.
1	IARM 87B	1.58	0.78	36.1	60.9	0.20	0.007	0.003	0.007	0.29	0.006	0.095	0.008	0.014	0.004
1	31X 7835-6	1.498	0.080	38.05	59.67	0.546	0.0006	0.0026	0.0005	0.091	.	0.0173	<0.0005	0.0127	(0.001)
1	31X 7835-3	1.274	0.0912	35.34	62.10	0.384	0.098	0.0257	0.0053	0.299	.	0.282	0.042	0.104	0.022
2	BS 857B-1	1.22	1.14	34.91	61.3	0.35	(0.001)	.	.	0.30	0.003	0.61	0.004	(0.002)	0.004
1	31X 7835-4	1.049	0.070	30.36	67.13	0.525	0.142	0.0169	0.0027	0.0350	.	0.477	0.121	0.068	.
1	31X B26	0.752	1.62	29.81	62.80	1.12	0.112	0.096	0.113	1.08	0.474	1.68	0.054	0.116	0.195

Number	Ag	B	Be	C	Cd	Cr	Mg	O	S	Se	Te	Units
IARM 250A	0.02	.	.	<0.005	.	<0.003	.	.	0.046	.	.	31 mm Ø x 2 or 18 mm
IARM 86D	0.022	.	.	(0.003)	.	.	.	.	0.029	.	.	31 mm Ø x 2 or 18 mm
BS 836A-1	0.023	.	.	.	.	.	.	.	0.042	.	.	cont. cast 38 mm Ø x 12 mm
33X RB1	0.0174	.	.	.	.	0.0013	0.0153	.	0.0044	.	.	chill cast 42 mm Ø x 17 mm
31X B20	.	.	.	.	.	.	.	.	(0.004)	.	.	chill cast ~40 mm Ø x ~15 mm
33X RB2	0.0029	.	.	.	.	0.0017	0.0008	.	0.078	.	.	chill cast 42 mm Ø x 17 mm
BAM 375	0.0166	.	.	.	0.00859	.	.	.	.	.	0.00538	wrought 40 mm Ø x 30 mm
BS 360B	0.006	.	(0.001)	(0.002)	.	(0.0001)	.	0.0007	(0.0005)	.	(0.002)	38 mm Ø x 12 mm
31X 7835-1	.	0.0012	.	.	0.0028	.	.	.	.	(0.0008)	.	~40 mm Ø x ~15 mm
31X B19	.	.	.	.	.	.	.	.	(0.0023)	.	.	chill cast ~40 mm Ø x ~15 mm
31X 7835-7	.	.	.	.	0.0047	.	.	.	0.0075	.	.	chill cast 40 mm Ø x ~15 mm
31X 7835-2	.	(0.0016)	.	.	0.0026	.	.	.	.	0.003	.	chill cast 42 mm Ø x 18 mm
31X 7835-5	.	.	.	.	.	.	.	.	.	.	.	chill cast 42 mm Ø x 18 mm
IARM 87B	(0.01)	.	.	0.003	.	(0.002)	.	.	(0.001)	.	.	31 mm Ø x 2 or 18 mm
31X 7835-6	.	0.0005	.	.	0.0010	.	.	.	0.0017	0.0007	.	chill cast 42 mm Ø x 18 mm
31X 7835-3	.	0.0014	.	.	0.0030	.	.	.	.	0.0010	.	chill cast 40 mm Ø x 15 mm
BS 857B-1	(0.002)	.	.	.	.	.	.	.	.	.	.	cont. cast 38 mm Ø x 12 mm
31X 7835-4	.	0.0021	.	.	0.0088	.	.	.	.	.	.	chill cast 40 mm Ø x ~15 mm
31X B26	.	0.0011	.	.	0.0172	.	.	.	.	.	.	chill cast ~40 mm Ø x ~15 mm

CRM LEADED BRASS SET

available in SET/6 only

40 mm Ø x 30 mm

Number	Al	Bi	Cu	Fe	Mn	Ni	P	Pb	Sb	Si	Sn	Zn
IMN WG1	0.096	0.0013	60.99	0.0084	0.16	0.20	0.029	0.71	(0.062)	(0.0046)	0.29	Rem
IMN WG2	(0.00095)	0.016	56.99	0.42	(0.0024)	0.0051	.	2.66	(0.0024)	(0.021)	(0.0025)	Rem
IMN WG3	0.041	0.0057	58.20	0.31	0.037	0.029	0.013	2.29	0.018	(0.014)	0.091	Rem
IMN WG4	0.073	0.014	60.05	0.10	0.12	0.16	0.020	1.41	(0.042)	(0.016)	0.21	Rem
IMN WG5	0.058	0.0094	59.32	0.18	0.074	0.078	0.016	1.66	0.034	(0.022)	0.14	Rem
IMN WG6	0.020	0.023	60.67	0.18	0.21	0.29	0.044	3.70	(0.0078)	(0.019)	0.40	Rem

MANGANESE BRASS

= class, where 1 = CRM and 2 = RM chill cast analysis listed in mass % except * which is mg/kg 31X: 40-42 mm Ø x ~15-18 mm

#	Number	Mn	Zn	Cu	Al	Fe	Ni	Pb	Si	Sn	As	Co	P	Sb	Ag*	Bi*	Cd*	Cr*
1	31X MNB12	17.88	22.12	56.16	0.749	0.335	0.491	1.99	0.013	0.231	0.0022	0.0012	0.019	0.0056	.	21	12	38
1	31X MNB11	11.99	22.85	57.36	1.19	0.337	4.46	1.610	0.071	0.161	0.0010	0.0046	0.0186	0.0051	.	21	9	46
1	31X MNB4 **	2.95	25.7	Rem	3.85	1.72	0.33	0.22	0.105	0.55	0.01	0.03	0.03	0.018	120	.	.	.
1	31X B13	2.84	36.67	60.03	0.0148	0.182	0.212	0.0188	0.032	0.0127	0.0120	.	.	0.0056	.	116	.	.
1	31X MNB3	2.77	24.10	68.20	0.98	1.306	0.208	0.458	1.36	0.549	0.0052	0.048	0.0170	0.0054	103	.	.	.
1	31X MNB2	2.08	31.30	63.75	0.272	0.548	0.118	0.983	0.579	0.289	0.0201	0.0086	0.0246	0.0177	410	.	.	.
1	31X B12	1.720	36.66	60.51	0.081	0.430	0.491	0.0244	0.0207	0.0229	0.0181	.	.	0.0194	.	198	.	.
1	31X MNB6	0.871	28.51	70.01	0.0148	0.0697	0.261	0.016	0.0196	0.0308	0.0107	0.0107	0.0226	0.0128	509	.	.	.
1	31X MNB1	0.188	29.37	67.77	0.599	0.268	0.053	1.44	0.128	0.105	.	.	.	.	.	.	.	.
1	31X MNB5	0.175	37.11	55.14	3.24	0.898	1.32	0.157	0.528	1.228	0.0021	0.066	0.0399	(0.006)	195	.	.	116

** Provisional Analysis

CRM MANGANESE BRASS DISC AND ROD SETS

available in SETS ONLY, as grouped IMN MA: 10 mm Ø x 100 mm IMN WF: 44 mm Ø x 30 mm

Number	Al	As	Bi	Cu	Fe	Mn	Ni	P	Pb	Sb	Si	Sn	Zn
IMN MA1	1.51	0.085	0.0020	55.50	0.073	3.37	0.39	0.10	0.16	0.0061	0.071	1.04	Rem
IMN MA2	3.35	0.0081	0.0029	60.88	1.27	1.30	0.011	0.015	0.020	0.0019	0.042	0.41	Rem
IMN MA3	.	0.029	0.028	57.04	0.55	0.78	0.13	0.040	0.049	0.14	0.50	0.74	Rem
IMN MA4	0.33	.	.	57.40	0.20	2.75	0.69	0.15	.	0.20	0.27	0.15	Rem
IMN MA5	1.04	0.11	0.020	58.51	0.70	1.97	1.01	0.062	1.20	0.072	0.65	0.046	Rem
IMN MA6	2.15	0.013	0.0072	60.45	1.72	0.50	0.056	0.019	0.60	0.016	0.013	0.13	Rem
IMN WF1	.	.	0.00059	56.47	0.097	2.16	0.010	(0.0012)	0.010	0.00058	.	0.012	Rem
IMN WF2	.	.	0.00091	57.66	0.21	1.79	0.040	(0.0032)	0.040	0.0018	.	0.045	Rem
IMN WF3	.	.	0.0015	58.66	0.29	1.36	0.10	0.0075	0.070	0.0036	.	0.072	Rem
IMN WF4	.	.	0.0021	60.50	0.42	0.57	0.15	0.0095	0.10	0.0045	.	0.11	Rem
IMN WF5	.	.	0.0030	58.77	0.68	0.52	0.18	0.014	0.14	0.0061	.	0.16	Rem
IMN WF6	.	.	0.00095	59.78	0.05	0.98	0.074	0.0020	0.026	.	.	0.028	Rem

NAVAL BRASS

= class, where 1 = CRM and 2 = RM 31X NB: 42 mm Ø x 17-18 mm BS: 38 mm Ø x 12 mm CURM: 50 mm Ø x 10-12 mm IARM 74: 31 mm Ø x 2 or 18 mm

#	Number	Sn	Pb	Zn	Cu	Al	As	Bi	Fe	Mn	Ni	P	S	Sb	Si	Ag	B	Co
2	CURM 42.25	2.72	0.0023	39.20	57.78	0.021	0.118	<0.001	0.003	0.169	<0.001	0.050	0.005	<0.001	<0.001	.	.	.
2	CURM 42.24	2.25	0.91	33.75	62.45	0.067	0.065	0.054	0.066	0.065	0.025	0.226	0.012	0.060	0.093	.	.	.
2	C42.25	2.2	<0.01	rem	58.5	0.02	0.10	<0.002	<0.005	0.13	<0.005	0.06	0.001	<0.005	<0.002	.	.	.
1	31X NB 4	2.01	0.067	32.57	63.71	0.178	0.0062	0.104	0.235	0.0053	0.230	0.230	(0.0032)	0.450	0.203	.	0.0009	.
1	IARM 76C	1.67	0.197	24.64	72.45	0.094	0.074	0.093	0.113	0.0166	0.0299	0.150	(0.006)	0.265	0.145	.	0.0026	.
2	CURM 42.23	1.63	0.575	22.13	74.36	0.008	0.168	0.034	0.354	0.019	0.168	0.128	0.045	0.356	0.015	.	.	.
2	CURM 42.22	1.10	1.10	26.32	70.46	0.042	0.217	0.046	0.23	0.122	0.061	0.177	<0.001	0.173	0.042	.	.	.
1	31X NB 2	1.06	0.293	28.82	68.93	0.085	0.105	0.052	0.095	0.116	0.065	0.091	<0.002	0.115	0.096	.	.	.
1	IARM 74B	0.70	0.017	38.9	60.4	0.003	<0.01	.	0.011	<0.01	0.006	(0.008)	(0.003)	0.003	0.003	.	.	.
1	IARM 76C	0.66	1.6	37.2	60.4	(0.004)	(0.003)	.	0.013	(0.001)	0.003	0.003	(0.001)	(0.004)	(0.003)(0.002)	.	.	.
2	BS 482A	0.65	0.50	38.8	60.0	(0.003)	<0.002	0.020	<0.002	(0.007)	<0.003	<0.002	0.0012	(0.002)	.	.	.	.
2	BS 464A	0.62	0.056	38.73	60.6	(0.001)	<0.002	0.013	0.0002	0.004	0.012	0.001	(0.001)	<0.01	.	.	.	.
2	CURM 42.21	0.60	0.259	31.61	66.78	0.003	<0.003	0.013	0.119	<0.001	0.120	0.087	0.034	0.25	0.15	.	.	.
2	BS 464	0.61	0.034	39.0	Rem.	<0.005	<0.005	0.08	<0.005	0.02	0.009	(0.001)	0.007	<0.005	.	.	.	.
1	IARM 75B	0.59	0.63	38.0	60.63	(0.005)	(0.004)	(0.001)	0.06	(0.003)	0.02	0.003	(0.001)	(0.004)	(0.003)	.	.	.
2	C42.21	0.54	0.23	rem	66.1	0.005	<0.005	0.012	0.06	<0.005	0.096	0.081	0.007	0.19	0.081	.	.	.
1	31X NB 1	0.535	0.504	29.73	68.35	(0.0004)	0.161	0.0065	0.037	0.051	0.520	0.0223	0.0024	0.0057	0.004	.	.	(0.0006)
1	IARM 74A	0.50	0.02	38.14	.	<0.01	.	.	0.01	<0.01	0.01	0.006	0.001	<0.01	.	.	.	.

CRM NAVAL BRASS SET

available in SET/5 only 40 mm Ø x 25 mm

Number	Al	Bi	Cu	Fe	Mn	Ni	P	Pb	Sb	Si	Sn	Zn
IMN WK1	0.11	0.014	59.97	0.28	0.13	0.28	0.030	0.17	0.024	0.30	0.11	Rem
IMN WK2	0.080	0.011	60.54	0.16	0.088	0.21	0.017	0.33	0.018	0.29	1.34	Rem
IMN WK3	0.045	0.0088	62.09	0.066	0.046	0.13	0.017	0.11	0.012	0.16	0.49	Rem
IMN WK4	0.013	0.0052	63.28	0.085	0.020	0.070	0.010	0.050	0.0056	0.082	1.04	Rem
IMN WK5	0.0042	0.0011	64.92	0.0092	0.0056	0.0055	0.0056	0.0062	0.0027	0.0064	0.47	Rem

CRM NICKEL AND PHOSPHOR BRASS

analysis listed in mass %

Number	Ni	P	Cu	Zn	Al	Cd	Cr	Fe	Mn	Pb	Sn	Units
31X B29	4.11	3.33	67.08	24.75	0.219	0.0144	0.062	0.144	0.0625	0.146	0.0328	40 mm Ø x ~15 mm
BAM 387	5.020	.	75.18	19.57	.	.	.	0.0617	0.0796	0.00108	0.00301	40 mm Ø x 30 mm

CRM NICKEL BRASS SETS

available in SETS ONLY, as grouped analysis listed in mass % except * which is mg/kg IMN WH, WM: 40 mm Ø x 25 mm IMN WP: 40 mm Ø x 30 mm

Number	Ni	Zn	Cu	Al	As	Bi	C*	Cd	Co	Fe	Mg	Mn	P	Pb	S	Sb	Si	Sn
IMN WP1	5.45	Rem	67.15	0.020	0.0012	0.00080	.	0.0019	.	0.020	.	0.0069	0.020	0.52	.	0.0010	(0.01)	0.0042
IMN WP2	7.79	Rem	65.08	0.0090	0.0049	0.0052	.	0.0052	.	0.12	.	0.040	0.0067	0.82	.	0.0052	(0.009)	0.11
IMN WP3	10.24	Rem	63.05	0.0020	0.011	0.012	.	0.011	.	0.20	.	0.15	0.0079	1.52	.	0.012	(0.03)	0.18
IMN WP4	12.38	Rem	60.91	0.039	0.015	0.016	.	0.016	.	0.31	.	0.35	0.011	(2)	.	0.015	(0.04)	0.26
IMN WP5	15.63	Rem	58.70	0.049	0.021	0.021	.	0.026	.	0.026	.	0.49	0.0027	(1.8)	.	0.028	(0.03)	0.33
IMN WP6	4.27	Rem	69.37	.	.	.	.	.	.	.	.	.	.	2.41	.	.	.	.
IMN WM1	5.03	25.35	69.06	0.083	0.00026	0.011	44	0.0046	0.021	0.011	0.0054	0.38	0.0018	0.018	0.017	0.00098	0.0026	0.0036
IMN WM2	6.66	24.18	68.41	0.050	0.0030	0.014	52	0.022	0.017	0.022	0.019	0.53	0.023	0.011	0.0058	0.013	0.0067	0.011
IMN WM3	6.09	23.57	69.85	0.033	0.0053	0.0055	58	0.0024	0.011	0.077	0.0042	0.19	0.0052	0.0073	0.0073	0.0043	0.037	0.098
IMN WM4	5.36	23.19	71.10	0.0080	0.0072	0.0029	72	0.0021	0.0099	0.13	0.0027	0.011	0.0057	0.0044	0.0058	0.0059	0.071	0.075
IMN WM5	4.68	25.90	68.99	0.0012	0.0089	0.0007	90	0.00077	0.0021	0.22	0.00056	0.0024	0.016	0.0020	0.0030	0.0068	0.094	0.035
IMN WH1	5.70	Rem	68.16	.	.	.	(46)	.	0.0061	0.0052	.	0.56	0.0029	.	(0.0055)	.	0.010	.
IMN WH2	6.34	Rem	69.14	.	.	.	(58)	.	0.017	0.038	.	0.36	0.0072	.	(0.0071)	.	0.038	.
IMN WH3	3.44	Rem	70.18	.	.	.	(70)	.	0.031	0.11	.	0.25	0.013	.	(0.011)	.	0.072	.
IMN WH4	4.14	Rem	71.15	.	.	.	(75)	.	0.048	0.13	.	0.11	0.015	.	(0.017)	.	0.12	.
IMN WH5	4.89	Rem	72.28	.	.	.	(87)	.	0.028	0.22	.	0.011	0.017	.	(0.021)	.	0.17	.

