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CRM PURITY COPPER DISCS AND RODS

listed in mg/kg IMN in SETS only, as grouped IMN CS: 40mm Ø x 25mm or 6mm Ø x 100mm VS: ~40-45mm Ø x ~25mm

Number	Ag	As	Bi	Cd	Co	Cr	Fe	Mn	Ni	P	Pb	S	Sb	Se	Si	Sn	Te	Zn	Other
AVAILABLE INDIVIDUALLY																			
VS M04-K3	299	310	124	285	98	115	419	296	551	261	495	70	332	287	93	489	289	293	
VS M04-K2.2	51.5	54.4	33.0	29.2	31.8	23.7	48.3	35.2	59.8	41.1	54.8	34	42.6	37.7	29.7	43	40	50.4	
VS M04-K2.1	50.9	51.9	32.8	29.2	28.2	30.5	56.8	55.1	72.2	41.9	50.3	41	45.9	62.6	.	55	34.9	49.1	
VS M04-7	50.7	50.5	27.6	26.5	30.6	41.3	84.8	53.0	75.6	39.0	26.8	36.6	60.8	.	13.3	45.4	27.0	68.1	
VS M04-5	30.1	11.0	5.2	1.0	1.0	0.8	5.1	6.4	4.4	0.93	1.9	2.9	8.3	6.1	3.1	2.0	2.9	16.9	
VS M04-6	21.0	19.8	10.7	10.0	9.2	11.1	40.4	20.0	32.4	14.0	60	19	22.4	10.6	21	14.6	8	32.4	* SET ONLY
VS M04-K1	15.3	16.0	17.4	15.3	15.2	11.7	25.6	17.5	13.7	12.1	22.4	14.5	17.0	10.3	24.9	10.0	9.6	18.0	
VS M04-1	11.2	0.96	.	0.19	.	.	2.0	0.97	0.34	.	1.1	2.9	2.8	3.2	0.7	.	.	.	
VS M04-4	10.4	4.0	2.6	3.1	4.9	3.2	15.4	4.7	16.0	1.1	0.82	3.0	3.5	2.4	2.2	4.8	4.3	7.8	
VS M04-8 *	5.0	2.4	1.1	0.49	3.0	.	29.1	3.5	1.8	1.3	9.6	8.7	5.8	0.73	4.6	0.96	0.8	3.2	
VS M04-3 *	2.9	.	0.11	.	0.30	.	3.9	0.49	0.73	.	4.2	4.4	0.55	.	.	0.48	.	0.97	* SET ONLY
VS M04-2 *	0.88	0.6	0.63	0.14	0.26	1.0	40.5	1.1	1.1	2.1	13.2	12.8	0.8	0.7	7.1	1.1	.	2.4	* SET ONLY
AVAILABLE INDIVIDUALLY EXCEPT CS3 WHICH IS SET ONLY																			
IMN CS1	53.1	2.0	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	B:(1.1)
IMN CS2	45.6	7.4	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	B:(2.8)
IMN CS3	38.9	13.8	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	B:(4.2)
IMN CS4	237	42.2	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	B:(21.7)
IMN CS5	320	70.5	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	B:(35.2)
Number	Ag	As	Bi	Cd	Co	Cr	Fe	Mn	Ni	P	Pb	S	Sb	Se	Si	Sn	Te	Zn	Other

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

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 WIRE FOR GLOBULE ARC WORK

analysis listed in mg/kg wire form, intended for globule arc work C1C: 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 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	.	.	.	last
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

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	0.0055	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
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
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			
	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			
	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 IN VARIOUS FORMS

analysis listed in mg/kg each of the blow available in 3 forms A: disc 39 mm Ø x 30 mm B: Rod 8 mm Ø x 100 mm C: Chips 50 g

Number	Ag	Al	As	Au	Be	Bi	Cd	Co	Cr	Fe	Ind	Mg	Mn	Ni	P	Pb	S	Sb	Se	Si	Sn	Te	Ti	Zn	Zr
ERM-EB075																									
10.8 2.3	3.18	1.46	1.08	1.79	2.69	2.64	1.4	9.3	1.83	7	1.35	2.18	2.59	4.8	25	2.93	1.69	2.6	2.13	1.78	3.2	6.51	.		
ERM-EB074																									
1.03 .	1.23	0.52	0.31	0.51	0.4	0.83	0.37	5.8	0.49	2.03	0.93	0.61	1.53	2.7	(3.3)	0.57	0.55	.	(1.5)	0.5	0.97	2.2	(8.8)		

COPPER

= class, where 1 = CRM and 2 = RM

39X: ~38-42 mm Ø x ~15-20 mm
BAM, BCR, ERM: 38-40 mm Ø x 27-30 mmBS: 38 mm Ø x ~7 or 19+ mm
CTIF: 40 mm Ø x 18 mmIARM: 31 mm Ø x 2 or 18 mm
IMN, VS: 40 mm Ø x 23-27 mm

#	Number	Al	As	Bi	Cd	Co	Cr	Fe	Mg	Mn	Ni	P	Pb	S
1	39X 17869AG	0.0186	0.0104	0.0401	0.0027	0.0084	0.0199	0.0365	0.0103	0.0325	0.0111	0.0245	0.0714	0.0069
1	BAM M376a	(0.0182)	0.0200	0.0200	0.0186	0.0208	(0.0400)	0.0235	(0.0124)	0.0206	0.0209	0.0203	0.0236	(0.0133)
1	39X 17871D	0.0150	.	0.052	0.0027	.	.	0.0019	.	.	0.0412	0.020	0.050	0.0052
1	BAM M385a	0.00133	0.00094	0.000564	0.000275	0.00074	0.00104	0.00442	(0.0032)	0.00099	0.00108	0.00100	0.00108	(0.00354)
1	39X 17870AJ	0.0047	0.0056	0.0476	0.0029	0.0042	0.0009	0.0416	0.020	0.0387	0.0079	0.0203	0.047	0.0037
1	39X 17866AH	0.0028	0.0435	0.0109	0.0410	0.0273	0.0316	0.0075	0.0041	0.0147	0.0511	0.0125	0.0501	0.052
1	BAM M386a	0.00269	0.00208	0.00095	0.00054	0.00049	0.00115	0.00593	0.00767	0.00111	0.00211	0.00065	0.00198	0.00159
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	BS Cu997	(0.002)	(0.0008)	.	.	(0.001)	(0.0003)	0.0032	(0.0005)	(0.001)	0.0004	0.0055	0.0008	(0.006)
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	IARM 70C	(0.0014)	(0.0009)	(0.002)	(0.0008)	(0.0014)	(0.0002)	(0.0016)	(0.0003)	(0.0002)	(0.0004)	(0.0014)	(0.0013)	0.0008
1	BAM 370	0.00126	.	.	.	.	.	.	.	.	.	0.00117	0.0016	.
1	39X 17867AE	0.0012	0.039	0.012	0.0061	0.0126	.	0.0097	0.0053	0.0016	0.0394	0.0242	0.0097	0.024
1	BAM M383d	0.00102	<0.0001	0.000082	0.000062	0.000130	0.000077	0.00224	0.00017	0.000097	0.00047	<0.0001	0.00078	0.00035
1	BS 110C	(0.0009)	(0.0001)	.	.	(0.001)	(0.0004)	(0.002)	(0.005)	(0.0004)	(0.0005)	0.0016	(0.0003)	0.0008
1	BS 14500A	(0.0007)	.	Ca:(0.0004)	N:(0.0006)	(0.0005)	.	(0.001)	(0.00006)	(0.0004)	0.0026	0.010	0.0031	0.035
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	BAM M384b	(0.00029)	0.00066	0.000681	0.00040	0.00104	(0.00023)	(0.00051)	0.00033	0.00081	0.00047	<0.0001	0.00016	(0.00038)
1	BAM M384c	<0.0002	0.00029	0.00038	0.00050	0.00040	(0.00047)	0.00330	0.00018	0.00057	0.00057	<0.0001	0.00072	0.00040
1	BAM M383b	<0.0002	0.00028	0.000185	0.000093	0.000102	<0.0001	0.00036	<0.0001	0.000018	0.000143	<0.0001	0.000101	(0.00036)
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	BAM M382a	<0.0002	0.000073	0.000075	0.000050	0.000092	0.000024	0.00103	0.00019	0.00025	0.00027	<0.0002	0.00022	0.00067
1	39X 27866A	.	0.0383	0.0047	0.0139	0.0308	0.0012	0.0030	.	.	0.0487	0.0147	0.0054	0.0469
1	39X 27869A	.	0.0098	0.0376	0.0028	0.0036	(0.0002)	0.0030	.	.	0.0190	0.0119	0.0225	0.0112
1	IMN CS5	.	0.00705	0.00597	0.00661	0.00375	0.00010	0.00909	.	0.00043	0.00044	0.00020	0.00050	0.00120
1	IMN CT6	.	0.0054	0.0040	.	0.011	.	0.014	.	.	0.011	0.011	0.0014	0.0069
1	IMN CS4	.	0.00422	0.00396	0.00355	0.00243	0.00070	0.00820	.	0.00083	0.00072	0.00063	0.00076	0.00413
1	IARM Cu101-18	.	0.00015	0.00005	.	.	.	0.00030	.	0.00003	0.00027	.	0.00012	0.00050
1	IARM Cu110-18	.	0.00013	.	.	.	(0.00009)	0.00034	0.00010	0.00006	(0.00006)	0.00160	(0.00005)	0.00060
1	BAM 372	.	0.00103	.	0.000163	.	.	0.00114	.	0.00114	0.0012	.	.	.
1	IMN CS2	.	0.00074	0.00062	0.00074	0.00036	0.00358	0.00305	.	0.00353	0.00267	0.00338	0.00386	0.00449
1	IMN CS1	.	0.00020	0.00011	0.00010	0.00006	(0.00003)	0.00184	.	0.00290	0.00468	0.00577	0.00605	0.00659
1	IMN CS7 D	.	0.00009	<0.00005	(0.000002)	0.000009	0.00197	0.00049	.	0.00022	(0.00024)	(0.00009)	0.00070	0.00070
1	IMN CP6	.	0.000085	.	.	<0.0001	0.00003	0.00064	.	0.00006	0.00027	0.00017	0.00027	0.00075
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	0.00028	(0.000034)	0.000027	0.000073	.	0.00005	(0.00029)
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		
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
39X 17869AG	0.0375	0.0197	0.0117	0.070	0.0392	.	0.0261	.	399	22	Ge: 0.0047	.	26	.	.	.
BAM M376a	0.0202	0.0210	.	0.0247	0.0215	(0.00045)	0.0217	0.00422	163	.	(41)	.	.	.	.	.
39X 17871D	0.0141	0.0310	0.0014	0.105	0.0137	.	0.091	.	309	5	.	.	32	.	.	Ge*: (9)
BAM M385a	0.00149	0.00050	0.00073	0.00161	0.00081	0.00066	0.00092	(0.0018)	254	.	.	.	.	.	.	.
39X 17870AJ	0.0490	0.0111	0.0048	0.0100	0.040	.	0.0125	.	480	7	Ge: 0.0149	.	100	.	.	.
39X 17866AH	0.0095	0.0053	0.0111	0.0614	0.0065	.	0.0840	.	86	(4)	Ge: 0.0052	.	97	.	.	.
BAM M386a	0.00252	0.00097	(0.0012)	0.00216	0.00311	0.00347	0.00367	.	44.2	.	.	.	.	.	.	.
IARM 279A	(0.004)	.	0.020	0.021	.	.	(0.01)	0.012	(30)	.	(20)	.	99.1	(10)	.	XRF only
BS Cu997	(0.0002)	.	(0.0009)	0.0003	.	17025	0.0006	(0.007)	.	.	7	.	99.7	39	.	17025
IARM 278A	<0.005	.	(0.002)	(0.001)	0.53	.	(0.002)	.	(10)	.	(30)	.	99.5	(4)	.	.
IARM 70C	(0.003)	(0.001)	(0.0006)	0.0005	(0.001)	.	(0.002)	(0.001)	.	.	.	.	99.94	<1	.	.
BAM 370	0.0015	.	(0.0019)	0.00165	.	.	.	.	.	.	.	.	.	.	.	.
39X 17867AE	0.013	0.0061	0.0081	0.043	0.0072	B:0.0042	0.0381	.	148	11	Ge:0.0104	.	45	.	.	.
BAM M383d	0.00018	(0.00006)	.	0.00038	0.000047	0.00012	0.000108	<0.0001	.	As*:1.20	.	.	.	.	.	.
BS 110C	(0.0003)	.	(0.0009)	(0.0002)	.	17025	(0.004)	.	.	.	(20)	.	99.97	.	9	Ca*: (2)
BS 14500A	(0.005)	.	(0.002)	0.0028	0.51	17025	0.0053	(0.001)	.	.	(30)	.	99.6	.	17	.
BS 14500	(<0.001)	.	(0.002)	0.0002	0.53	17025	0.004	.	(0.001)	.	5	(1)	99.4	.	7	.
BAM M384b	0.00058	(0.00029)	<0.0003	0.00021	0.00072	0.00029	0.00026	0.00013	11.3	.	.	.	.	.	(0.15)	.
BAM M383b	0.000169	0.000117	<0.0002	0.00008	0.00057	<0.0001	0.00093	<0.0001	106	.	.	.	.	.	(0.41)	last
BAM M384c	0.00098	0.00029	.	0.00006	0.00061	<0.0002	0.00010	<0.0003	14.8	.	.	.	.	.	.	.
BS 110B	<0.0005	.	<0.0004	<0.0002	<0.0002	17025	<0.0003	.	<2	.	7	<1	99.94	.	363	.
BAM M382a	0.000087	0.000077	.	0.00047	0.000072	0.000057	0.00076	.	29	.	.	.	.	.	.	.
39X 27866A	0.0052	0.0028	.	0.0448	0.0032	.	0.0287	.	57	16	.	.	.	437	.	Ge*: 29
39X 27869A	0.0362	0.0127	.	0.0106	0.0153	.	0.0065	.	349	80	.	.	.	90	.	Ge*: 123
IMN CS5	0.00639	0.00009	(0.00548)	0.00009	0.00498	.	0.0101	.	320	.	.	.	.	.	.	B*: (35.2)
IMN CT6	0.011	0.011	.	0.013	0.012	.	0.030	.	39	.	.	.	.	.	.	B*: 60
IMN CS4	0.00368	0.00067	(0.00465)	0.00062	0.00329	.	0.00440	.	237	.	.	.	.	.	.	B*: (21.7)
IARM Cu101-18	0.00014	.	.	0.00020	.	.	0.00008	.	13.0	.	.	.	.	.	.	.
IARM Cu110-18	.	(0.00020)	.	(0.00020)	.	.	0.00010	.	13.0	.	(18)	.	.	.	10.0	.
BAM 372	.	0.00076	.	.	.	.	.	.	.	.	.	.	.	.	.	.
IMN CS2	0.00075	0.00390	(0.00094)	0.00337	0.00056	.	0.00089	.	45.6	.	.	.	.	.	.	B*: (2.8)
IMN CS1	0.00030	0.00615	(0.00030)	0.00529	0.00021	.	0.00241	.	53.1	.	.	.	.	.	.	B*: (1.1)
IMN CS7 D	0.00010	<0.00010	<0.00010	0.00005	<0.00005	.	0.00012	.	13.7	.	.	.	.	.	.	B*: <0.5
IMN CP6	0.00004	<0.0001	.	0.00007	.	.	0.00014	.	20	.	.	.	.	.	.	.
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	.	.	.	.	.	.	.	.
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