SILICON BRASS

= class, where 1 = CRM and 2 = RM * Provisional Analysis

Number	Si	Zn	Cu	Al	Fe	Mn	Ni	P	Pb	Sb	Sn
2 CTIF LS2	4.91	11.60	79.60	0.156	1.022	0.220	1.110	0.064	0.886	0.0103	0.338
1 31X WSB1	4.58	6.14	84.61	0.957	0.557	0.964	0.229	0.044	0.435	0.048	0.525
1 31X WSB4	4.56	5.03	88.29	0.327	0.241	0.342	0.092	0.065	0.432	0.067	0.192
2 CTIF LS1	4.35	16.3	77.7	(0.02)	0.448	0.039	0.55	0.128	0.213	.	0.243
1 31X WSB7	4.20	6.73	74.07	3.74	1.82	3.28	2.94	0.248	0.107	0.610	1.81
1 31X WSB2	4.04	12.24	82.72	0.080	0.183	0.096	0.198	0.029	0.166	0.0302	0.134
1 37X 226	3.55	2.82	91.58	0.0020	1.51	0.577	0.0024	0.0022	(0.001)	.	0.0030
1 31X WSB3	3.44	11.96	81.14	0.509	0.22	1.06	0.371	0.033	0.397	0.028	0.607
2 CTIF LS3	3.3	19	76	0.43	0.10	0.15	0.11	0.011	0.58	0.107	0.15
1 IARM 151B	3.11	12.94	84.0	0.002	0.024	0.002	0.011	0.003	0.013	.	0.009
1 IARM 313A *	3.09	21.4	75.4	.	0.011	(0.001)	(0.004)	0.09	0.04	0.016	0.006
1 31X WSB6	2.48	0.881	94.74	0.059	0.032	0.248	0.117	(0.020)	0.95	0.007	0.056

Number	As	Bi	C	Cd	Co	Cr	Mg	S	Zr	Units
CTIF LS2	.	.	.	.	.	.	.	.	.	60 mm Ø x 5 mm
31X WSB1	0.063	0.0387	.	0.0115	0.210	0.184	0.0258	.	.	42 mm Ø x 17 mm
31X WSB4	0.0290	.	.	0.0030	0.162	.	.	.	.	40 mm Ø x ~15 mm
CTIF LS1	.	.	.	.	.	.	.	.	.	60 mm Ø x 5 mm
31X WSB7	0.092	0.185	.	0.0152	0.054	0.0288	.	.	.	~40 mm Ø x ~15 mm
31X WSB2	0.0305	.	.	0.0017	0.0529	.	0.0087	(0.0021)	.	40 mm Ø x ~15 mm
37X 226	.	.	0.006	.	.	0.0023	.	0.0005	(0.0002)	57 mm Ø x 17 mm
31X WSB3	0.053	0.0195	.	0.0028	0.129	0.0480	(0.004)	(0.0024)	.	43 mm Ø x 20 mm
CTIF LS3	.	.	.	.	.	.	.	.	.	60 mm Ø x 5 mm
IARM 151B	.	.	.	.	.	(0.003)	.	<0.001	.	31 mm Ø x 2 or 18 mm
IARM 313A *	.	.	.	.	.	(0.001)	.	(0.001)	.	31 mm Ø x 2 or 18 mm
31X WSB6	0.0051	0.0056	.	0.0071	0.247	0.058	(0.001)	(0.002)	.	43 mm Ø x 20 mm

CRM SILICON BRASS SET

available in SET/7 only OES only, small holes bad for XRF

40 mm Ø x 28 mm

Number	Al	As	Bi	Cu	Fe	Mn	Ni	P	Pb	Sb	Si	Sn	Zn
IMN WB1	0.062	0.013	0.0076	78.41	0.049	0.69	0.032	0.00098	0.20	0.025	4.80	0.13	Rem
IMN WB2	0.072	0.043	0.0094	78.97	0.13	0.64	0.096	0.0084	0.42	0.055	3.86	0.0041	Rem
IMN WB3	0.035	0.026	0.0029	79.45	0.28	0.44	0.025	0.023	0.23	0.010	3.55	0.22	Rem
IMN WB4	0.083	0.020	0.0056	80.48	0.35	0.14	0.051	0.060	0.099	0.031	3.06	0.018	Rem
IMN WB5	0.018	0.0075	0.0023	80.88	0.46	0.050	0.019	0.083	0.012	0.0038	2.79	0.27	Rem
IMN WB6	0.0075	0.0043	0.0011	81.11	0.66	0.011	0.0068	0.12	0.0037	0.0025	1.99	0.049	Rem
IMN WB7	0.041	0.052	0.0084	77.69	0.033	0.88	0.068	0.017	0.098	0.031	3.95	0.39	Rem

CRM HIGH TENSILE BRASS

Number	Cu	Zn	Al	Fe	Mn	Si	As	C	Ni	P	Pb	S	Sb	Sn	Units
31X HT31	66.67	18.19	6.70	2.90	5.27	0.041	0.0006	0.006	0.196	0.0032	0.020	(0.0003)	(0.0011)	0.0149	50 mm Ø x 18 mm
31X HT37	60.33	34.69	0.0004	0.0344	2.88	1.38	0.0011	0.003	0.0105	0.003	0.623	<0.0005	0.0007	0.0116	40 mm Ø x 18 mm
31X HT38	58.77	36.66	0.960	0.0530	2.60	0.869	0.0008	0.003	0.0242	0.0024	0.051	(0.001)	(0.0006)	0.039	50 mm Ø x 18 mm

RM BRONZE MUSHROOMS

chill cast typical analysis 60 mm Ø x 5 mm

Number	Sn	Zn	Cu	Al	As	Fe	Mn	Ni	P	Pb	S	Sb	Si
CTIF B 1	15.15	0.92	82.90	0.072	.	0.088	.	0.063	0.037	0.202	0.030	0.444	0.055
CTIF B 2	13.55	0.11	85.90	(0.002)	.	0.041	.	(0.003)	0.17	0.0206	0.048	(<0.002)	0.17
CTIF B 3	12.8	2.2	80.2	0.1	.	0.2	0.20	1.5	0.45	1.6	0.04	0.2	0.07
CTIF B 4	11.10	1.34	83.75	.	.	0.021	.	0.57	0.52	2.53	0.019	0.10	0.015
CTIF B 14	10.75	0.15	87.00	<0.01	0.04	0.11	0.02	0.30	0.64	0.50	0.02	0.08	0.075
CTIF B 13	10.05	1.09	86.35	0.016	0.065	0.250	0.046	0.50	0.210	0.99	0.070	0.243	0.085
CTIF B 5	9.90	0.42	85.95	0.039	.	0.18	0.082	2.28	0.041	0.48	0.067	0.47	0.049
CTIF B 30	9.80	1.05	77.45	0.063	.	0.115	0.150	0.97	0.063	10.0	0.048	0.22	0.066
CTIF B 12	9.57	0.61	85.65	0.120	0.111	0.162	0.235	2.63	0.525	0.201	0.013	0.117	0.050
CTIF B 11	8.04	2.10	84.75	.	.	0.170	.	2.0	0.057	1.93	0.09	0.70	0.14
CTIF B 31	7.65	0.79	78.65	(0.031)	.	(0.015)	.	0.489	.	11.79	0.028	0.475	(0.047)
CTIF B 23	7.18	1.46	83.45	0.020	.	(0.040)	.	0.086	0.070	7.20	0.019	0.384	0.025
CTIF B 10	6.95	2.75	83.65	0.205	0.0075	0.165	(0.0045)	1.01	0.014	4.07	0.050	1.14	.
CTIF B 20	6.35	3.77	83.35	0.040	.	0.165	.	0.51	0.072	5.10	0.115	0.520	0.055
CTIF B 32	5.92	1.17	74.80	0.075	0.0056	0.11	.	1.49	0.039	16.10	0.027	0.13	0.070
CTIF B 21	5.13	6.17	83.05	0.13	.	0.285	.	1.21	(0.004)	3.79	0.047	0.18	.
CTIF B 22	3.5	4.0	83.0	.	.	<0.10	.	2.5	.	6.0	0.03	0.05	<0.1
CTIF UN 3S	0.215	1.62	92.65	0.11	.	0.30	0.073	3.45	.	0.20	.	.	1.24

Number	Sn	Zn	Cu	Al	As	Fe	Mn	Ni	P	Pb	S	Sb	Si
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CRM BRONZE SETS

AVAILABLE IN SETS ONLY, as grouped

IMN: 40 mm Ø x ~30 mm

VS: 40 mm x 40 mm x 25 mm

Number	Al	Be	Bi	Cu	Fe	Ni	P	Pb	S	Sb	Se	Si	Sn	Zn
IMN BM1	0.596	.	0.538	Rem	1.08	0.518	0.00443	0.0241	0.0630	0.00431	0.0125	1.40	0.00551	0.351
IMN BM2	0.188	.	0.201	Rem	0.507	1.27	0.00973	0.0163	0.191	0.549	0.0956	0.985	0.0162	0.0565
IMN BM3	0.109	.	0.104	Rem	0.00679	2.18	0.0941	0.00784	0.480	0.110	0.454	0.565	0.104	0.0198
IMN BM4	0.00840	.	0.0110	Rem	0.102	2.93	0.213	0.00231	0.0201	0.200	0.200	0.398	0.196	0.119
IMN BM5	0.00276	.	0.00658	Rem	0.0107	3.67	0.578	0.00134	0.0104	0.0152	(0.00554)	0.105	0.539	0.281
VS 3152-85	(0.19)	1.71	.	(97.5)	0.036	0.092	.	0.0028	.	.	.	0.086	0.18	(0.035)
VS 3153-85	(0.11)	1.92	.	(97.2)	0.084	0.19	.	0.0045	.	.	.	0.14	0.104	0.049
VS 3154-85	(0.064)	2.44	.	(96.7)	0.28	0.23	.	0.0023	.	.	.	0.12	0.033	0.041
VS 3155-85	(0.027)	2.64	.	(96.2)	0.079	0.35	.	0.0060	.	.	.	0.23	0.083	0.13
VS 3156-85	(0.054)	3.2	.	(95.4)	0.14	(0.081)	.	0.011	.	.	.	0.30	0.061	0.23

CRM BRONZE

Number	Cu	Fe	Ni	P	Pb	Sn	Zn	method	Units
SRM 1115	87.9	0.13	0.074	0.005	0.013	0.10	11.7	wrought	31 mm Ø x 19 mm
SRM C1115	87.9	0.13	0.074	0.005	0.013	0.10	11.7	cast	31 mm x 31 mm x 19 mm
SRM 1116	90.3	0.046	0.048	0.008	0.042	0.04	9.4	wrought	31 mm Ø x 19 mm
SRM 1117	93.0	0.014	0.020	0.002	0.069	0.02	6.8	wrought	31 mm Ø x 19 mm
SRM C1117	93.0	0.014	0.020	0.002	0.069	0.02	6.8	cast	31 mm x 31 mm x 19 mm

ALUMINUM BRONZE

= class, where 1 = CRM and 2 = RM

#	Number	Al	Cu	As	Cr	Fe	Mg	Mn	Ni	P	Pb	Si	Sn	Zn
1	32X ALB 9	13.86	79.24	0.0275	(0.064)	3.13	0.205	0.090	1.21	(0.054)	0.377	0.282	0.061	1.17
1	32X ALB 10	11.25	74.28	0.017	0.0103	4.23	0.0029	1.73	7.58	0.040	0.107	0.169	0.202	0.315
1	32X ALB 3	11.20	80.31	0.0114	0.0060	3.97	0.0117	0.297	3.47	0.022	0.105	0.173	0.110	0.311
1	IARM 94B	10.8	80.6	<0.01	0.017	3.99	.	0.071	4.31	0.011	0.004	0.028	(0.003)	0.14
2	C52.53	10.7	Rem	.	0.19	5.5	0.07	0.38	4.1	.	0.04	0.10	.	0.11
2	CURM 52.52	10.69	79.26	.	0.004	6.02	0.007	0.145	3.56	.	0.074	0.011	0.044	0.094
2	BS 955C	10.68	80.6	(<0.002)	.	4.04	.	0.06	4.31	0.012	0.003	0.025	0.003	0.15
1	IARM 204A	10.55	83.3	(<0.01)	0.008	3.87	.	0.052	1.95	0.007	0.004	0.034	0.005	0.22
2	BS 955 MOD	10.37	(74.9)	(<0.003)	.	5.46	.	1.61	6.28	(<0.002)	0.035	0.054	0.096	1.05
1	IARM 93B	10.33	85.4	(<0.01)	(0.007)	3.87	.	0.024	0.088	(0.002)	0.012	0.024	0.009	0.17
2	BS 955B	10.30	81.5	(0.002)	.	3.79	.	0.12	4.11	0.017	0.051	0.05	0.024	0.052
2	BS 954C	10.21	83.9	(0.006)	.	3.9	.	0.29	1.38	0.011	0.050	0.07	0.08	0.09
2	BS 954B	10.20	83.9	(0.005)	.	3.90	.	0.27	1.38	0.012	0.047	0.07	0.07	0.10
2	BS 954A	10.17	85.64	(0.006)	.	3.50	.	0.10	0.20	0.012	0.016	0.029	0.033	0.30
1	IARM 80C *	10.1	80.6	0.005	0.013	3.87	.	0.58	4.71	0.0036	(0.003)	0.076	0.003	0.097
1	32X ALB2 *	10.08	79.64	0.0110	0.0973	4.27	0.0183	0.341	4.42	0.029	0.147	0.245	0.0715	0.174
2	BS 630A	10.05	81.0	(0.002)	.	3.73	.	0.11	4.81	<0.01	0.0069	0.037	0.019	0.17
2	C52.51	10.0	Rem	.	<0.01	4.3	<0.01	<0.01	5.1	.	<0.01	<0.01	<0.01	0.02
1	32X CA 1	9.79	80.03	.	0.0049	4.63	0.0003	0.296	4.94	0.003	0.007	0.090	0.0180	0.162
1	32X CA 7	9.37	88.06	.	0.0028	2.09	0.0004	0.151	0.234	.	(0.004)	0.017	0.0172	0.006
2	C52.55	9.3	Rem	.	0.05	4.9	0.13	1.1	4.6	.	0.14	0.03	0.03	0.10
2	BS CC954	9.28	84.0	0.003	.	3.61	.	0.353	1.12	0.013	0.13	0.092	0.061	1.30
2	BS 623	9.24	(88.1)	<0.01	.	2.25	.	0.16	0.10	0.013	<0.01	0.046	0.01	0.05
1	IARM 79C	9.20	87.6	0.003	(0.002)	2.28	.	0.20	0.55	0.006	<0.005	0.033	0.010	0.014
1	32X CA23	9.19	81.05	.	0.0018	3.63	0.0003	1.298	4.71	0.0011	(0.0026)	0.026	0.0164	0.031
1	IARM 79B	9.19	88.4	.	(0.003)	2.13	.	0.16	0.075	0.005	(0.003)	0.019	0.017	0.013
2	BS 623A	9.12	88.13	(0.006)	.	2.19	.	0.273	0.146	<0.002	0.001	0.014	0.002	0.008
1	32X CA31	8.95	88.24	.	0.0026	4.06	0.0008	0.336	4.28	(0.003)	(0.0024)	0.036	0.0037	0.041
2	C52.56	8.9	Rem	.	0.14	4.6	0.09	0.74	5.6	.	0.17	0.15	0.11	0.28
1	IARM 235A	8.9	81.2	<0.005	0.01	4.07	.	1.17	4.44	0.012	0.012	0.061	0.018	0.083
1	32X ALB11B	8.85	80.38	.	.	3.99	0.072	1.290	4.44	0.0249	0.0316	0.015	0.0062	0.508
1	32X ALB 1	8.83	81.85	0.0083	0.0052	3.11	0.0092	0.057	5.74	0.0145	0.207	0.106	0.0314	0.0228
1	32X ALB11A	8.80	80.58	.	.	3.81	0.075	1.13	4.33	0.045	0.118	0.069	0.0289	0.576
2	CURM 51.14	8.42	88.57	0.44	.	0.72	.	0.55	0.219	0.012	0.003	0.286	0.113	0.656
1	32X ALB 6	8.05	81.98	0.012	0.0097	2.53	0.0019	0.904	5.31	0.0101	0.096	0.295	0.147	0.685
1	32X ALB 4	7.87	79.61	0.0130	0.022	3.55	0.153	1.028	7.03	0.036	0.120	0.252	0.085	0.264
2	CURM 52.54	7.85	81.59	.	<0.005	3.31	<0.005	1.20	5.40	.	0.086	0.022	0.135	0.39
2	CURM 51.13	7.30	88.79	0.215	.	1.81	.	0.898	0.057	0.022	0.104	0.174	0.270	0.335
2	C51.13	6.93	Rem	0.21	.	2.05	.	0.77	0.053	0.021	0.12	0.16	0.19	0.30
1	32X ALB 5	6.91	84.61	0.064	0.0056	2.22	0.0176	1.21	4.14	0.048	0.093	0.086	0.062	0.487
1	IARM 81B	6.70	91.2	0.058	0.002	0.047	.	0.012	0.003	0.004	0.006	1.84	0.008	0.176
1	32X ALB 8	6.60	76.29	0.155	0.046	5.58	0.0152	1.67	6.50	0.218	0.359	0.736	0.699	1.051
2	CURM 51.12	6.36	88.29	0.111	.	2.87	.	1.33	0.112	<0.001	0.219	0.005	0.196	0.45
1	32X CA12	6.14	90.48	.	0.0008	0.657	0.0005	0.0290	0.088	.	(0.0017)	2.57	0.0157	0.0405
2	C51.12	6.06	Rem	0.11	.	2.90	.	1.25	0.11	<0.005	0.25	<0.01	0.18	0.42
2	CURM 51.11	5.27	93.95	<0.001	.	0.060	.	<0.001	0.012	0.035	0.33	0.159	0.027	0.111
2	C51.11	5.0	Rem	<0.01	.	0.07	.	<0.005	0.15	0.03	0.31	0.11	0.025	0.07
1	32X ALB 7	4.01	84.40	0.056	0.061	4.82	0.0039	0.383	4.96	0.057	0.029	0.399	0.30	0.527

Number	Al	Cu	As	Cr	Fe	Mg	Mn	Ni	P	Pb	Si	Sn	Zn
Number	Ag	Be	Bi	C	Co	S	Sb	Se	Units				
32X ALB 9	0.042	.	.	(0.006)	0.0259	.	.	.	.	42 mm Ø x 18 mm			
32X ALB 10	.	.	.	(0.0022)	.	.	.	.	.	42 mm Ø x 18 mm			
32X ALB 3	.	.	.	.	.	.	.	.	.	42 mm Ø x 18 mm			
IARM 94B	0.017	.	.	(0.006)	0.011	0.002	(0.011)	.	.	31 mm Ø x 2 or 18 mm			
C52.53	.	.	.	.	.	.	.	.	.	50 mm Ø x 10 - 12 mm			
CURM 52.52	.	.	.	.	.	.	.	.	.	50 mm Ø x 10 - 12 mm			
BS 955C	0.014	.	.	.	.	.	(<0.002)	.	.	38 mm Ø x 12 mm			
IARM 204A	0.009	.	.	0.006	0.008	(0.002)	(<0.01)	.	.	31 mm Ø x 2 or 18 mm			
BS 955 MOD	.	.	.	.	.	.	(<0.003)	.	.	40 mm Ø x 17 mm			
IARM 93B	(0.004)	.	.	0.007	0.006	0.002	(0.012)	.	.	31 mm Ø x 2 or 18 mm			
BS 955B	(0.009)	.	.	.	.	0.002	(0.002)	.	.	38 mm Ø x 12 mm			
BS 954C	.	.	.	(0.004)	.	(<0.0005)	(0.003)	.	.	38 mm Ø x 12 mm			
BS 954B	.	.	.	(0.005)	.	(<0.0005)	(0.001)	.	.	38 mm Ø x 12 mm			
BS 954A	.	.	.	0.004	.	<0.0001	0.001	.	.	38 mm Ø x 12 mm			
IARM 80C *	.	.	.	0.008	0.008	(0.001)	(0.01)	.	.	31 mm Ø x 2 or 18 mm	* Provisional Analysis		
32X ALB2 *	0.0210	.	.	.	0.286	.	.	.	.	~40 mm Ø x ~15 mm	* Provisional Analysis		
BS 630A	.	.	.	0.005	.	(0.001)	<0.001	.	.	38 mm Ø x 12 mm			
C52.51	.	.	.	.	.	.	.	.	.	50 mm Ø x 10 - 12 mm			
32X CA 1	0.0012	.	.	(0.007)	.	.	.	.	.	42 mm Ø x 18 mm			
32X CA 7	0.0009	.	.	0.0028	0.0003	.	.	.	.	42 mm Ø x 18 mm			
C52.55	.	.	.	.	.	.	.	.	.	50 mm Ø x 10 - 12 mm			
BS CC954	.	.	.	(0.007)	.	(0.002)	0.004	.	.	32 mm Ø x 17 mm			
BS 623	.	.	.	(0.002)	.	(0.001)	<0.01	.	.	37 mm Ø x 12 mm			
IARM 79C	<0.005	.	.	0.003	<0.005	<0.001	<0.005	.	.	31 mm Ø x 2 or 18 mm			
32X CA23	0.0008	.	.	(0.0050)	(0.0036)	.	.	.	.	50 mm Ø x 18 mm			
IARM 79B	0.002	.	.	0.002	(0.002)	(0.001)	.	.	.	31 mm Ø x 2 or 18 mm			
BS 623A	.	.	.	(0.002)	.	(<0.0005)	<0.002	.	.	38 mm Ø x 12 mm			
32X CA31	0.0008	.	.	0.006	0.0029	.	.	.	.	42 mm Ø x 18 mm			
C52.56	.	.	.	.	.	.	.	.	.	50 mm Ø x 10 - 12 mm			
IARM 235A	<0.005	.	.	0.009	0.01	0.002	(0.004)	.	.	31 mm Ø x 2 or 18 mm			
32X ALB11B	.	0.064	0.082	.	0.0180	.	0.203	0.007	.	40 mm Ø x 15 mm			
32X ALB 1	.	.	.	.	.	.	.	.	.	42 mm Ø x 18 mm			
32X ALB11A	.	0.0194	0.120	.	0.089	.	0.093	0.006	.	40 mm Ø x ~15 mm			
CURM 51.14	.	.	.	.	.	.	.	.	.	50 mm Ø x 10 - 12 mm			
32X ALB 6	.	.	.	(0.0025)	.	.	.	.	.	42 mm Ø x 18 mm			
32X ALB 4	.	.	.	.	.	.	.	.	.	42 mm Ø x 18 mm			
CURM 52.54	.	.	.	.	.	.	.	.	.	50 mm Ø x 10 - 12 mm			
CURM 51.13	.	.	.	.	.	.	.	.	.	50 mm Ø x 10 - 12 mm			
C51.13	.	.	.	.	.	.	.	.	.	50 mm Ø x 10 - 12 mm			
32X ALB 5	.	.	.	.	0.0307	.	.	.	.	42 mm Ø x 18 mm			
IARM 81B	(0.004)	.	.	0.002	.	<0.001	0.003	.	.	31 mm Ø x 2 or 18 mm			

CRM ALUMINUM BRONZE SETS

available in SETS only, as grouped

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

40 mm Ø x ~25 mm

Number	Al	As	Bi	Cd	Co	Cr*	Fe	Mg*	Mn	Ni	P	Pb	S	Sb	Si	Sn	Zn
IMN BF1	10.90	0.061	0.00042	.	.	.	(6.2)	.	0.0059	2.49	(0.012)	0.23	.	(0.002)	0.26	0.011	0.57
IMN BF2	9.96	0.050	0.0025	.	.	.	(5.4)	.	0.12	3.54	0.053	0.15	.	(0.013)	0.25	0.081	0.40
IMN BF3	9.58	0.038	0.0039	.	.	.	4.50	.	0.28	4.43	0.098	0.111	.	0.028	0.20	0.17	0.27
IMN BF4	9.12	0.022	0.0057	.	.	.	3.25	.	0.39	5.24	0.13	0.059	.	0.037	0.097	0.25	0.10
IMN BF5	8.35	0.0039	0.010	.	.	.	2.44	.	0.50	6.03	0.16	0.014	.	0.048	0.028	0.35	0.018
IMN B01	3.16	0.00033	0.00030	0.00035	.	32.7	0.0158	.	0.0167	0.00517	(0.0004)	0.00384	.	0.00035	(0.00471)	2.54	7.10
IMN B02	4.03	0.00199	0.00197	0.00182	.	3.7	0.00569	.	0.00102	0.00204	0.00227	(0.00214)	.	0.00226	0.00979	1.83	6.26
IMN B03	4.67	0.00662	0.00660	0.00570	.	54.8	0.0752	.	0.00884	0.0683	0.00550	0.0537	.	0.00568	0.0552	1.17	5.07
IMN B04	6.15	0.0115	0.0107	0.00881	.	91	0.137	.	0.00612	0.111	0.0100	0.102	.	0.0104	0.0951	0.704	4.28
IMN B05	7.02	0.0161	0.0152	0.0134	.	145	0.218	.	0.0772	0.0355	0.0155	0.0299	.	0.0152	0.0135	0.117	3.08
IMN BJ1	2.88	0.011	0.013	0.016	0.027	.	0.011	58	0.60	6.97	0.0022	0.0025	0.021	0.0012	(0.11)	(0.11)	0.020
IMN BJ2	2.46	0.0089	0.0095	0.011	0.020	.	0.038	98	0.42	6.47	0.011	0.0043	0.014	0.0030	(0.091)	(0.080)	0.038
IMN BJ3	1.97	0.0072	0.0071	0.0076	0.014	.	0.12	65	0.21	5.87	0.014	0.0081	0.0082	0.0056	(0.047)	(0.049)	0.22
IMN BJ4	1.50	0.0031	0.0042	0.0048	0.0076	.	0.20	35	0.013	5.49	0.013	0.010	0.0049	0.0088	(0.015)	(0.014)	0.36
IMN BJ5	1.09	0.0018	0.0013	0.00075	0.0024	.	0.28	17	0.0030	5.00	0.019	0.017	0.0023	0.010	(0.0071)	(0.0034)	0.51

RM ALUMINUM BRONZE MUSHROOMS

chill cast

typical analysis

60 mm Ø x 5 mm

Number	Al	Cu	Fe	Mn	Ni	Pb	Si	Sn	Zn	Bi	Cd	Cr	Mg
CTIF CA 36	12.60	77.25	2.93	0.131	6.33	0.0154	0.113	0.201	0.244	0.058	.	0.041	0.130
CTIF 2158-W	11.95	85.00	2.53	0.26	0.10	<0.005	0.015	<0.01	<0.01	.	.	.	.
CTIF 4065-P	11.85	81.20	3.40	0.075	3.18	0.03	0.034	0.18	0.03	.	.	.	.
CTIF CA 35	11.4	75.6	6.1	1.6	3.80	0.10	0.25	0.30	0.55	.	.	.	.
CTIF 2154-V	11.25	85.00	3.05	0.12	0.41	<0.005	0.015	<0.01	<0.01	.	.	.	.
CTIF CA 13	11.20	82.45	3.82	1.22	0.50	0.0230	0.11	(0.01)	0.65	.	.	.	.
CTIF CA 3	10.9	86.5	0.80	0.06	0.80	0.15	0.08	0.20	0.30	.	.	.	.
CTIF CA 21	10.82	81.9	3.45	0.30	3.09	0.05	0.07	0.07	0.100	.	0.0095	.	.
CTIF CA 22	10.45	80.50	2.51	0.745	4.54	0.0243	0.32	0.30	0.605	.	.	.	.
CTIF 3011-G	10.35	84.80	1.98	0.165	2.00	0.10	0.16	0.125	0.25	.	.	.	.
CTIF CA 27	10.25	81.1	2.81	1.195	3.88	0.11	0.127	0.054	0.428	.	0.012	.	.
CTIF CA 10	10.15	80.65	4.55	0.333	3.39	0.16	0.46	0.16	0.067	.	.	.	.
CTIF 3299-J	10.10	87.60	0.38	1.12	0.21	0.110	0.136	0.106	0.19	.	.	.	.
CTIF 3297-Y	10.00	87.45	1.88	0.03	.	0.11	0.15	0.10	0.27	.	.	.	.
CTIF 4149-G	9.84	84.95	2.00	0.21	1.96	0.15	0.18	0.34	0.37	.	.	.	.
CTIF 2152-S	9.78	85.05	3.99	0.42	0.68	<0.005	0.015	.	<0.01	.	.	.	.
CTIF 2151-R	9.43	84.75	4.48	0.73	0.56	<0.005	0.015	<0.01	<0.01	.	.	.	.
CTIF 3296-L	9.40	88.55	0.07	0.37	0.41	0.30	0.20	0.06	0.62	.	.	.	.
CTIF CA 31	9.15	76.5	3.18	3.27	7.51	0.020	0.064	0.063	0.145	.	.	.	0.02
CTIF CA 26	9.10	81.25	4.36	0.188	4.87	0.058	0.035	0.005	0.038	.	0.034	.	.
CTIF 3300-M	8.73	89.5	0.45	0.165	0.205	0.205	0.415	0.205	0.085	.	.	.	.
CTIF 3301-Z	8.10	87.30	4.00	0.26	0.125	0.032	0.057	0.028	0.06	.	.	.	.
CTIF 2794-H	8.0	90.3	0.82	<0.01	0.69	<0.01	0.048	0.105	<0.01	.	.	.	.
CTIF CA 20	8.00	87.15	0.79	1.85	1.18	0.18	0.17	0.19	0.41	.	0.05	.	.
CTIF CA 12	8.0	84.1	2.77	3.09	1.385	0.047	0.058	0.036	0.45	.	.	.	.
CTIF CA 25	7.97	79.12	6.10	0.51	5.74	0.03	0.084	0.177	0.252	.	.	.	.
CTIF CA 30	7.55	81.6	5.2	2.05	3.10	0.142	0.15	0.099	0.066	.	.	.	.
CTIF 3018-F	7.25	81.90	4.45	1.57	4.50	0.02	0.085	0.06	0.06	.	.	.	.
CTIF 3610-Q	7.10	82.32	3.98	0.045	5.40	0.23	0.065	0.25	0.51	.	0.090	.	.