CRM

COPPER RODS

analysis listed in mg/kg

IMN: 6 mm Ø x 100 mm

SRM: ~6.5 mm Ø x 103 mm

Number	Ag	As	Bi	Cd	Co	Cr	Fe	Mn	Ni	O	P	Pb	S	Sb	Se	Sn	Te	Zn	Cu
SRM 494	50	2.6	0.35	.	0.5	2.0	.	3.7	11.7	.	.	26.5	15	4.5	2.00	70	0.58	400	99.91
IMN CS7R	13.7	0.9	<0.5	(0.02)	0.09	19.7	4.9	2.2	4.4	.	(2.4)	(0.9)	7.0	1.0	<1.0	0.5	<0.05	1.2	.
SRM 495	12.2	1.6	0.50	.	.	6.0	.	5.3	5.4	.	.	3.2	13	8.0	0.63	1.5	0.32	12	99.94
SRM 457	8.086	(<2)	0.22	(<1)	0.227	(<2)	2.4	(<0.1)	0.67	367	.	0.512	4	0.214	4.05	(<0.1)	0.296	(<3)	99.97

SRM 457 also contains Au:(<0.05), Cd Si and Ti:(<1)

IMN CS7R also contains B:<0.5 and Si:<1.0

BERYLLIUM ALLOY

= class, where 1 = CRM and 2 = RM

17025

#	Number	Be	Co	Ag	Al	Cr	Cu	Fe	Ni	Pb	Si	Sn	Zn	Alloy	Notes
2	CTIF 4584	2.53	0.04	.	0.033	.	97.05	0.120	0.015	(0.002)	0.166	0.022	0.022		Typical Analysis
2	CTIF 4872	1.93	0.400	.	0.032	(0.04)	97.00	0.107	0.103	0.019	0.16	0.044	0.119	172	Typical Analysis
2	BS 172Be-1	1.89	0.206	.	(0.02)	0.0032	97.68	0.052	0.039	(0.002)	0.055	0.033	0.0070	172	last of stock
1	IARM Cu172-19	1.89	0.0017	0.0011	0.032	0.0017	(97.6)	0.071	0.237	.	0.045	0.0007	.	172	
1	36X CBC4E	1.869	0.215	.	0.0258	.	97.47	0.0274	0.0080	0.329	0.048	0.002	0.003	173	
1	36X CBC3D	1.840	0.209	.	0.019	.	97.77	0.046	0.007	0.0025	0.039	0.0021	0.004		
1	BS 172Be-2	1.83	(0.06)	.	0.032	0.015	97.7	0.127	0.165	0.041	(0.029)	0.015	0.0057	172	17025
2	CTIF 4766	1.58	0.64	.	0.027	(0.2)	96.83	0.165	0.203	0.053	0.11	0.100	0.070		Typical Analysis
2	CTIF CuBeCo6	1.54	(1.9)	1.37	0.135	0.0576	93.09	0.109	(1.4)	0.0397	0.26	0.0135	0.0330		Typical Analysis
2	CTIF 4583	0.84	(0.002)	.	0.029	.	96.35	(0.15)	2.02	0.084	0.08	0.25	0.094		Typical Analysis
1	36X CBC6A	0.507	1.045	0.0015	0.0490	.	97.11	0.0243	1.132	0.0014	0.0263	0.0041	0.0010		
1	36X CBC2F	0.439	2.22	0.0013	0.0097	.	97.15	0.0076	0.121	(0.0008)	0.0257	(0.0007)	0.0018		
1	BS 17500	0.43	2.31	(0.0012)	0.0210	0.0015	(97.1)	0.0262	0.095	0.0005	0.0641	(0.0002)	0.065	175	17025, last
1	36X CBC5B	0.404	0.0084	0.0011	0.0104	.	97.61	0.0108	1.905	0.0015	0.004	0.0013	0.0010	175.1	
1	BS 17510	0.35	(0.024)	0.0014	0.042	(0.015)	97.6	0.042	1.70	0.0014	0.137	(0.004)	(0.005)	175.1	
2	CTIF 4873	0.10	0.86	.	0.069	0.080	98.60	0.135	0.050	(0.003)	0.071	(0.007)	(0.003)		Typical Analysis