Number	Al	Cu	Fe	Mn	Ni	Pb	Si	Sn	Zn	Bi	Cd	Cr	Mg
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CRM BISMUTH BRONZE

31 mm Ø x 2 or 18 mm

Number	Ag	Al	As	Bi	Co	Cr	Cu	Fe	Mn	Ni	P	Pb	S	Sb	Si	Sn	Zn
IARM 211A	0.005	0.002	(0.01)	5.0	(0.001)	(0.002)	88.4	0.004	(0.003)	0.003	0.19	0.014	0.002	0.057	0.003	6.23	0.006

MANGANESE BRONZE

= class, where 1 = CRM and 2 = RM

BS: 38 mm Ø x 12 mm

IARM: 31 Ø x 2 or 18 mm

#	Number	Mn	Al	Fe	Sn	Zn	Cu	As	C	Ni	P	Pb	S	Sb	Si
1	IARM 88B	2.93	5.66	2.12	0.020	25.1	63.9	.	0.003	0.065	0.011	0.066	<0.001	<0.005	0.09
2	BS 675A	0.32	<0.002	1.12	0.8	39.1	58.5	0.003	(0.0007)	0.019	0.010	0.074	(0.0005)	0.0011	(0.005)
1	IARM 83B	0.13	0.002	0.97	0.85	39.3	58.7	.	0.003	0.010	0.004	0.017	(0.001)	(0.004)	(0.003)
2	BS 675	0.11	<0.01	0.73	0.92	39.7	Rem.	<0.005	(0.0004)	<0.01	<0.01	<0.01	(0.0013)	<0.01	<0.02

RM NICKEL BRONZE - XRF ONLY

Number	Ni	Cu	Fe	Pb	Sn	Zn	Units
37X HK7	30.7	59.3	1.72	5.32	2.30	0.38	40 mm Ø x 10 mm

CRM NICKEL BRONZE SET

available in SET/5 only

analysis listed in mass %

40 mm Ø x ~30 mm

Number	Al	Bi	Cu	Fe	Ni	P	Pb	S	Sb	Se	Si	Sn	Zn
IMN BN5	0.0245	0.0298	rem	0.00731	2.69	0.0634	0.00612	0.0018	0.0314	0.00636	(0.00211)	11.82	0.0560
IMN BN1	0.00286	0.118	rem	0.495	0.226	0.123	0.0239	0.113	0.117	0.00335	(0.00839)	6.47	0.135
IMN BN2	0.00371	0.0707	rem	0.589	1.64	0.0769	0.00514	0.213	0.0656	0.0104	.	6.21	0.369
IMN BN3	0.00126	0.00098	rem	0.153	1.04	0.00038	0.0054	(0.0017)	0.0088	.	.	9.29	0.0625
IMN BN4	0.00055	0.00595	rem	0.0216	0.635	0.0066	0.0145	0.112	0.0055	0.0134	(0.00064)	9.81	0.00771

PHOSPHOR BRONZE

= class, where 1 = CRM and 2 = RM

#	Number	P	Sn	Zn	Cu	Mn	Ni	Pb	Al	As	Fe	Mg	S	Sb	Si
2	CURM 54.03	0.954	7.30	0.003	91.74	<0.005	0.0019	0.003	<0.001	0.006	0.005	<0.0003	<0.001	0.0007	<0.002
1	32X PB11	0.878	3.40	1.50	90.54	0.201	0.904	1.038	<0.001	0.200	0.566	0.0041	0.0227	0.482	0.099
2	CURM 54.05	0.501	11.36	0.554	84.78	0.078	1.28	1.14	0.055	0.063	0.051	0.0021	0.063	0.111	0.006
1	32X PB 23	0.319	7.56	0.0020	92.04	<0.005	0.0033	0.0042	<0.005	0.0011	<0.005	.	0.0015	0.0025	0.0016
2	CURM 54.04	0.250	9.47	1.09	86.54	0.419	0.536	0.79	0.074	0.106	0.316	0.0009	0.046	0.33	0.065
1	32X PB 20	0.196	4.55	0.007	95.22	<0.005	0.0090	0.0045	<0.005	0.0011	0.0013	.	0.0030	0.0012	0.0046
1	IARM 78B	0.19	4.73	3.55	87.7	(0.002)	0.077	3.87	(0.002)	<0.003	0.02	.	0.010	0.01	<0.002
1	32X PB 4	0.178	9.75	0.107	88.4	1.17	0.081	0.114	(0.0005)	<0.01	0.014	.	.	(0.0032)	0.099
1	32X PB 12	0.172	5.25	0.546	93.29	0.0110	0.221	0.102	0.0067	0.087	0.032	0.0033	0.0127	0.160	0.0099
1	IARM 77B	0.148	4.66	0.007	95.2	(0.002)	0.002	0.016	(0.001)	(0.001)	0.002	.	0.002	0.005	(0.003)
1	32X PB 13	0.128	7.09	0.240	91.88	0.0300	0.111	0.104	0.039	0.081	0.057	0.0144	0.015	0.117	0.073
2	BS 510A	0.11	4.6	0.21	95.10	<0.002	0.020	0.016	<0.002	0.0008	0.005	.	0.008	(0.003)	<0.003
2	CURM 54.02	0.107	5.53	0.410	92.87	0.101	0.109	0.663	0.020	0.023	0.102	0.0020	0.030	0.026	0.012
1	32X PB15	0.0873	2.21	0.76	96.07	0.125	0.212	0.174	0.045	0.123	0.116	0.0275	.	0.026	0.043
2	CURM 54.01	0.053	3.17	0.346	95.42	0.158	0.348	0.307	0.040	0.044	0.028	0.008	0.023	0.070	0.039
2	C54.01	0.05	3.2	0.31	rem	0.13	0.26	0.29	0.009	0.04	0.01	<0.001	0.03	0.08	0.006
2	BS 544A	0.021	4.42	3.42	(88.4)	<0.002	0.16	4.16	(0.0005)	0.011	0.092	.16	0.038	0.040	<0.002
1	32X PB 14	(0.008)	9.00	0.038	90.26	(0.0002)	0.144	0.048	(0.0009)	0.0331	0.0056	0.0003	0.065	0.055	(0.0025)
1	32X PB 10	0.003	11.87	0.0494	87.85	0.0005	0.054	0.067	<0.001	0.0138	0.014	0.004	0.0162	0.0201	(0.0036)

#	Number	P	Sn	Zn	Cu	Mn	Ni	Pb	Al	As	Fe	Mg	S	Sb	Si
	Number	Bi	C	Co	Se	Units									
	CURM 54.03	.	.	.	.	50 mm Ø x 10-12 mm									
	32X PB11	0.033	.	0.097	.	40 mm Ø x ~15 mm									
	CURM 54.05	.	.	.	.	50 mm Ø x 10-12 mm									
	32X PB 23	.	0.004	.	.	49 mm Ø x 17 mm									
	CURM 54.04	.	.	.	.	50 mm Ø x 10-12 mm									
	32X PB 20	.	.	.	.	38 mm Ø x 17 mm									
	IARM 78B	.	.	.	.	31 mm Ø x 2 or 18 mm									
	32X PB 4	.	.	.	.	40 mm Ø x 15 mm									
	32X PB 12	0.057	.	0.0142	.	40 mm Ø x ~17 mm									
	IARM 77B	.	0.003	.	.	31 mm Ø x 2 or 18 mm									
	32X PB 13	0.0137	.	0.0052	.	40 mm Ø x ~17 mm									
	BS 510A	.	(0.0006)	.	.	38 mm Ø x 12 mm									
	CURM 54.02	.	.	.	.	50 mm Ø x 10-12 mm									
	32X PB15	.	.	0.0509	.	40 mm Ø x ~15 mm									
	CURM 54.01	.	.	.	.	50 mm Ø x 10-12 mm									
	C54.01	.	.	.	.	50 mm Ø x 10-12 mm									
	BS 544A	.	(0.003)	.	.	38 mm Ø x 12 mm									
	32X PB 14	0.224	.	0.0013	.	40 mm Ø x 17 mm									
	32X PB 10	0.0128	.	.	0.0058	40 mm Ø x ~17 mm									

SILICON BRONZE

= class, where 1 = CRM and 2 = RM

BS: 38 mm Ø x 12 mm

IARM: 31 Ø x 2 or 18 mm

#	Number	Si	Cu	Al	As	C	Cr	Fe	Mn	Ni	P	Pb	S	Sb	Sn	Zn
1	IARM 82B	3.22	95.3	0.002	.	.	0.004	0.080	1.04	0.011	0.004	0.011	0.003	.	0.017	0.38
2	BS 655A	3.14	95.74	(0.002)	<0.002	(0.0006)	.	0.075	0.91	0.008	(0.004)	0.008	(0.0006)	<0.002	0.07	0.02

CRM SILICON BRONZE SET

available in SET/6 ONLY, as grouped

40 mm Ø x 25 mm

Number	Al	As	Bi	Cu	Fe	Mg	Mn	Ni	P	Pb	S	Sb	Si	Sn	Zn
IMN BH1	0.027	0.0047	0.018	Rem	1.67	0.0065	0.25	0.96	0.0047	0.74	0.012	0.066	4.77	0.044	2.03
IMN BH2	0.079	0.015	0.014	Rem	1.28	0.0066	0.54	0.74	0.023	0.57	0.0092	0.042	4.14	0.21	2.99
IMN BH3	0.14	0.022	0.0091	Rem	0.96	0.0075	1.00	0.53	0.039	0.40	0.0062	0.026	3.07	0.37	3.84
IMN BH4	0.22	0.054	0.006	Rem	0.55	0.0057	1.46	0.28	0.059	0.24	0.0064	0.016	2.29	0.55	4.91
IMN BH5	0.29	0.071	0.0019	Rem	0.093	0.0024	1.80	0.047	0.073	0.015	0.0055	0.0054	1.45	0.69	5.58
IMN BH6	0.32	0.078	0.018	Rem	0.35	0.01	0.80	0.39	0.078	0.017	0.016	0.056	1.51	0.32	6.27

CRM LEADED, TIN, AND LEADED TIN BRONZE DISC AND ROD SETS

available in SETS ONLY, as grouped

IMN BB: 10 mm Ø x 100 mm
IMN BL: 40 mm Ø x 27 mmIMN BI, WL: 40 mm Ø x 25 mm
VS: 40 mm x 40 mm x 25 mm

Number	Al	As	Bi	C	Cd	Co	Cu	Fe	Mg	Mn	Ni	P	Pb	S	Sb	Si	Sn	Zn
IMN BL1	0.11	0.058	0.024	.	0.060	.	Rem	0.38	0.051	0.062	0.25	0.49	0.25	(0.0081)	0.053	0.059	2.58	0.68
IMN BL2	0.15	0.039	0.014	.	0.040	.	Rem	0.21	0.11	0.055	0.37	0.29	0.14	(0.0063)	0.039	0.031	4.04	0.40
IMN BL3	0.019	0.025	0.0099	.	0.022	.	Rem	0.10	.	0.026	0.13	0.084	0.065	.	0.021	0.015	6.12	0.15
IMN BL4	.	0.0089	0.0058	.	0.0092	.	Rem	0.014	.	0.0092	0.015	0.010	0.013	(0.022)	0.0095	0.011	8.38	0.017
IMN BL5	0.00052	0.00057	0.0015	.	0.0015	.	Rem	0.0061	0.0030	0.0011	0.0074	0.0042	0.0069	0.031	0.0039	(0.0038)	11.05	0.0078
VS 2807-83	(0.0029)	.	(0.025)	.	.	.	(78.7)	0.062	.	.	0.81	0.55	12.5	.	0.80	(0.045)	6.3	1.17
VS 2808-83	(0.0034)	.	(0.031)	.	.	.	(79.7)	0.100	.	.	0.50	0.30	10.6	.	0.50	(0.025)	7.3	0.71
VS 2809-83	(0.0049)	.	(0.039)	.	.	.	(81.1)	0.209	.	.	0.31	0.20	9.0	.	0.34	(0.011)	8.3	0.38
VS 2810-83	(0.0084)	.	(0.041)	.	.	.	(81.9)	0.35	.	.	0.21	0.088	7.3	.	0.27	(0.0017)	9.4	0.26
VS 2811-83	(0.021)	.	(0.062)	.	.	.	(83.0)	0.60	.	.	0.110	(0.059)	5.4	.	(0.12)	(0.0021)	10.5	(0.14)
IMN BB1	0.019	0.086	0.032	.	.	.	84.82	0.33	.	0.081	0.061	0.055	1.55	.	0.60	0.037	8.10	3.90
IMN BB2	0.032	0.12	0.024	.	.	.	84.09	0.28	.	0.12	0.097	0.085	2.64	.	0.49	0.055	7.11	4.70
IMN BB3	0.0021	0.0079	0.0021	.	.	.	80.88	0.037	.	0.0012	2.42	(0.014)	6.73	.	0.052	0.0044	3.36	6.23
IMN BB4	0.0062	0.029	0.011	.	.	.	81.32	0.086	.	0.020	1.20	0.030	6.14	.	0.21	0.018	2.58	8.11
IMN BB5	0.015	0.051	0.018	.	.	.	82.25	0.14	.	0.054	0.49	0.037	5.18	.	0.31	0.028	4.11	7.21
IMN BB6	0.040	0.16	0.041	.	.	.	83.54	0.31	.	0.15	0.23	0.12	3.52	.	0.62	0.083	5.47	5.40
IMN BB7	0.011	0.016	0.0054	.	.	.	82.24	0.095	.	0.011	1.73	0.016	7.31	.	0.098	0.012	4.92	3.26
IMN BI1	0.15	0.14	0.12	.	.	.	Rem	0.42	.	0.26	2.41	0.70	6.97	(0.011)	0.58	0.23	3.19	3.55
IMN BI2	0.077	0.11	0.070	.	.	.	Rem	0.31	.	0.15	1.46	0.59	5.39	(0.0055)	0.43	0.13	4.18	5.73
IMN BI3	0.034	0.052	0.028	.	.	.	Rem	0.17	.	0.082	0.29	0.32	4.52	(0.003)	0.24	0.075	5.01	7.16
IMN BI4	0.0020	0.010	0.0030	.	.	.	Rem	0.083	.	0.025	0.088	0.029	3.82	(0.002)	0.075	0.014	7.69	10.22
IMN WL1	0.082	0.0010	0.0093	0.0050	0.0017	0.0010	95.54	0.072	0.00036	0.0041	0.44	0.012	0.013	0.020	.	0.057	0.22	3.52
IMN WL2	0.057	0.0078	0.0073	0.0082	0.0023	0.0065	97.49	0.13	0.00097	0.0038	0.32	0.016	0.011	0.0070	0.0050	0.046	0.32	1.56
IMN WL3	0.0034	0.020	0.0050	0.010	0.010	0.0096	96.51	0.20	0.0016	0.38	0.22	0.021	0.0083	0.0088	0.0085	0.0037	0.37	2.21
IMN WL4	.	0.0034	0.0026	0.0032	0.0068	0.013	96.41	0.012	.	.	0.019	.	0.0066	0.0050	.	0.0019	0.55	2.97
IMN WL5	0.0014	0.0011	0.0011	.	0.0038	0.019	97.62	0.0025	.	0.00073	0.0014	.	0.0030	0.0019	0.0006	0.0009	0.73	1.61
IMN WL6	0.10	0.024	0.012	0.016	0.025	0.019	95.76	0.31	0.015	0.14	0.091	0.032	0.016	0.017	0.011	0.13	0.80	2.48

RM COPPER ALLOY XRF SET

Part Number: BS CU-22 Set of 19 samples, each 30 - 45 mm Ø x 7 mm discs

CDA	Number	Cu	Al	Fe	Mn	Ni	Pb	Si	Sn	Zn	As	C	P	S	Sb	Be	Co
110	BS 110A	99.9	0.002	0.003	<0.0003	0.002	0.003	0.001	0.002	(0.001)	(0.001)	0.0018	0.001	0.0008	0.0004	.	.
172	BS 172Be-1	97.68	(0.02)	0.052	0.0010	0.039	(0.002)	0.055	0.033	0.0070	(0.001)	(0.001)	0.003	(<0.0002)	.	1.89	0.206
314	BS 314A	89.75	0.002	0.019	0.001	0.009	1.47	(0.006)	0.0019	8.7	<0.003	0.002	<0.003	0.003	<0.002	.	.
360	BS 360A	61.42	<0.001	0.151	0.0007	0.058	2.51	<0.005	0.13	35.63	0.002	(0.0032)	0.001	(0.0003)	0.008	.	.
464	BS 464A	60.6	(0.001)	0.013	0.0002	0.004	0.056	<0.01	0.62	38.73	<0.002	(0.0006)	0.012	0.001	(0.001)	.	.
482	BS 482A	60.0	(0.003)	0.020	<0.002	(0.007)	0.50	(0.002)	0.65	38.8	<0.002	(0.0015)	<0.003	<0.002	0.0012	.	.
510	BS 510A	96.10	<0.002	0.005	<0.002	0.020	0.016	<0.003	4.6	0.21	0.0008	(0.0006)	0.11	0.008	(0.003)	.	.
544	BS 544A	88.4	(0.0005)	0.092	<0.002	0.16	4.16	<0.002	4.42	3.42	0.011	0.003	0.021	0.038	0.040	.	.
623	BS 623A	88.13	9.12	2.19	0.273	0.146	0.001	0.014	0.002	0.008	(0.006)	(0.002)	<0.002	(<0.0005)	<0.002	.	.
630	BS 630A	81.0	10.05	3.73	0.11	4.81	0.0069	0.037	0.019	0.17	(0.002)	0.005	<0.01	(0.001)	<0.001	.	.
642	BS 642A	91.0	6.70	0.17	0.005	0.025	0.001	1.80	0.018	0.011	<0.002	0.001	0.001	<0.001	(<0.002)	.	.
655	BS 655A	95.74	(0.002)	0.075	0.91	0.008	0.008	3.14	0.07	0.02	<0.002	(0.0006)	(0.004)	(0.0003)	<0.002	.	.
675	BS 675A	58.5	<0.002	1.12	0.32	0.019	0.074	(0.005)	0.80	39.1	0.003	(0.0007)	0.010	(0.0005)	0.0011	.	.
706	BS 706A	87.60	(0.002)	1.30	0.66	10.18	0.008	<0.005	0.011	0.13	<0.0005	0.004	0.006	0.012	0.0006	.	.
715	BS 715A	69.0	(0.01)	0.61	0.82	30.22	(0.007)	0.10	0.008	0.10	(0.0014)	0.03	0.006	0.001	(0.003)	.	.
863	BS 863A	64.1	5.21	2.41	3.00	0.29	0.022	0.034	0.013	24.8	0.010	0.003	(0.007)	<0.0005	0.003	.	.
903	BS 903B	86.7	(0.001)	0.049	0.0004	0.50	0.10	0.002	7.9	4.39	0.003	(0.0004)	0.073	0.006	0.003	.	.
932	BS 932A	82.9	<0.01	0.068	<0.002	0.12	7.09	<0.01	6.26	3.35	0.014	(0.006)	0.005	(0.05)	0.097	.	.
954	BS 954A	85.64	10.17	3.50	0.10	0.20	0.016	0.029	0.033	0.30	(0.006)	0.004	0.012	<0.0001	0.001	.	.
CDA	Number	Cu	Al	Fe	Mn	Ni	Pb	Si	Sn	Zn	As	C	P	S	Sb	Be	Co

ALLOY	NUMBER	ALLOY	NUMBER	ALLOY	NUMBER
110	IARM 70B	693	IARM 313A	955	IARM 94B
122	BAM 366	697	CTIF L3	955 MOD	BS 955 MOD
122	CURM 09.04	702.6	37X 218	955 MOD	CTIF CA10
122.2	CURM 09.03	706	BAM 367	955.1 MOD	CTIF CA22
125	CURM 09.01	706	BS 706A	955.2	C52.53
125	CURM 09.02	706	BS 706B	956	32X CA12
145	BS 14500	706	CTIF CuNi 10	958	IARM 235A
145	IARM 278A	706	IARM 84B	958.2	32X CA1
162	36X CCD1	710	36X CN3	964	IARM 236A
162	36X CCD3	713	BAM 389	997.5	31X MNB12
170	SRM C1122	715	36X CN5	Coinage Alloy	36X CN21
172	BS 172Be-1	715	BS 715A	Coinage Alloy	36X CN23
172	CTIF 4872	715	IARM 85C	Envirobrass 2-1	IARM 226A
172	IARM 71B	715	SRM 1276a	Envirobrass 2-2	IARM 227A
175	36X CBC2	762	34X NS2	Envirobrass 2-3	IARM 228A
175	BS 17500	767	C65.28	Federalloy I-836	IARM 265A
175.1	36X CBC5	815	IARM 158B	Federalloy I-844	IARM 264A
180	36X 274	815	IARM 158C	Federalloy I-848A	IARM 263A
181.5	36X CCZ	836	33X GM5	Federalloy III-932	IARM 266A
182	36X CCR1	836	BS 836A-1	NARloy-A	IARM 159A
182	IARM 279A	836	IARM 86D	NARloy-Z	IARM 160A
210	31X B9	838	33X GM8	Red Brass	33X RB2
240	31X B6	838.1	33X RB1	Sebiloy 3	31X BIB2
240	C30.07	844	IARM 250A	Spinodal Alloy	36X SP1
260	C48.06	855	31X B2	Spinodal Alloy	36X SP2
260	CURM 48.04	855	31X TB2		
260 MOD	31X B4	855	31X TB3		
261.3	C48.03	855	C38.01		
268	31X B28	855	C38.02		
268	31X TB4	855	C38.03		
270	31X B3	855	C38.04		
274	C38.06	855	C38.05		
280	C30.03	857	BS 857B-1		
280	C30.12	857	IARM 87B		
314	BS 314B	862	CTIF LH7		
314	IARM 72B	863	IARM 88B		
316	31X 7835-7	875	31X WSB2		
360	BS 360B	875	31X WSB3		
370	31X B18	875	IARM 151B		
371	C30.22	893.2 Magnolia B	IARM 211A		
377	31X B19	902	BAM 377		
464	BS 464	903	BS 903B		
464	BS 464A	903	IARM 89C		
464	IARM 74A	905	BS 905A-1		
464	IARM 74B	905	BS CC905		
482	BS 482A	907	32X PB10		
482	IARM 75B	910 MOD	CTIF B1		
485	IARM 76C	922	BS 922B-3		
510	32X PB20	924 MOD	33X GM7		
510	BS 510A	925	CURM 54.05		
510	IARM 77B	927	32X LB11		
521	32X PB23	927.1	32X SN1		
544	BS 544A	931 MOD	C71.34		
544	IARM 78B	932	BS 932E		
615.5	36X CN22	932	IARM 91D		
622	CTIF 2154-V	932 MOD	CTIF B23		
623	32X CA7	936	CTIF B31		
623	BS 623A	937	BS 937		
623	IARM 79B	937	BS 937B-1		
623	IARM 79C	937	BS CC937		
624	32X ALB3	937	CURM 50.02		
624	C52.51	937 MOD	32X LB3		
624	CTIF 3011-G	938	BS 938-1		
624	CTIF CA21	941	IARM 184A		
630	32X CA23	944 MOD	32X LB10		
630	BS 630A	945 MOD	CTIF B32		
630	IARM 80C	947	IARM 267A		
632	32X CA31	952.2	CTIF 2152-S		
642	IARM 81B	953	CTIF CA3		
655	BS 655A	954	BS 954A		
655	IARM 82B	954	BS 954B		
673	31X HT37	954	BS 954C		
674	31X HT38	954	BS CC954		
675	BS 675	954	IARM 93B		
675	BS 675A	954 MOD	IARM 204A		
675	IARM 83B	955	BS 955B		
687	BAM 368	955	BS 955C		

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.

Alloy	Notes	Cu	Ag	Al	Fe	Mn	Ni	P	Pb	S	Sb	Si	Sn	Zn	As	Be	Bi	Co	Cr	Mg	Ti	Zr
101	Impurity Limits	>99.99	<0.0025	.	<0.0010	<0.0005	<0.0010	<0.0003	<0.0005	<0.0018	<0.0004	.	<0.0002	<0.0001	<0.0005	.	<0.0001	.	.	.	.	.
102	Cu = Ag+Cu, Cd<0.0010	>99.95	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
103	Cu = Ag+Cu, Cd<0.0010	>99.95	.	.	.	.	.	0.001-0.005	.	.	.	.	.	.	.	.	.	.	.	.	.	.
104	Cu = Ag+Cu, Cd<0.0010	>0.027	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
105	Cu = Ag+Cu, Cd<0.0010	>0.034	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
107	Cu = Ag+Cu, Cd<0.0010	>0.085	.	.	.	.	.	0.005-0.012	.	.	.	.	.	.	.	.	.	.	.	.	.	.
108	Cu = Ag+Cu+P	>99.95	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
109.1	Cu = Ag+Cu, Cd<0.005	>99.95	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
109.2	Cu = Ag+Cu, Cd<0.02	>99.90	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
109.3	Cu = Ag+Cu, Cd<0.02	>0.044	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
109.4	Cu = Ag+Cu, Cd<0.02	>0.085	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
110	Cu = Ag+Cu	>99.90	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
110.1	Cu = Ag+Cu	>99.90	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
110.2	Cu = Ag+Cu	>99.90	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
110.3	Cu = Ag+Cu	>99.90	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
110.4	Impurity Limits, O 0.010-0.065	>99.90	<0.0025	.	<0.0010	<0.0005	<0.0010	.	<0.0005	<0.0015	<0.0004	.	<0.0005	<0.00010	<0.0005	.	.	.	.	.	.	.
111	Cu = Ag+Cu	>99.90	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
113	Cu = Ag+Cu	>0.027	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
114	Cu = Ag+Cu	>0.034	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
115	Cu = Ag+Cu	>0.054	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
116	Cu = Ag+Cu	>0.85	.	.	.	.	.	<0.04	.	.	.	.	.	.	.	.	.	.	.	.	.	.
117	Cu = Cu+P, B 0.004-0.020	>99.90	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
119.04	Cu = Ag+Cu	>0.027	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
119.05	Cu = Ag+Cu	>0.034	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
119.06	Cu = Ag+Cu	>0.054	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
119.07	Cu = Ag+Cu	>0.085	.	.	.	.	.	0.004-0.012	.	.	.	.	.	.	.	.	.	.	.	.	.	.
120	Cu = Ag+Cu	>99.90	.	.	.	.	.	0.005-0.012	.	.	.	.	.	.	.	.	.	.	.	.	.	.
121	Cu = Ag+Cu	>99.90	>0.014	.	.	.	.	0.015-0.040	.	.	.	.	.	.	.	.	.	.	.	.	.	.
122	Cu = Ag+Cu	>99.90	.	.	.	.	.	0.015-0.025	.	.	.	.	.	.	.	.	.	.	.	.	.	.
122.1	Cu = Ag+Cu	>99.90	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
122.2	Cu = Ag+Cu	>99.90	.	.	.	.	.	0.040-0.065	.	.	.	.	.	.	.	.	.	.	.	.	.	.
123	Cu = Ag+Cu	>99.90	.	.	.	.	.	0.015-0.040	.	.	.	.	.	.	.	.	.	.	.	.	.	.
125	Cu=Ag+Cu, Te+Se <0.025	>99.88	.	.	<0.05	.	<0.050	>0.03	<0.004	.	<0.003	.	<0.05	<0.080	<0.012	.	<0.003	.	.	.	.	.
125.1	Cu=Ag+Cu, Te+Se <0.025	>99.90	.	.	.	.	<0.050	.	<0.004	.	<0.003	.	<0.05	<0.080	<0.012	.	<0.003	.	.	.	.	.
127	Cu=Ag+Cu, Te+Se <0.025	>99.98	>0.027	.	.	.	<0.050	.	<0.004	.	<0.003	.	<0.05	<0.080	<0.012	.	<0.003	.	.	.	.	.
128	Cu=Ag+Cu, Te+Se <0.025	>99.88	>0.034	.	.	.	<0.050	.	<0.004	.	<0.003	.	<0.050	<0.080	<0.012	.	<0.003	.	.	.	.	.
129	Cu=Ag+Cu, Te+Se <0.025	>99.88	>0.054	.	.	.	<0.050	.	<0.004	.	<0.003	.	<0.050	<0.080	<0.012	.	<0.003	.	.	.	.	.
130	Cu=Ag+Cu, Te+Se <0.025	>0.085	.	.	.	.	<0.050	.	<0.004	.	<0.003	.	<0.050	<0.080	<0.012	.	<0.003	.	.	.	.	.
131	Cu = Ag+Cu	>99.80	.	.	.	.	.	.	.	.	.	.	.	.	0.15-0.50	.	.	.	.	.	.	.
141	Cu = Ag+Cu	>99.40	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
141.8	Cu = Ag+Cu	>99.90	.	.	.	.	.	<0.075	<0.02	.	.	.	.	.	.	.	.	.	.	.	.	.
141.81	Cu=Ag+Cu, C<0.005, Cd<0.002	>99.90	<0.01	.	.	.	.	<0.002	<0.002	.	.	.	<0.002	<0.002	.	.	.	.	.	.	.	.
142	Cu = Ag+Cu	>99.40	.	.	.	.	.	0.015-0.040	.	.	.	.	.	.	0.15-0.50	.	.	.	.	.	.	.
142.1	Cu = Ag+Cu	>99.20	.	.	.	.	.	0.013-0.050	.	.	.	.	.	.	0.30-0.50	.	.	.	.	.	.	.
143	Cu = Ag+Cu+Cd, Cd 0.05-0.15	>99.90	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
143.1	Cu = Ag+Cu+Cd, Cd 0.10-0.30	>99.90	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
144	Cu=Ag+Cu+Sn+P, Te+Se <0.02	>99.90	.	.	<0.03	.	<0.05	0.013-0.025	.	.	<0.003	.	0.10-0.20	0.10-0.20	.	.	.	.	.	.	.	.
144.1	Cu = Ag+Cu+Sn	>99.90	.	.	.	.	.	0.005-0.020	<0.05	.	.	.	0.10-0.20	0.10-0.20	.	.	.	.	.	.	.	.
144.15	Cu = Ag+Cu+Sn	>99.96	.	.	.	.	.	.	.	.	.	.	0.05-0.15	0.05-0.15	.	.	.	.	.	.	.	.
144.2	Cu=Ag+Cu+Sn+Te, Te+Se 0.02-0.05	>99.90	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
144.3	Cu = Ag+Cu	>99.90	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
144.4	Cu = Ag+Cu+Sn	>99.96	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
145	Cu = Ag+Cu+Te, Te 0.40-0.70	>99.90	.	.	.	.	.	0.004-0.012	.	.	.	.	.	.	.	.	.	.	.	.	.	.
145.1	Cu = Ag+Cu+Te, Te 0.30-0.70	>99.85	.	.	.	.	.	0.010-0.030	<0.05	.	.	.	.	.	.	.	.	.	.	.	.	.
145.2	Cu = Ag+Cu+Te, Te 0.40-0.70	>99.40	.	.	.	.	.	0.004-0.020	.	.	.	.	.	.	.	.	.	.	.	.	.	.
145.3	Cu = Ag+Cu, Te 0.003-0.022	>99.95	.	.	.	.	.	0.001-0.005	.	.	.	.	0.003-0.22	.	.	.	.	.	.	.	.	.
147	Cu = Ag+Cu+P+S	>99.90	.	.	.	.	.	0.002-0.005	.	0.20-0.50	.	.	.	.	.	.	.	.	.	.	.	.
147.1	Cu = Ag+Cu+P+S	>99.90	.	.	.	.	.	0.010-0.030	<0.05	0.05-0.15	.	.	.	.	.	.	.	.	.	.	.	.
147.2	Cu = Ag+Cu+P+S	>99.50	.	.	.	.	.	0.10-0.03	<0.10	0.20-0.50	.	.	.	.	.	.	.	.	.	.	.	.
147.3	Cu = Ag+Cu+P+S	>99.80	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
150	Cu = Ag+Cu	>99.80	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
151	Cu = Ag+Cu	>99.80	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
151.5	Cu = Ag+Cu+Zn	>99.96	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
155	Cu = Ag+Cu	>99.75	0.027-0.10	.	.	.	.	0.040-0.080	.	.	.	.	.	.	.	.	.	0.20-0.30	.	.	.	.
156	Cu = Ag+Cu	>99.60	.	.	.	.	.	0.06-0.09	.	.	.	.	.	.	.	.	.	.	.	.	.	.
157.1	Cu = Ag+Cu, O 0.07-0.15	>99.71	.	0.08-0.12	<0.01	.	.	.	<0.01	.	.	.	.	.	.	.	.	.	.	.	.	.
157.15	Cu = Ag+Cu, O 0.12-0.19	>99.62	.	0.13-0.17	<0.01	.	.	.	<0.01	.	.	.	.	.	.	.	.	.	.	.	.	.
157.15	Cu=Ag+Cu, B 1.2-1.8, O <0.19	>97.82	.	0.13-0.17	<0.01	.	.	.	<0.01	.	.	.	.	.	.	.	.	.	.	.	.	.
157.2	Cu = Ag+Cu, O 0.16-0.24	>99.52	.	0.18-0.22	<0.01	.	.	.	<0.01	.	.	.	.	.	.	.	.	.	.	.	.	.
157.25	Cu = Ag+Cu, O 0.20-0.28	>99.43	.	0.23-0.27	<0.01	.	.	.	<0.01	.	.	.	.	.	.	.	.	.	.	.	.	.
Alloy	Notes	Cu	Ag	Al	Fe	Mn	Ni	P	Pb	S	Sb	Si	Sn	Zn	As	Be	Bi	Co	Cr	Mg	Ti	Zr