w = wrought and c = cast; D = disc and M = mushroom

Number	As	C	Ca	Mg	Mn	O	P	S	Sb	Te	Zr	Form	Units
CTIF 4584	.	.	.	.	(0.002)	.	.	.	.	.	.	C	M 60 mm Ø x 5 mm
CTIF 4872	.	.	.	.	0.008	.	.	.	.	.	.	C	M 60 mm Ø x 5 mm
BS 172Be-1	(0.001)	(0.001)	.	.	0.0010	.	0.003	(<0.0002)	.	.	.	w	D 38 mm Ø x ~7 mm
IARM Cu172-19	.	.	.	0.112	0.0019	.	0.0036	0.0010	0.0007	.	.	w	D ~38 mm Ø x ~3 or ~19 mm
36X CBC4E	.	.	.	0.0035	.	.	0.0027	.	.	.	.	w	D ~38 mm Ø x ~15 mm
36X CBC3D	.	.	.	0.0040	.	.	.	.	.	.	.	w	D 41 mm Ø x 15 mm
BS 172Be-1	(0.00014)	(0.002)	(0.0008)	(0.01)	0.0070	(0.0008)	0.0014	(0.0003)	.	last	(0.0003)	w	D 38 mm Ø x ~7 or ~10 mm
CTIF 4766	.	.	.	.	0.007	.	.	.	.	.	.	C	M 60 mm Ø x 5 mm
CTIF CuBeCo6	.	.	.	.	0.0173	.	.	.	.	.	.	C	M 60 mm Ø x 5 mm
CTIF 4583	.	.	.	.	0.064	.	.	.	.	.	.	C	M 60 mm Ø x 5 mm
36X CBC6A	.	.	.	0.0070	.	.	0.0016	.	.	.	0.0553	w	D ~40 mm Ø x ~15 mm
36X CBC2F	.	.	.	0.0036	.	.	0.0067	.	.	.	(0.0006)	w	D ~40 mm Ø x ~15 mm
BS 17500	(0.0002)	0.0020	0.0054	0.0076	0.081	(0.0005)	0.0031	(0.0001)	0.0001	(0.0004)	.	w	D 38 mm Ø x ~10 mm last
36X CBC5B	.	.	.	0.0009	.	.	.	.	.	.	.	w	D ~40 mm Ø x ~15 mm
BS 17510	<0.005	(0.003)	<0.005	(0.007)	0.0020	.	(0.005)	<0.05	0.0024	.	0.0011	C	D 38 mm Ø x ~7 or 19+ mm
CTIF 4873	.	.	.	.	(0.002)	.	.	.	.	.	.	C	M 60 mm Ø x 5 mm

CHROMIUM COPPER

= class, where 1 = CRM and 2 = RM

#	Number	Cr	Ag	Al	Fe	Mn	Ni	Pb	Si	Sn	Zn	Zr	Cu
1	IARM Cu182-18	1.09	0.0008	0.0031	0.041	0.0007	0.0007	0.0019	(0.09)	(0.002)	0.010	0.063	98.8
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	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	BS 18150A	0.79	.	0.0023	0.007	0.0010	0.0019	0.0011	0.027	0.0144	0.0006	0.203	[98.9]
1	BS 18150	0.74	.	0.0009	0.0047	0.0010	0.0010	0.0005	0.019	0.0097	0.0006	0.113	[99.1]
2	HRT CU2019	0.73	.	.	(0.005)	.	.	.	0.030	0.011	.	0.17	98.97
1	36X 274B	0.333	0.0016	0.0011	0.0165	0.0004	2.59	0.0011	0.645	(0.0008)	(0.0009)	.	96.44

Number	As	C	Co	Mg	N	O	P	S	Sb	Units
IARM Cu182-18	.	.	0.00013	0.0019	.	.	0.0012	0.0018	.	38 mm Ø x 3 or 19 mm
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
IARM 158B	(0.001)	0.002	0.002	.	<0.0005	0.002	0.005	0.003	0.002	31 mm Ø x 2 mm
BS 18150A	(0.0003)	0.0010	(0.0003)	.	.	(0.0008)	0.0045	0.0007	(0.0002)	38 mm Ø x ~7 or 19+ mm
BS 18150	(0.0004)	0.0009	(0.0002)	.	.	(0.0006)	0.0037	0.0007	(0.0001)	38 mm Ø x ~7 or 19+ mm
HRT CU2019	.	.	.	.	.	.	(0.005)	.	(0.006)	40 mm Ø x 20 mm
36X 274B	.	.	0.0042	.	.	.	0.0015	.	.	~40 mm Ø x ~15 mm

17025
17025

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

CRM CONVERTER COPPER DISC AND ROD SETS

analysis listed in mass %

AVAILABLE IN SETS ONLY, AS GROUPED

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	0.010	0.051	.	0.17	0.40	0.002	0.013	0.054	0.33	0.062	0.24	0.053	0.20
IMN CT2	0.042	0.22	0.033	0.013	0.033	.	0.10	0.29	0.059	0.006	0.036	0.24	0.041	0.14	0.036	0.19
IMN CT3	0.026	0.11	0.00093	0.0067	0.013	.	0.003	0.12	0.030	0.31	0.012	0.11	0.010	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	(1.40)	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 1113	95.0	0.04	0.057	0.008	0.026	0.06	4.8	wrought	31 mm Ø 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