Alloy	Notes	Cu	Ag	Al	Fe	Mn	Ni	P	Pb	S	Sb	Si	Sn	Zn	As	Be	Bi	Co	Cr	Mg	Ti	Zr
197.1	Ni<0.10	rem			0.30-1.20	<0.05	<0.05	0.10-0.40	<0.05				<0.02	<0.20				<0.05		0.01-0.20		
197.2	Ni<0.10	rem			0.05-0.40	<0.05	<0.10	0.07-0.15	<0.05				<0.20	<0.20						0.02-0.06		
197.5		rem			0.35-1.20	<0.05	<0.05	0.05-0.15	<0.05				0.05-0.40	<0.20						0.05-0.20		
198		rem			0.02-1.50	<0.05	<0.05	0.10-0.40	<0.05				0.10-1.00	0.30-1.50						0.01-0.20		
198.1		rem			1.5-3.0			<0.10						1.0-5.0					<0.10	<0.10	<0.10	<0.10
199	>99.50																				2.9-3.4	
205		97.0-98.0			<0.05				<0.02													
210		94.0-96.0			<0.05				<0.03													
220		89.0-91.0			<0.05				<0.05													
226		86.0-89.0			<0.05				<0.05													
230		84.0-86.0			<0.05				<0.05													
230.3		81.5-85.5			<0.05				<0.05			0.20-0.40										
234		81.0-84.0			<0.05				<0.05													
240		78.5-81.5			<0.05				<0.05													
240.8		78.0-82.0		<0.10	<0.05				<0.20													
250		74.0-76.0			<0.05				<0.05													
256		71.0-73.0			<0.05				<0.05													
260		68.5-71.5			<0.05				<0.07													
261		68.5-71.5			<0.05			0.02-0.05	<0.05													
261.3		68.5-71.5			<0.05				<0.05						0.02-0.08							
262		67.0-70.0			<0.05				<0.07													
263.8		68.0-72.0		<0.10	<0.05				<0.30													
268		64.0-68.5			<0.05				<0.15													
270		63.0-68.5			<0.07				<0.10													
272		62.0-65.0			<0.07				<0.10													
274		61.0-64.0			<0.05				<0.10													
280		59.0-63.0			<0.07				<0.30													
282		58.0-61.0		<0.005	<0.05			0.12-0.22	<0.03				<0.05									
285.8		49.0-52.0		<0.10	<0.10				<0.50													
298		49.0-52.0		<0.10	<0.10				<0.50													
310		89.0-91.0			<0.10				0.30-0.70													
312		87.5-90.5			<0.10		<0.25		0.7-1.2													
314		87.5-90.5			<0.10		<0.7		1.3-2.5													
316		87.5-90.5			<0.10		0.7-1.2	0.04-0.10	1.3-2.5													
Alloy	Notes	Cu	Ag	Al	Fe	Mn	Ni	P	Pb	S	Sb	Si	Sn	Zn	As	Be	Bi	Co	Cr	Mg	Ti	Zr
320		83.5-86.5			<0.10		<0.25		1.5-2.2					rem								
325		72.0-74.5			<0.10				2.5-3.0					rem								
325.1		69.0-72.0			<0.07				0.30-0.70					rem	0.02-0.06							
330		65.0-68.0			<0.06				0.25-0.70					rem								
331		65.0-68.0			<0.06				0.8-1.5					rem								
332		65.0-68.0			<0.07				1.5-2.5					rem								
335		62.0-65.0			<0.15				0.25-0.70					rem								
335.3		62.5-66.5			<0.10				0.30-0.80					rem	0.02-0.06							
340		62.0-65.0			<0.15				0.8-1.5					rem								
342		62.0-65.0			<0.15				1.5-2.5					rem								
344		62.0-66.0			<0.10				0.50-1.00					rem								
345		62.0-65.0			<0.15				1.5-2.5					rem								
347		62.5-64.5			<0.10				1.0-1.8					rem								
348		61.5-63.5			<0.10				0.40-0.80					rem								
349		61.0-64.0			<0.10				0.10-0.50					rem								
350		60.0-63.0			<0.15				0.8-2.0					rem								
353		60.0-63.0			<0.15				1.5-2.5					rem								
353.3		60.5-64.0			<0.15				1.5-3.5					rem	0.02-0.25							
353.4		60.0-63.0			0.10-0.30				1.5-2.5					rem								
356		60.0-63.0			<0.15				2.0-3.0					rem								
360		60.0-63.0			<0.35				2.5-3.7					rem								
362		60.0-63.0			<0.15				3.5-4.5					rem								
365		58.0-61.0			<0.15				0.25-0.70					rem								
366		58.0-61.0			<0.15				0.25-0.70					rem	0.02-0.06							
367		58.0-61.0			<0.15				0.24-0.70					rem								
368		58.0-61.0			<0.15			0.02-0.10	0.25-0.70					rem								
370		59.0-62.0			<0.15				0.8-1.5					rem								
371		58.0-62.0			<0.15				0.6-1.2					rem								
377		58.0-61.0			<0.30				1.5-2.5					rem								
377.1		56.5-60.0			<0.30				1.0-2.5					rem								
378		56.0-59.0			<0.30				1.5-2.5					rem								
380		55.0-60.0		<0.50	<0.35				1.5-2.5					rem								
380.1		0.10-0.60			<0.30				1.5-3.0				<0.30	rem								
385		55.0-59.0			<0.35				2.5-3.5					rem								
Alloy	Notes	Cu	Ag	Al	Fe	Mn	Ni	P	Pb	S	Sb	Si	Sn	Zn	As	Be	Bi	Co	Cr	Mg	Ti	Zr

Alloy	Notes	Cu	Ag	Al	Fe	Mn	Ni	P	Pb	S	Sb	Si	Sn	Zn	As	Be	Bi	Co	Cr	Mg	Ti	Zr	
385.1		56.0-60.0							2.5-4.5					rem									
385.9		56.5-60.0			<0.35				2.0-3.5					rem									
386		56.0-59.0			<0.35				2.5-3.5					rem									
404		94.0-96.0			<0.05				<0.05					0.35-0.70									
405		94.0-96.0			<0.05				<0.05					0.7-1.3									
408		94.0-96.0			<0.05				<0.05					1.8-2.2									
408.1		94.5-96.5			0.08-0.12				<0.05					1.8-2.2									
408.2		>94.00			0.05-0.20			0.11-0.20	0.028-0.040					1.0-2.5									
408.5		94.5-96.5			0.05-0.20			0.05-0.20	0.02-0.04					0.20-2.50									
408.6		94.0-96.0			0.01-0.05			0.05-0.20	0.02-0.04					rem									
409		92.0-94.0			<0.05				<0.05					0.50-0.80									
410		91.0-93.0			<0.05				<0.05					2.0-2.8									
411		89.0-92.0			<0.05				<0.10					0.30-0.70									
411.2		89.0-92.0			0.05-0.20			0.05-0.20	0.02-0.05					0.30-0.70									
413		89.0-93.0			<0.05				<0.10					rem									
415		89.0-93.0			<0.05				<0.10					1.5-2.2									
419		89.0-92.0			<0.05				<0.10					4.8-5.5									
420		88.0-91.0			<0.05				<0.10					1.5-2.0									
421		87.5-89.0			<0.05	0.15-0.35			<0.25					1.5-3.0									
422		86.0-89.0			<0.05				<0.35					2.2-3.0									
422.2		88.0-91.0			0.05-0.20				<0.35					0.8-1.4									
425		87.0-90.0			<0.05				0.02-0.05					0.7-1.4									
425.2		88.0-91.0			0.05-0.20				<0.35					1.5-3.0									
426		87.0-90.0			0.05-0.20				0.02-0.04					1.5-3.0									
430	Ni = Ni+Co	84.0-87.0			<0.05				0.05-0.20					2.5-4.0									
432		85.0-88.0			<0.05				<0.10					1.7-2.7									
434		84.0-87.0			<0.05				<0.05					0.40-0.60									
435		78.0-83.0			<0.05				<0.05					0.40-1.00									
436		80.0-83.0			<0.05				<0.10					0.6-1.2									
438		79.0-82.0			<0.05				<0.05					0.20-0.50									
442.5		73.0-76.0			<0.20				<0.07					1.0-1.5									
443		70.0-73.0			<0.06				<0.07					0.50-1.50									
444		70.0-73.0			<0.06				<0.07					0.8-1.2									
445		70.0-73.0			<0.06				<0.07					0.8-1.2									
454.5		65.0-66.0		0.20-0.40					<0.10					0.10-0.30									
462		62.0-65.0		<0.03	<0.10				<0.20					rem									
462.1		61.0-64.0			<0.10				<0.05					<1.00									
464		59.0-62.0			<0.10				<0.20					0.50-1.00									
464.2		61.0-63.5			<0.10				<0.20					1.0-1.4									
465		59.0-62.0			<0.10				<0.20					0.50-1.00									
466		59.0-62.0			<0.10				<0.20					rem									
467		59.0-62.0			<0.10				<0.20					0.50-1.00									
470		57.0-61.0		<0.01	<0.10				<0.05					0.25-1.00									
472		49.0-52.0			<0.10				<0.50					3.0-4.0									
476		86.0-88.0			<0.05	0.05-0.15			1.8-2.2					rem									
479.4	Ni = Ni+Co	63.0-66.0			0.10-1.00				0.03-0.07					1.8-2.2									
482		59.0-62.0			<0.10				1.0-2.0					rem									
485		59.0-62.0			<0.10				0.40-1.00					0.50-1.00									
485.1		59.0-62.0			<0.10				1.3-2.2					0.50-1.00									
486		59.0-62.0							1.0-2.5					rem									
490.8		49.0-52.0		<0.10	<0.05				<0.50					rem									
501		rem			<0.05				<0.05					3.0-4.0									
502		rem			<0.10				<0.05					0.50-0.80									
505		rem			<0.10				<0.05					1.0-1.5									
505.1		rem			<0.10				<0.05					1.0-1.7									
505.8		rem			0.05-0.20				0.03-0.35					0.10-0.25									
505.9		>97.00			0.05-0.40				0.02-0.10					1.0-1.7									
507		rem			<0.10				<0.02					0.5-1.5									
507.05		>96.50			0.10-0.40				<0.05					1.5-2.0									
507.1		rem			0.10-0.40				<0.02					<0.50									
507.15		rem			0.05-0.15				0.04-0.15					1.7-2.3									
507.25		>94.00			0.05-0.20				<0.15					1.7-2.3									
507.8		rem			0.05-0.20				0.025-0.040					1.5-3.0									
508		rem			<0.10				0.02-0.06					1.5-2.5									
509		rem			<0.10				0.01-0.07					1.7-2.3									
510		rem			<0.10				0.03-0.30					<0.30									
510.8		rem			0.05-0.20				<0.05					4.2-5.8									
511		rem			<0.10				0.02-0.10					4.8-5.8									
511.8		rem			0.05-0.20				<0.05					<0.30									
511.9		rem			0.05-0.15				0.03-0.35					3.5-4.9									
Alloy	Notes	Cu	Ag	Al	Fe	Mn	Ni	P	Pb	S	Sb	Si	Sn	Zn	As	Be	Bi	Co	Cr	Mg	Ti	Zr	
Alloy	Notes	Cu	Ag	Al	Fe	Mn	Ni	P	Pb	S	Sb	Si	Sn	Zn	As	Be	Bi	Co	Cr	Mg	Ti	Zr	
Alloy	Notes	Cu	Ag	Al	Fe	Mn	Ni	P	Pb	S	Sb	Si	Sn	Zn	As	Be	Bi	Co	Cr	Mg	Ti	Zr	