CRM GILDING METAL SET

available individually or as a set

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

33X GM29: wrought 33 mm Ø x 19 mm

other 33X: chill cast ~40 mm Ø x ~15 mm

Number	Zn	Sn	Pb	Ni	Fe	Cu	Ag	Al	As	Bi	Co	Cr	Mn	P	S	Sb	Si
CRM																	
33X GM9A	13.81	2.93	6.91	0.710	0.090	75.1	0.0321	0.0052	0.0251	0.076	0.079	Cd:0.0072	.	0.0547	0.0153	0.184	(0.003)
33X GM4AD	5.90	3.02	5.27	1.482	0.0932	84.02	0.0206	0.0015	0.0228	0.0442	0.0077	.	0.00060	0.0034	0.034	0.0568	0.0010
33X GM8H	5.80	3.89	5.76	0.493	0.142	83.63	0.095	0.0052	0.0110	0.016	0.0151	0.0150	.	0.035	0.028	0.061	(0.003)
33X GM5P	5.66	4.48	5.18	0.728	0.127	83.39	0.0497	0.055	0.0498	0.018	0.0298	Cd:0.0048	Te:0.0075	0.0507	0.0411	0.072	0.0310
33X GM21B	4.96	4.50	7.53	0.197	0.693	78.86	0.701	0.173	0.333	0.459	Se:0.173	Cd:0.249	.	0.0697	0.0628	1.033	0.0213
33X GM20B	1.80	4.49	0.294	0.211	0.44	89.49	0.200	0.133	0.300	0.044	0.0211	Cd:0.020	0.040	0.060	.	2.41	.
33X GM7K	1.363	10.07	1.79	0.531	0.0178	85.69	0.0682	.	0.095	0.098	0.100	.	.	0.0050	0.0613	0.111	Te:0.0112
RM																	
CURM 71.31	typical analysis																
33X GM24A	4.27	4.38	6.44	2.07	0.098	82.30	0.052	0.045	0.11	0.027	last	<0.01	0.010	0.060	0.050	0.11	0.006
CURM 71.33	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
C71.34	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
CURM 71.34	1.55	8.20	2.47	<0.01	0.29	rem	0.025	0.007	0.18	0.029	last	0.03	0.05	0.020	0.16	0.071	0.04
	1.54	8.19	2.48	<0.005	0.29	86.74	0.023	0.008	0.18	0.031	.	0.04	0.05	0.019	0.18	0.072	0.03

CRM MANGANESE ALLOY SET

available individually or as a set

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

CRM MAGNESIUM ALLOY SET

available in set only 40 mm Ø x 25 mm

Number	Mg
IMN CCB-1	0.00405
IMN CCB-2	0.0339
IMN CCB-3	0.241
IMN CCB-4	0.509
IMN CCB-5	0.748

NICKEL ALLOY, chart 1 of 2

#	Number	Ni	Ag	Al	Bi	Co	Cr	Cu	Fe	Mn	Nb	P	Pb	S	Si	Sn	Zn
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	36X 71500A	31.24	.	(0.001)	.	0.0163	.	66.74	0.888	0.850	.	0.0074	0.0114	0.0454	0.0096	0.0112	0.150
1	BS 715B	31.2	.	(0.0060)	.	(0.012)	(0.003)	67.3	0.59	0.745	.	0.0034	(0.003)	0.0034	0.0103	0.0036	0.053
1	BS 715C	31.2	.	(0.004)	.	(0.012)	(0.003)	67.4	0.59	0.706	.	0.0035	(0.003)	0.0036	0.011	0.0040	0.052
1	36X CN5P	31.03	.	.	.	0.0238	0.141	66.67	0.347	0.217	0.430	0.034	0.0120	0.088	0.689	0.0090	0.209
1	IARM Cu715-20	31.0	.	(0.004)	.	(0.004)	.	67.4	0.51	0.80	.	(0.009)	(0.001)	(0.002)	(0.09)	(0.004)	(0.007)
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
2	BS 715A	30.22	.	(0.01)	.	0.042	.	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	0.92	0.003	0.004	0.003	0.19	0.005	0.002
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	.	(0.0105)	0.0212	.	.	66.95	1.66	0.490	0.062	0.021	0.053	0.013	0.500	(0.003)	0.385
1	36X CN8J	28.94	.	(0.030)	0.0518	0.121	1.38	65.78	1.65	0.951	0.585	0.019	0.037	0.0119	0.309	0.0502	0.107
2	C62.15	25.9	.	.	.	0.042	.	rem	2.36	0.23	.	.	0.016	0.023	0.014	0.03	0.04
1	36X CN4L	25.58	0.0093	0.040	0.0096	0.0305	0.0273	72.09	0.548	0.529	0.461	0.0140	0.0193	0.0075	0.448	0.0093	0.164
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	IARM 298A	19.6	(0.009)	(0.003)	0.014	(0.016)	(0.005)	65.3	0.73	0.34	<0.01	(0.004)	4.0	(0.011)	0.019	4.0	5.8
2	C65.29	16.8	.	.	.	.	.	58.9	0.39	0.17	.	0.07	0.11	0.07	0.02	0.08	23.4
1	36X CN24A	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 CN11A	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	IARM CuH130-18	14.6	(0.0010)	2.76	(0.0020)	0.0037	(0.002)	80.9	0.84	0.449	.	(0.004)	(0.0020)	(0.0010)	0.024	(0.0010)	0.0015
1	36X CN13A	14.52	.	2.65	.	(0.001)	.	81.46	0.870	0.442	.	0.0011	(0.001)	(0.002)	0.012	(0.001)	0.0017
1	IARM CuH191-18	14.5	(0.0020)	1.60	(0.0020)	(0.002)	(0.0013)	(79.6)	0.96	3.79	.	(0.003)	(0.0030)	(0.002)	(0.017)	(0.0020)	0.0010
1	36X CN23A	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	C65.27	13.9	.	.	.	.	.	57.0	0.26	0.13	.	0.02	0.04	0.03	<0.002	0.01	28.7
1	36X CN12A	13.05	.	2.41	.	0.0056	.	83.79	0.105	0.402	0.0010	0.0011	0.0037	.	0.040	(0.0011)	0.157
1	CTIF CN1	12.3	.	(0.003)	.	.	.	85.0	1.1	0.8	(0.1)	.	0.085	0.046	(0.05)	(0.005)	0.2
1	36X CN2K	11.45	0.0274	0.0009	.	0.197	0.0043	86.25	0.0404	(0.69)	0.0176	0.0408	0.0449	0.0100	0.049	0.0258	1.03
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
1	36X 70600A	10.65	0.0055	(0.0008)	.	0.0087	.	86.70	1.619	0.759	.	0.0062	0.0086	0.0136	.	0.0090	0.115
2	HRT CU2014	10.49	.	.	.	.	.	86.96	1.60	0.82	.	.	(0.005)	.	.	(0.005)	(0.01)
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
2	CTIF CuNi 10	10.08	.	.	.	.	.	87.4	1.69	0.70	.	.	0.0027	(0.002)	.	(<0.01)	0.033

#	Number	Ni	Ag	Al	Bi	Co	Cr	Cu	Fe	Mn	Nb	P	Pb	S	Si	Sn	Zn
	Number	As	B	Be	C	Cd	Mg	Sb	Te	Ti	Zr	Units					
	IARM 85C	0.0009	.	.	0.008	.	0.01	.	.	.	.	.	31 mm	Ø x 2 mm			
	36X 71500A	.	0.0049	.	0.0240	.	.	.	.	.	.	.	~40 mm	Ø x ~15 mm			
	BS 715B	(0.001)	.	(0.0002)	0.0089	.	.	(0.001)	0:0.0020	(0.0002)	(0.0002)	.	38 mm	Ø x ~7 or 19+ mm	17025		
	BS 715C	(0.001)	.	(0.0002)	0.0081	.	(0.005)	(0.0014)	0:0.0020	(0.001)	(0.001)	.	38 mm	Ø x ~7 or 19+ mm	17025	Ca:(0.00005)	
	36X CN5P	.	0.0053	0.0035	(0.008)	.	0.0106	.	.	0.0203	.	.	~40 mm	Ø x ~15 mm			
	IARM Cu715-20	.	.	.	(0.005)	.	(0.005)	.	.	0.073	.	.	31 mm	Ø x 2 or 18 mm			
	SRM 1276a	(<0.001)	(0.0001)	.	.	0.0002	0.12	0.0004	0.005	(0.0002)	.	.	32 mm	Ø x 19 mm	Se: 0.0005		
	BS 715A	(0.0014)	.	.	0.03	.	.	(0.003)	.	.	.	.	38 mm	Ø x ~7 or 19+ mm	N: 2ppm, O: 0.002		
	IARM 236A	.	.	.	0.010	.	.	<0.005	.	.	.	.	31 mm	Ø x 2 or 18 mm			
	C62.11	.	.	.	.	.	0.03	.	.	.	.	.	50 mm	Ø x 10 - 12 mm			
	CTIF CN33	.	.	.	0.025	0.0060	0.043	.	0.0224	.	.	.	60 mm	Ø x 5 mm			
	36X CN8J	.	0.005	.	0.013	.	.	.	.	(0.038)	.	.	~40 mm	Ø x ~15 mm			
	C62.15	.	.	.	.	.	0.004	.	.	.	.	.	50 mm	Ø x 10 - 12 mm			
	36X CN4L	.	.	.	(0.005)	.	0.008	.	.	.	.	.	~40 mm	Ø x ~15 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			
	IARM 298A	(0.004)	<0.005	<0.001	(0.013)	<0.001	0.0004	(0.04)	<0.005	.	<0.01	.	31 mm	Ø x 2 or 18 mm			
	C65.29	.	.	.	.	.	0.01	.	.	.	.	.	50 mm	Ø x 10 - 12 mm			
	36X CN24A	(0.0011)	.	.	0.0436	.	.	.	.	.	.	.	~17 mm	Ø x ~17 mm			
	C65.28	.	.	.	.	.	0.01	.	.	.	.	.	50 mm	Ø x 10 - 12 mm			
	36X CN11A	.	.	.	(0.001)	.	0.0241	.	.	.	.	.	40 mm	Ø x ~17 mm			
	IARM CuH130-18	(0.0060)	(0.0009)	.	(0.006)	(0.0030)	0.0013	(0.0030)	.	(0.0010)	(0.0008)	.	31 mm	Ø x 2 or 18 mm	CRM		
	36X CN13A	.	(0.002)	.	(0.003)	.	0.0039	.	.	.	.	.	~38 mm	Ø x ~15 mm			
	IARM CuH191-18	.	(0.0030)	.	(0.004)	(0.0010)	0.0059	.	.	.	.	.	31 mm	Ø x 2 or 18 mm	CRM		
	36X CN23A	0.047	.	.	.	0.0021	.	.	.	.	.	.	40 mm	Ø x ~17 mm			
	C65.27	.	.	.	.	.	<0.01	.	.	.	.	.	50 mm	Ø x 10 - 12 mm			
	36X CN12A	.	0.0055	.	0.0101	.	0.072	.	.	.	.	.	~40 mm	Ø x ~15 mm			
	CTIF CN1N	.	.	.	(0.002)	.	.	.	.	.	.	.	60 mm	Ø x 5 mm			
	36X CN2K	.	.	.	0.0013	0.0054	0.030	.	.	0.0350	.	.	~40 mm	Ø x ~15 mm			
	CTIF CN4	.	.	.	(0.001)	.	.	.	.	.	.	.	60 mm	Ø x 5 mm			
	BS 706B	<0.0005	.	.	(0.004)	.	.	<0.002	.	.	.	.	38 mm	Ø x ~7 or 19+ mm			
	36X 70600A	.	0.0011	.	(0.0017)	.	.	.	.	.	.	.	~40 mm	Ø x ~15 mm			
	HRT CU2014	.	.	.	.	.	.	.	.	.	.	.	38 mm	Ø x 15 mm			
	BS 706A	<0.0005	.	.	0.004	.	.	0.0006	.	.	.	.	38 mm	Ø x ~7 or 12 mm	last of stock		
	CTIF CuNi 10	.	.	.	(0.009)	.	.	.	.	.	.	.	40 mm	Ø x 18 mm			
	Number	As	B	Be	C	Cd	Mg	Sb	Te	Ti	Zr	Units					

last of stock

NICKEL ALLOY, chart 2 of 2

#	Number	Ni	Ag	Al	Bi	Co	Cr	Cu	Fe	Mn	Nb	P	Pb	S	Si	Sn	Zn
1	IARM 84C	9.8	(0.002)	.	.	(0.006)	.	89.4	0.28	(0.04)	.	(0.06)	0.047	(0.006)	(0.004)	0.13	0.13
1	34X 79830A	9.76	0.0028	0.0012	.	(0.0012)	.	45.88	0.079	0.311	.	0.0047	2.033	(0.0005)	.	0.1158	41.80
1	BS 706C	9.7	.	(0.001)	.	(0.003)	(0.0006)	87.9	1.68	0.60	.	(0.007)	0.0033	0.0014	0.0018	(0.0070)	0.084
1	36X SP1A	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
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 CN21A	5.50	0.0064	1.95	.	0.0079	0.0050	92.17	0.0316	0.0391	.	0.053	0.051	.	.	0.038	0.0203
2	HRT CU2012	2.30	.	.	.	.	.	97.0	0.013	0.002	.	.	.	.	0.63	0.035	.
1	37X 218B	1.892	.	0.0018	.	.	0.176	97.29	0.0209	0.0022	.	.	0.0014	.	0.564	0.0032	0.0054
1	36X CN22A	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	Ti	Zr	Units
IARM 84C	.	.	.	(0.003)	.	.	(0.0012)	.	.	31 mm Ø x 2 or 18 mm
34X 79830A	0.0070	.	.	(0.0052)	.	.	0.0041	.	.	~38 mm Ø x ~15 mm
BS 706C	(0.001)	0:0.0016 N:(0.005)	(0.004)	.	.	(0.000003)	(0.0006)	.	(0.0000002)	38 mm Ø x ~7 or 19+ mm 17025
36X SP1A	.	0.0007	.	.	.	.	0.0177	(0.0004)	.	40 mm Ø x 15 mm
CURM 62.12	.	.	.	.	.	0.002	.	.	.	60 mm Ø x 10 mm
CTIF CN2	.	.	.	(0.008)	.	.	.	.	.	60 mm Ø x 5 mm
36X CN21A	0.0067	.	.	.	0.0021	.	.	.	.	40 mm Ø x ~17 mm
HRT CU2012	.	.	.	.	.	.	.	.	.	40 mm Ø x 20 mm
37X 218B	.	.	.	.	.	.	.	.	.	~38 mm Ø x ~15 mm
36X CN22A	0.0208	.	.	.	0.0083	.	.	.	.	40 mm Ø x ~17 mm