Alloy	Notes	Cu	Ag	Al	Fe	Mn	Ni	P	Pb	S	Sb	Si	Sn	Zn	As	Be	Bi	Co	Cr	Mg	Ti	Zr	
518		rem		<0.01	<0.10			0.10-0.35	<0.02				4.0-6.0	<0.30									
519		rem			0.05-0.20			0.03-0.35	<0.05				5.0-7.0	<0.30									
521.8		rem			<0.10		0.05-0.20	0.03-0.35	<0.05				5.0-7.0	<0.30									
521.8		rem			0.05-0.20		0.05-0.20	0.02-0.10	<0.05				7.0-9.0	<0.30									
524.8		rem			<0.10			0.03-0.35	<0.05				9.0-11.0	<0.20									
526	Cu+Mn+P+Sn >99.5	rem			0.05-0.20		0.05-0.20	0.02-0.10	<0.05				9.0-11.0	<0.20									
529	Cu+Mn+P+Sn >99.5	rem			<0.10	1.0-2.0		0.03-0.35	<0.05				2.2-3.3	<0.20									
532	Cu+P >99.85	rem			<0.10	1.0-2.0		0.03-0.35	2.5-4.0				4.0-5.5	<0.20									
534		rem			<0.10			0.03-0.35	0.8-1.2				3.5-5.8	<0.30									
544		rem			<0.10			0.01-0.50	3.5-4.5				1.5-4.5	<0.30									
546	Cu+P+Fe+Sn+Zn >99.5				<0.10			0.01-0.50	3.5-4.5				1.5-4.5	<0.30									
548	Cu+P+Fe+Sn+Zn >99.5				<0.10			0.03-0.35	4.0-6.0				4.0-6.0	<0.30									
551.8	Cu+P >99.85	rem						4.8-5.2															
551.81	Cu+P >99.85	rem						7.0-7.5					1.7-2.0										
552.8		rem	1.80-2.20					6.8-7.2															
552.81		rem	4.80-5.20					5.8-6.2															
552.82		rem	4.80-5.20					6.5-7.0															
552.83		rem	5.80-6.20					7.0-7.5															
552.84		rem	14.5-15.5					4.8-5.2															
552.85		rem	17.2-18.0					6.0-6.7															
566		rem	29-31		<0.50																		
606		rem		4.0-7.0																			
607		rem		2.3-2.9					<0.01														
608		rem		5.0-6.5	<0.10				<0.10						0.20-0.35								
610		rem		6.0-8.5	<0.50				<0.02					<0.10									
613		rem		6.0-7.5	2.0-3.0	<0.20	<0.15	<0.015	<0.02				0.20-0.50	<0.10									
614		rem		6.0-8.0	1.5-3.5	<1.00	1.8-2.2	<0.015	<0.01					<0.20									
615	Cu = Ag+Cu	rem		7.7-8.3					<0.05														
615.5	Cu = Ag+Cu	rem		5.5-6.5	<0.20		1.5-2.5		<0.05					<0.80									
618	Cu = Ag+Cu	rem		8.5-11.0	0.50-1.50				<0.02					<0.10									
619	Cu = Ag+Cu	rem		8.5-11.0	3.0-4.5				<0.02					<0.80									
622	Cu = Ag+Cu	rem		11.0-32.0	2.0-4.2				<0.02					<0.10									
623	Cu = Ag+Cu	rem		8.5-10.0	2.0-4.0	<0.50	<1.0		<0.02					<0.25									
624	Cu = Ag+Cu	rem		10.0-11.5	2.0-4.5	<0.30								<0.25									
625	Cu = Ag+Cu	rem		12.5-13.5	3.5-5.0	<2.00			<0.02					<0.04									
625.8	Cu = Ag+Cu	rem		12.0-13.0	3.0-5.0				<0.02					<0.04									
625.81	Cu = Ag+Cu	rem		13.0-14.0	3.0-5.0				<0.02					<0.04									
625.82	Cu = Ag+Cu	rem		14.0-15.0	3.0-5.0				<0.02					<0.02									
627.3	Cu = Ag+Cu	rem		8.5-11.0	4.0-6.0	<0.50	4.0-6.0		<0.05					<0.40									<0.05
630	Cu = Ag+Cu	rem		9.0-11.0	2.0-4.0	<1.50	4.0-5.5							<0.20									
630.1	Cu = Ag+Cu	rem		9.7-10.9	2.0-3.5	<1.50	4.5-5.5							<0.30									
630.2	Cu = Ag+Cu	rem		10.5-11.5	4.0-5.5	<1.50	4.2-6.0		<0.03					<0.30									
632	Cu = Ag+Cu	rem		8.7-9.5	3.5-4.3	1.2-2.0	4.0-4.8		<0.02					<0.15									<0.05
632.3	Cu = Ag+Cu	75.9-84.5		8.5-9.5	3.0-5.0	<3.50	4.0-5.5		<0.02					<0.10									
632.8	Cu = Ag+Cu	rem		8.5-9.5	3.0-5.0	0.6-3.5	4.0-5.5		<0.02					<0.10									
633	Cu = Ag+Cu	rem		5.0-7.5	2.0-6.0	11.0-13.0	1.0-2.5		<0.02					<1.50									
633.8	Cu = Ag+Cu	rem		7.0-8.5	2.0-4.0	11.0-14.0	1.5-3.0		<0.02					<0.10									
634	Cu = Ag+Cu	rem		2.6-3.2	<0.15				<0.05					<0.15									
636	Cu = Ag+Cu	rem		3.0-4.0	<0.15				<0.05					<0.10									
638	Cu = Ag+Cu	rem		2.5-3.1	<0.20				<0.05					<0.80									
641.1	Cu = Ag+Cu	rem		8.0-11.0		<0.50			1.0-2.0					<0.10									
642	Cu = Ag+Cu	rem		6.3-7.6	<0.30				<0.05					1.5-2.2									
642.1	Cu = Ag+Cu	rem		6.3-7.0	<0.30				<0.05					1.5-2.0									
642.1	Cu = Ag+Cu	rem												0.25-0.45									
642.5	Cu = Ag+Cu	rem		5.5-7.5	<1.00	<0.50			<0.05					<0.10									
644	Cu = Ag+Cu	rem		3.5-4.5	<0.05				<0.03					<0.20									
647	Cu = Ag+Cu	rem			<0.10				<0.10					0.40-0.80									
647.1	Cu = Ag+Cu	>95.00												0.20-0.90									
647.2	Cu = Ag+Cu	rem												0.10-0.40									
647.2	Cu = Ag+Cu	rem												0.35-0.60									
647.2	Cu = Ag+Cu	rem												0.10-0.50									
647.2	Cu = Ag+Cu	rem												0.10-0.40									
647.25	Cu = Ag+Cu	>95.00			<0.25				<0.01					0.20-0.80									
647.3	Cu = Ag+Cu	>93.50							<0.05					0.50-0.90									
647.4	Cu = Ag+Cu	>95.00							<0.01					0.05-0.50									
647.5	Cu = Ag+Cu	rem			<1.00				<0.01					0.10-0.70									<0.10
647.6	Cu = Ag+Cu	>93.50			0.10-0.40		0.40-2.50		<0.02					0.05-0.60									
647.8	Cu = Ag+Cu	>90.00				0.01-1.00	1.0-3.5		<0.02					0.20-0.90									<0.01
649	Cu = Ag+Cu	rem		<0.10	<0.10		<0.10		<0.05					0.8-1.2									<0.01
651	Cu = Ag+Cu	rem			<0.80				<0.05					1.2-1.6									
653	Cu = Ag+Cu	rem			<0.80				<0.														

Alloy	Notes	Cu	Ag	Al	Fe	Mn	Ni	P	Pb	S	Sb	Si	Sn	Zn	As	Be	Bi	Co	Cr	Mg	Ti	Zr
655	Cu = Ag+Cu	rem		<0.01	<0.80	0.50-1.30	<0.6		<0.05			2.8-3.8		<1.50								
656	Cu = Ag+Cu	rem			<0.50	<1.50			<0.02			2.8-4.0		<1.50								
656.2	Cu = Ag+Cu	>90.00			1.0-2.0	<1.00		<0.10	<0.05			2.4-4.0		1.5-4.0								
658	Cu = Ag+Cu	rem			<0.25	0.50-1.30	<0.6		<0.05			2.8-3.8										
661	Cu = Ag+Cu	rem			<0.25	<1.50			0.20-0.80			2.8-3.5		<1.50								
662	Cu = Ag+Cu	86.6-91.0			<0.05		0.30-1.00	0.05-0.20	<0.05				0.20-0.70	rem								
663	Cu = Ag+Cu	84.5-87.5			1.3-1.7		<0.05	<0.35	<0.05			<0.05	1.5-3.0	rem				<0.20				
664	Cu = Ag+Cu	rem		<0.05	1.8-2.3		<0.05	<0.02	<0.015			<0.05	<0.05	11.0-12.0	<0.05			0.30-0.70				
664.1	Cu = Ag+Cu	rem			0.50-1.50				<0.015					12.7-17.0								
664.2	Cu = Ag+Cu	rem																				
667	Cu = Ag+Cu	68.5-71.5			<0.10	0.8-1.5			<0.07					rem								
668	Cu = Ag+Cu	60.0-63.0		<0.25	<0.35	2.0-3.15	<0.25		<0.05			0.50-1.50	<0.30	rem								
669	Cu = Ag+Cu	62.5-64.5			<0.25	11.5-12.5			<0.05					rem								
669.5	Cu = Ag+Cu	rem		1.0-1.5	<0.50	14.0-15.0			<0.01					14.0-15.0								
670	Cu = Ag+Cu	63.0-68.0		3.0-6.0	2.0-4.0	2.5-5.0			<0.20				<0.50	rem								
671.3	Cu = Ag+Cu	56.0-59.0		0.10-1.00	<0.50	0.50-1.50	0.50-1.50		0.50-1.50				0.50-1.50	rem								
671	Cu = Ag+Cu	58.0-63.0		<0.25	<0.50	2.0-3.15	<0.25		0.40-3.00				<0.30	rem								
674	Cu = Ag+Cu	55.0-60.0		0.50-2.00	<0.35	2.0-3.15	<0.25		<0.50				<0.30	rem								
674.1	Cu = Ag+Cu	55.5-59.0		1.3-2.3	<1.00	1.0-2.4	<2.0		<0.8			0.7-1.3	<0.50	rem								
674.2	Cu = Ag+Cu	57.0-58.5		1.0-2.0	0.15-0.55	1.5-2.5	<0.25		0.25-0.80			0.25-0.70	<0.35	rem								
675	Cu = Ag+Cu	57.0-60.0		<0.25	0.8-2.0	0.05-0.50			<0.20				0.50-1.50	rem								
676	Cu = Ag+Cu	57.0-60.0			0.40-1.30	0.05-0.50			0.50-1.00				0.05-1.50	rem								
676.2	Cu = Ag+Cu	55.0-57.0			0.50-1.30	1.0-2.0			<0.07					rem								
677	Cu = Ag+Cu	55.5-58.0			0.7-1.5	0.05-0.30	1.5-2.3		<0.05					rem								
678	Cu = Ag+Cu	56.0-59.0		0.50-1.50	0.7-1.5	0.20-0.60			<0.30				<0.20	rem								
678.1	Cu = Ag+Cu	56.5-59.5		0.40-1.60	<1.00	0.40-1.80	<1.5		<1.0			<0.60	<0.50	rem								
678.2	Cu = Ag+Cu	56.5-59.5		0.30-1.30	0.50-1.20	0.30-2.00	<1.5		<0.10				0.30-1.00	rem								
681	Cu = Ag+Cu	56.0-60.0		<0.01	0.25-1.25	0.01-0.50	0.20-0.80		<0.05			0.04-0.15	0.75-1.10	rem								
681	Cu = Ag+Cu	56.0-60.0			0.25-1.25	0.01-0.50			<0.05			0.04-0.15	0.75-1.10	rem								
682	Cu = Ag+Cu	58.0-60.0		<0.01	0.25-1.25	0.01-0.50			<0.05			0.07-0.15		rem								
682	Cu = Ag+Cu	58.0-60.0			0.6-1.0	0.6-1.0			<0.8					rem								
686	Cu = Ag+Cu	56.0-60.0		0.30-1.50	0.50-1.20	0.30-2.00			0.50-1.50				0.20-1.00	rem								
687	Cu = Ag+Cu	76.0-79.0		1.8-2.5	<0.06				<0.07					rem								
688	Cu = Ag+Cu	3.0-3.8			<0.20				<0.05					21.3-24.1	0.02-0.06			0.25-0.55				
690	Cu = Ag+Cu	72.0-74.6		3.0-3.8	<0.05		0.50-0.80		<0.025					rem								
690.5	Cu = Ag+Cu	70.0-75.0		3.0-4.0			0.50-1.50					0.10-0.60		rem								0.01-0.20
691	Cu = Ag+Cu	81.0-84.0		0.7-1.2	<0.25	<0.10	0.8-1.4		<0.05			0.8-1.3	<0.10	rem								
694	Cu = Ag+Cu	80.0-83.0			<0.20				<0.30			3.5-4.5		rem								
694.3	Cu = Ag+Cu	80.0-83.0			<0.20				<0.30			3.5-4.5		rem	0.03-0.06							
694.4	Cu = Ag+Cu	80.0-83.0			<0.20				<0.30			3.5-4.5		rem								
694.5	Cu = Ag+Cu	80.0-83.0			<0.20	<0.40		0.03-0.06	<0.30			3.5-4.5		rem								
697	Cu = Ag+Cu	75.0-80.0			<0.20	<0.40			0.50-1.50			2.5-3.5		rem								
697.1	Cu = Ag+Cu	75.0-80.0			<0.20	<0.40			0.50-1.50			2.5-3.5		rem	0.03-0.06							
697.2	Cu = Ag+Cu	75.0-80.0			<0.20	<0.40			0.50-1.50			2.5-3.5		rem								
697.3	Cu = Ag+Cu	75.0-80.0			<0.20	<0.40		0.03-0.06	<0.8			2.5-3.5		rem								
698	Cu = Ag+Cu	66.0-70.0			<0.4		<0.50		<0.8			0.7-1.3		rem								
699	Cu=Ag+Cu; C, Cd	<0.05		1.4-2.3	<0.10	40.0-48.0	<0.10		<0.02					<0.14	<0.01			<0.20				
699.1	Cu = Ag+Cu	rem		0.25-0.80	1.0-1.4	28.0-32.0	<0.10		<0.01					3.0-5.0								
699.5	Cu = Ag+Cu	51.0-54.0			<0.05	36.0-40.0	8.5-10.5															
701	Cu = Ag+Cu	rem			<0.05	<0.50	3.0-4.0		<0.05					<0.25								
702	Cu = Ag+Cu	rem			<0.10	<0.40	2.0-3.0		<0.05													
702.3	Cu = Ag+Cu	rem			<0.20	<0.10	2.2-3.2		<0.05													
702.5	Cu = Ag+Cu	rem			<0.20	<0.10	2.2-4.2		<0.05													
702.6	Cu = Ag+Cu	rem			<0.20	<0.10	1.0-3.0	<0.01	<0.05					<1.00								
702.7	Cu = Ag+Cu	rem			0.28-1.00	<0.15	1.0-3.0		<0.05					<1.00								
702.8	Cu = Ag+Cu	rem			<0.015		1.3-1.7	0.020-0.040	<0.02					<1.00								
702.9	Cu = Ag+Cu	rem			<0.015		1.3-1.7	0.020-0.040	<0.02					<1.00								
703	Cu = Ag+Cu	>99.50			<0.05	<0.50	4.7-5.7															
703.2	Cu = Ag+Cu	rem		0.20-1.20	1.3-1.7	0.30-0.80	4.8-6.2		<0.05					<1.00				0.18-0.50				
704	Cu = Ag+Cu	rem			1.0-1.8	0.50-1.50	4.5-6.0		<0.05					<1.00								
704.4	Cu = Ag+Cu	rem			1.0-1.8	0.50-1.50	4.5-6.0		<0.05					<1.00								
705	Cu = Ag+Cu	rem			<0.10	<0.15	5.8-7.8		<0.05					<0.20								
706	Cu = Ag+Cu	rem			1.0-1.8	0.50-1.00	9.0-11.0		<0.05					<1.00								
706.1	Cu = Ag+Cu	rem			1.0-2.0	1.0-1.00	10.0-11.0		<0.01					<1.00								
706.2	Cu = Ag+Cu	>86.50			1.0-1.8	<1.00	9.0-11.0	<0.02	<0.02					<0.50								
706.9	Cu=Ag+Cu, C<0.03, Hsp<0.0005	rem		<0.002	<0.005	<0.001	9.0-11.0	<0.001	<0.001					<0.001	<0.001			<0.02				<0.001
707	Cu = Ag+Cu	rem			<0.05	<0.50	9.5-10.5		<0.													