CRM NICKEL ALLOY SETS

analysis listed in mass %

 MN5: 35 mm Ø x 30 mm N: 35 mm Ø x 30 mm
 NA: 28 mm Ø x 25 mm NB: 40 mm Ø x 25 mm NC: 40 mm Ø x 12 mm

Number	Ni	Al	As	Bi	C	Cd	Co	Fe	Mg	Mn	P	Pb	S	Sb	Si	Sn	Zn	singles?
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	no
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	yes
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	yes
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	yes
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	yes
IMN N1	25.38	.	.	.	.	.	0.0050	0.0056	.	0.0018	.	0.0019	.	.	0.0070	0.0089	0.019	yes
IMN N2	24.28	.	.	.	.	.	0.023	0.35	.	0.21	.	0.011	.	.	0.025	0.012	0.16	yes
IMN N3	22.57	.	.	.	.	.	0.055	0.77	.	0.50	.	0.020	.	.	0.062	0.023	0.33	yes
IMN N4	21.39	.	.	.	.	.	0.080	1.07	.	0.71	.	0.039	.	.	0.13	0.038	0.47	yes
IMN NA1	7.19	.	.	.	(0.020)	.	.	2.52	.	1.51	.	0.081	(0.081)	.	.	.	0.80	yes
IMN NA2	9.05	.	.	.	(0.023)	.	.	2.03	.	1.03	.	0.056	(0.065)	.	.	.	0.55	yes
IMN NA3	10.35	.	.	.	(0.019)	.	.	1.15	.	0.60	.	0.035	(0.036)	.	.	.	0.30	yes
IMN NA4	12.15	.	.	.	(0.012)	.	.	0.50	.	0.21	.	0.0066	(0.0069)	.	.	.	0.019	yes
IMN MN5-1	3.21	.	0.0007	0.00011	.	.	.	0.0041	.	.	(0.00027)	0.0062	.	0.00019	.	.	.	yes
IMN MN5-2	4.50	.	0.0011	0.00071	.	.	.	0.033	.	.	0.010	0.012	.	0.00078	.	.	.	yes
IMN MN5-3	5.29	.	0.0017	0.0012	.	.	.	0.062	.	.	0.016	0.016	.	0.0013	.	.	.	yes
IMN MN5-4	5.90	.	0.0038	0.0018	.	.	.	0.083	.	.	0.026	0.024	.	0.0019	.	.	.	yes

CRM SEBILOY / ENVIROBRASS / FEDERALLOY

Number	Sn	Zn	Bi	Se	As	Co	Fe	Ni	P	Pb	Sb	Cu
32X SEB2D	6.96	1.40	4.57	0.044	0.0160	0.0133	0.074	0.0449	0.036	0.104	0.0222	86.56
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 SEB5C	5.18	5.30	1.056	0.471	.	0.0156	0.0430	0.317	0.072	0.268	0.0334	87.21
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)
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)
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)

Number	Ag	Al	B	C	Cd	Cr	Mn	N	O	S	Si	Units
32X SEB2D	0.0443	.	.	.	0.0255	In: 0.074	.	.	.	0.030	.	~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 mm
32X SEB5C	.	(0.001)	.	.	0.0051	.	.	.	.	0.050	.	~40 mm Ø x ~15 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 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 mm
IARM 265A	(0.002)	0.003	.	.	.	(0.001)	(0.002)	.	.	(0.002)	0.003	31 mm Ø x 2 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
IARM 264A	(0.005)	0.003	.	(0.004)	.	(0.002)	(0.002)	.	.	0.0013	0.003	31 mm Ø x 2 or 18 mm

CRM PHOSPHORUS ALLOY

40 mm Ø x 25 mm

Number	P	As	Bi	Cu	Fe	Ni	Pb	Sb	Se	Sn	Te	Zn
IMN C02	11.60	0.0050	0.0049	Rem	0.096	0.013	0.070	0.065	(0.0045)	0.35	(0.0055)	0.15
IMN C05	9.45	0.0023	0.00095	Rem	0.11	0.0082	0.0044	0.034	(0.0015)	0.55	(0.0023)	0.061
IMN C03	8.56	0.011	0.015	Rem	0.11	0.10	0.10	0.14	(0.0073)	0.037	(0.0080)	0.24
IMN C04	5.54	0.016	0.0086	Rem	0.29	0.25	0.29	0.092	(0.010)	0.13	(0.012)	0.029

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)					

CRM SILVER ALLOY SET

available in set only 40 mm Ø x 25 mm

Number	Ag
IMN CCA-1	0.00720
IMN CCA-2	0.0539
IMN CCA-3	0.757
IMN CCA-4	1.524
IMN CCA-5	1.964

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
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
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

CRM TIN COPPER SET

available in SET/5 or individually

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 IMN MG2 in SET only, all others OK individually

MB: 40 mm Ø x 18 mm

ME, MG, WR: 35-40 mm Ø x 25-30 mm

WC: 40 mm Ø x 12 mm

Number	Cu	Zn	Al	As	Bi	Cd	Co	Cr	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	.	.	.	0.0067	.	.	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 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	.	.	.	.	.	.	.	.	.	.	.	.	.	.
IMN WR1	55.72	Rem	0.496	0.203	0.00109	0.00045	0.00196	0.00049	0.0577	1.051	3.534	0.00122	0.0496	0.00046	1.097	0.605
IMN WR2	56.99	Rem	1.092	0.0129	0.00642	0.00548	0.00210	0.00705	0.802	1.631	2.683	0.0311	0.291	0.00566	0.817	0.453
IMN WR3	58.95	Rem	1.683	0.0492	0.0118	0.00807	0.0106	0.0149	0.184	1.674	1.799	0.0126	0.514	0.0150	0.566	0.254
IMN WR4	60.07	Rem	2.297	0.00528	0.0211	0.0154	0.0154	0.0190	0.600	2.254	0.989	0.0213	0.683	0.0247	0.279	0.100
IMN WR5	61.20	Rem	3.024	0.00129	0.0278	0.0200	0.0196	0.0253	0.141	3.070	0.251	0.0282	0.885	0.0334	0.0485	0.0116