Alloy	Notes	Cu	Ag	Al	Fe	Mn	Ni	P	Pb	S	Sb	Si	Sn	Zn	As	Be	Bi	Co	Cr	Mg	Ti	Zr
815		>98.00		<0.10	<0.10				<0.02			<0.15	<0.10	<0.10					0.40-1.50			
815.4		>95.10		<0.10	<0.15		2.0-3.0		<0.02			0.40-0.80	<0.10	<0.10					0.40-1.60			
817		>94.20	0.80-1.20				0.25-1.50		<0.02										0.25-1.50			
818		>95.60	0.80-1.20																1.4-1.7			
820		>95.00		<0.10	<0.10		<0.20		<0.02			<0.15	<0.10	<0.10					2.4-2.7			<0.10
821		>95.50					0.25-1.50												0.25-1.50			
822		>96.50					1.0-2.0												0.25-1.50			
824		>96.40		<0.15	<0.20		<0.10		<0.02				<0.10	<0.10					0.20-0.40			
825		>96.50		<0.15	<0.25		<0.20		<0.02			0.20-0.35	<0.10	<0.10					0.35-0.70			<0.10
825.1		>95.50		<0.15	<0.25		<0.20		<0.02			0.20-0.35	<0.10	<0.10					1.0-2.0			<0.10
826		>95.20		<0.15	<0.25		1.0-1.5		<0.02			0.20-0.35	<0.10	<0.10					0.35-0.70			<0.10
827		>94.60		<0.15	<0.25		1.0-1.5		<0.02			0.20-0.35	<0.10	<0.10					0.35-0.70			<0.10
828		>94.80		<0.15	<0.25		<0.20		1.0-2.0			0.20-0.35	<0.10	<0.10					0.35-0.70			<0.10
833		92.0-94.0							1.0-2.0				2.0-6.0						0.35-0.70			<0.10
834		88.0-92.0							<0.50				8.0-12.0						0.35-0.70			<0.10
834.1		88.0-91.0		<0.05	<0.05		<0.05		<0.50			<0.005	1.0-2.0						0.35-0.70			<0.10
834.2		88.0-92.0		<0.10	<0.10		0.25-0.70		<0.50			0.25-0.70	rem						0.35-0.70			<0.10
834.5		87.0-89.0		<0.005	<0.30		0.8-2.0	<0.03	1.5-3.0	<0.08	<0.25	<0.005	2.0-3.5	5.5-7.5					0.20-0.40			<0.10
835.2		86.0-88.0		<0.008	<0.30		0.50-1.00	<0.03	3.5-4.5	<0.08	<0.25	<0.005	5.5-6.5	1.0-2.5					0.35-0.70			<0.10
835.2		rem			<0.30		<1.0		3.5-4.5		<0.25		3.5-4.5	1.5-4.0					0.35-0.70			<0.10
836		84.0-86.0		<0.005	<0.30		<1.0	<0.05	4.0-6.0	<0.08	<0.25	<0.005	4.0-6.0	4.0-6.0	0.05-0.20				0.35-0.70			<0.10
837		83.0-88.0		<0.005	<0.30		<0.30	<0.50	4.0-6.0	<0.08	<0.25	<0.005	4.0-6.0	4.0-6.0	0.05-0.20				0.35-0.70			<0.10
838		82.0-83.8		<0.005	<0.30		<1.0	<0.03	5.0-7.0	<0.08	<0.25	<0.005	3.0-4.2	5.0-8.0					0.35-0.70			<0.10
838.1		83.8		<0.01	<0.50		<2.0	<0.03	4.0-6.0	<0.08	<0.25	<0.005	2.0-3.5	7.5-9.5	<0.10				0.35-0.70			<0.10
842		78.0-82.0		<0.005	<0.40		<0.8	<0.05	2.0-3.0	<0.08	<0.25	<0.005	4.0-6.0	10.0-16.0					0.35-0.70			<0.10
844		78.0-82.0		<0.005	<0.40		<1.0	<0.20	6.0-8.0	<0.08	<0.25	<0.005	2.0-3.5	7.0-11.0					0.35-0.70			<0.10
844.1		84.4		<0.01	<0.40		<1.0	<0.02	7.0-9.0	<0.08	<0.25	<0.005	3.0-4.5	7.0-11.0					0.35-0.70			<0.10
845		77.0-79.0		<0.005	<0.40		<1.0	<0.02	6.0-7.5	<0.08	<0.25	<0.005	2.0-4.0	10.0-14.0					0.35-0.70			<0.10
848		75.0-77.0		<0.005	<0.40		<1.0	<0.02	5.5-7.0	<0.08	<0.25	<0.005	2.0-3.0	13.0-17.0					0.35-0.70			<0.10
852		70.0-74.0		<0.005	<0.60		<1.0	<0.02	1.5-3.8	<0.05	<0.20	<0.005	0.7-2.0	20.0-27.0					0.35-0.70			<0.10
852.1		70.0-75.0		<0.005	<0.80		<1.0		2.0-5.0			<0.005	1.0-3.0	rem	0.02-0.06				0.35-0.70			<0.10
853		68.0-72.0		<0.01	<0.80		<1.0		<0.50			<0.005	<0.50	rem	0.02-0.06				0.35-0.70			<0.10
854		65.0-70.0		<0.35	<0.70		<1.0		1.5-3.8			<0.005	0.50-1.50	24.0-32.0					0.35-0.70			<0.10
855		59.0-63.0		<0.20	<0.20		<0.20		<0.20				<0.20	rem					0.35-0.70			<0.10
Alloy	Notes	Cu	Ag	Al	Fe	Mn	Ni	P	Pb	S	Sb	Si	Sn	Zn	As	Be	Bi	Co	Cr	Mg	Ti	Zr
856		59.0-63.0		<0.8	<0.20	<0.20	<0.20		<0.20				<0.20	rem								
857		58.0-64.0		0.20-0.80	<0.80	<0.50	<1.0		1.0-2.5			<0.05	0.50-1.50	32.0-40.0								
857.1		58.0-63.0		<0.50	<0.50	<0.25	<0.50	<0.01	1.0-2.5	<0.05	<0.05	<0.05	<1.00	rem								
858		>57.00		4.5-5.5	2.0-4.0	2.5-5.0			<1.5		<0.05	<1.50	<0.20	31.0-41.0	<0.05							
861		66.0-68.0							<0.20					rem								
862		60.0-66.0		3.0-4.9	2.0-4.0	2.5-5.0	<1.0		<0.20				<0.20	22.0-28.0								
863		60.0-66.0		5.0-7.5	2.0-4.0	2.5-5.0	<1.0		<0.20				<0.20	22.0-28.0								
864		56.0-62.0		0.50-1.50	0.40-2.00	0.10-1.00	<1.0		0.50-1.50				0.50-1.50	34.0-42.0								
865		55.0-60.0		0.50-2.50	0.40-2.00	1.0-1.5	<1.0		<0.40				<1.00	36.0-42.0								
865.5		>57.00		0.50-2.50	0.7-2.0	0.10-3.00	<1.0		<0.50			<1.00	<1.00	rem								
867		53.0-60.0		1.0-3.0	1.0-3.0	1.0-3.5	<1.0		0.5-1.5				<1.50	30.0-38.0								
868		53.5-57.0		<2.0	1.0-2.5	2.5-4.0	2.5-4.0		<0.20				<1.00	rem								
872		>89.00		<1.5	<2.50	<1.50	<1.50		<0.50			1.0-5.0	<1.00	<5.00								
873		>94.00		<0.8	<0.20	0.8-1.5			<0.20			3.5-4.5	<1.00	<0.25								
874		>79.00							<1.0			2.5-4.0		12.0-16.0								
874.1		>79.00		<0.8					<1.0			2.5-4.0		12.0-16.0	0.03-0.06							
874.2		>79.00		<0.8					<1.0		0.03-0.06	2.5-4.0		12.0-16.0								
874.3		>79.00		<0.8				0.03-0.06	<1.0			2.5-4.0		12.0-16.0								
875		>79.00		<0.5					<0.50			3.0-5.0		12.0-16.0								
875.1		>79.00		<0.50					<0.50			3.0-5.0		12.0-16.0	0.03-0.06							
875.2		>79.00		<0.50					<0.50			3.0-5.0		12.0-16.0								
875.3		>79.00		<0.50				0.03-0.06	<0.50			3.0-5.0		12.0-16.0								
876		>88.00			<0.20	<0.25			<0.50			3.5-4.5		4.0-7.0								
876.1		>90.00			<0.20	<0.25			<0.20			3.5-4.5		3.0-5.0								
878		>80.00		<0.15	<0.15	<0.15	<0.20	<0.01	<0.15	<0.05	<0.05	3.8-4.2	<0.25	12.0-16.0	<0.05							<0.01
879		>63.00		<0.15	<0.40	<0.15	<0.50	<0.01	<0.25	<0.05	<0.05	0.8-1.2	<0.25	30.0-36.0	<0.05							
893.2		87.0-91.0		<0.005	<0.20		<1.0	<0.30	<0.09	<0.08	<0.50	<0.005	5.0-7.0	<1.00								

Alloy	Notes	Cu	Ag	Al	Fe	Mn	Ni	P	Pb	S	Sb	Si	Sn	Zn	As	Be	Bi	Co	Cr	Mg	Ti	Zr
958.2		>77.50		9.0-10.0	4.0-5.0	<1.50	4.5-5.8		<0.02			<0.10	<0.20	<0.20								
959		rem		12.0-13.5	3.0-5.0	<1.50	<0.50		<0.01	<0.02		<0.50										
962	C <0.10, No <1.00	rem		1.0-1.8	1.0-1.8	<1.50	9.0-11.0	<0.02	<0.01	<0.02		<0.50										
963	C <0.15, No 0.50-1.50	rem		0.50-1.50	0.25-1.50	18.0-22.0	18.0-22.0	<0.02	<0.01	<0.02		<0.50										
964	C <0.15, No 0.50-1.50	rem		0.25-1.50	<1.50	28.0-32.0	28.0-32.0	<0.02	<0.03	<0.02		<0.50										
966		rem		0.8-1.1	<1.00	29.0-33.0	29.0-33.0		<0.01			<0.15			0.40-0.70							
967		rem		0.7-1.0	<0.70	29.0-33.0	29.0-33.0		<0.01			<0.15			1.10-1.20						0.01-0.20	0.1-0.2
968	No 0.10-0.30, B <0.01	rem		<0.10	<0.50	0.05-0.30	9.5-10.5	<0.005	<0.005	<0.0025	<0.02	<0.05	7.5-8.5	<1.00						0.005-0.15	<0.01	
969	No <0.10	rem			<0.50	0.50-0.30	14.5-15.5		<0.02			<0.30	5.8-8.5	<0.50						<0.15		
969.5	No <0.10	rem			<0.50	0.05-0.40	11.0-15.5		<0.02			<0.30	5.8-8.5	<0.50						<0.15		
973		53.0-56.0		<0.005	<1.50	<0.50	11.0-14.0	<0.05	8.0-11.0	<0.08	<0.35	<0.15	1.5-3.0	17.0-25.0								
974		58.0-61.0			<1.50	<0.50	15.5-17.0		4.5-5.5			<0.15	2.5-3.5	rem								
976		63.0-67.0		<0.005	<1.50	<1.00	19.0-21.5	<0.05	3.0-5.0	<0.08	<0.25	<0.15	3.5-4.5	3.0-9.0								
978		64.0-67.0		<0.005	<1.50	<1.00	24.0-27.0	<0.10	1.0-2.5	<0.08	<0.20	<0.15	4.0-5.5	1.0-4.0								
982		73.0-79.0			<0.70		<0.50	<0.10	21.0-27.0		<0.50		0.6-2.0	<0.50								
984		rem	<1.50		<0.70		<0.50	<0.10	26.0-33.0		<0.50		<0.50	<0.50								
986		60.0-70.0	<1.50		<0.35				30.0-40.0				<0.50	<0.10								
988		56.5-62.5	<5.50		<0.35			<0.02	37.5-42.5				<0.25									
988.4		rem			<0.35				40.0-44.0				1.0-5.0									
		rem			<0.35				44.0-56.0				1.0-5.0									
993	Incramet 800	rem		10.7-11.5	0.40-1.00		13.5-16.5		<0.02			<0.02	<0.05				1.0-2.0					
993.5		rem		9.5-10.5	<1.00	<0.25	14.5-16.0		<0.15				7.5-9.5									
994		rem		0.50-2.00	1.0-3.0	<0.50	1.0-3.5		<0.25			0.50-2.00		0.50-5.00								
995		rem		0.50-2.00	3.0-5.0	<0.50	3.5-5.5		<0.25			0.50-2.00		0.50-2.00								
996	C <0.05	rem		1.0-2.8	<0.20	39.0-45.0	<0.20		<0.02			<0.10	<0.10	<0.20				<0.20				
997	No 4.0-6.0	>54.00		0.50-3.00	<1.00	11.0-15.0	4.0-6.0		<2.0				<1.00	19.0-25.0								
997.5		55.0-61.0		0.25-3.00	<1.00	17.0-23.0	<5.0		0.50-2.50				0.50-2.50	17.0-23.0								

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