Number	Cu	Zn	Al	As	Bi	Cd	Co	Cr	Fe	Mn	Ni	P	Pb	Sb	Si	Sn
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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
C30.07	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
C38.06	(62)	rem	<0.001	<0.005	<0.001	<0.002	<0.002	<0.005	<0.005	<0.002	<0.002	<0.002
C38.06-1	(62)	rem	<0.001	<0.001	<0.0005	<0.005	<0.001	<0.005	0.002	<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	0.09
C38.03	(61)	rem	0.06	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	0.19	0.02	0.01	0.14	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

last of stock

current batch

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 3-1	35.50	(58.60)	1.22	0.073	.	0.357	0.993	.	0.214	0.030	1.32	(0.032)	0.025	1.62
CTIF L 4-1	34.55	61.75	0.100	.	.	0.466	0.227	.	0.109	.	2.017	.	0.12	0.693
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

CURM: cast 50 mm Ø x 10-12 mm
SRM: wrought 31 mm Ø x 19 mmPB: 45 mm Ø x 25 mm
others: chill cast ~38-43 mm Ø x ~15-18 mm

#	Number	Zn	Cu	Al	As	Bi	Fe	Mn	Ni	Pb	Sb	Si	Sn
1	31X B25C	42.2	55.6	0.48	0.027	0.061	0.014	0.128	0.255	0.272	0.075	0.235	0.62
1	31X B2N	39.1	60.2	0.161	0.0154	0.0150	0.122	0.0361	0.102	0.053	0.0121	.	0.0129
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
1	IARM 75C	38.1	60.7	(0.003)	(0.005)	(0.0012)	(0.06)	(0.0024)	(0.013)	0.42	(0.007)	(0.005)	0.69
2	SRM 1107	37.3	61.2	.	.	.	0.037	.	0.098	0.18	.	.	1.04
1	31X TB3L	37.0	62.42	0.044	0.047	0.0085	0.040	0.034	0.031	0.118	0.053	0.020	0.133
1	31X TB1L	36.8	61.5	0.174	0.052	0.049	0.072	0.287	0.199	0.325	0.101	0.097	0.214
1	31X B11H	36.65	60.72	0.0262	0.0061	0.0054	0.002	0.653	1.033	0.0134	0.0057	0.0063	0.0117
1	31X B10N	36.6	60.9	0.149	0.0099	0.021	0.135	0.160	1.56	0.022	0.0207	0.012	0.047
1	31X TB5B	35.6	61.49	0.071	0.396	0.292	0.094	0.283	0.106	0.575	0.229	0.111	0.129
1	31X B3N	35.05	64.56	.	0.0104	0.0152	0.0408	0.0290	0.0171	0.085	0.0148	.	0.0394
1	31X B3M	35.01	64.58	0.074	0.0196	0.0149	0.0264	0.0296	0.0259	0.0299	0.0205	.	0.0202
1	31X TB4G	33.64	66.07	0.0041	0.0106	0.0058	0.0340	0.0013	0.0133	0.0246	0.0095	0.0203	0.0197
1	31X B5L	23.98	75.38	0.0138	0.0357	0.0088	0.038	(0.002)	0.0275	0.084	0.016	(0.005)	0.266
1	31X B22G	17.8	80.5	0.100	0.150	0.148	0.107	0.00076	0.142	0.197	0.147	0.152	0.225
1	31X B7L	15.34	84.22	0.0435	0.0054	0.0607	0.099	0.0088	0.0351	0.0416	0.0196	0.018	0.089
1	SRM 1110	15.2	84.5	.	.	.	0.033	.	0.053	0.033	.	.	0.051
1	SRM 1111	12.8	87.1	.	.	.	0.010	.	0.022	0.013	.	.	0.019
1	31X B9M	4.92	94.81	(0.0006)	0.0103	0.0059	0.0361	0.0006	0.0379	0.090	0.0089	.	0.062
1	31X B24D	1.99	95.65	(0.0024)	0.0116	0.0126	0.0342	0.0030	0.134	0.050	0.118	.	1.93
2	PB MS10	.	84.26	.	0.014	0.37	0.28	0.016	0.025	0.020	(0.009)	0.12	0.052
1	BAM M396	.	65.49	0.223	0.0590	0.00032	0.0235	0.00445	0.0143	.	0.00061	.	.

#	Number	Zn	Cu	Al	As	Bi	Fe	Mn	Ni	Pb	Sb	Si	Sn
	Number	Ag	B	C	Cd	Co	Cr	P	S	Se	Te		
	31X B25C	0.0025	.	.	0.00019	.	(0.0002)	0.116	.	.	.	.	.
	31X B2N	0.0118	0.0029	.	0.0032	0.042	.	0.0191	.	.	.	0.0015	.
	CURM 30.15	.	.	.	.	.	.	.	.	.	.	.	.
	CURM 30.16	.	.	.	.	.	.	.	.	.	.	.	.
	CURM 30.11	.	.	.	.	.	.	.	.	.	.	.	.
	IARM 75C	.	<0.1	(0.002)	(0.0015)	(0.0007)	0.0009	(0.004)	(0.0015)	(0.005)	.	.	.
	SRM 1107	.	.	.	.	.	.	.	.	.	.	.	.
	31X TB3L	0.011	0.0014	.	0.0078	0.0043	.	.	.	.	.	0.0025	.
	31X TB1L	0.061	0.0005	.	0.0122	0.0017	0.0024	0.0080	(0.002)	(0.0008)	(0.004)	.	.
	31X B11H	.	.	.	.	.	.	.	.	last	.	.	.
	31X B10N	0.0030	.	.	0.0005	0.0062	0.0006	0.033	.	(0.0009)	.	.	.
	31X TB5B	0.216	.	.	0.49	0.0202	0.0031	0.0255	.	.	.	.	.
	31X B3N	0.0152	0.0008	.	0.0027	0.0066	.	0.0366	.	.	.	0.0056	.
	31X B3M	0.0247	0.0022	.	0.0040	0.0109	.	0.0421	.	.	.	0.0098	.
	31X TB4G	.	(0.0004)	.	0.0032	0.0067	.	.	.	.	.	0.0035	.
	31X B5L	.	(0.0009)	.	0.0040	0.0250	.	.	.	.	.	.	.
	31X B22G	0.0015	0.0029	.	0.0130	0.059	(0.0006)	0.214	.	(0.0007)	.	.	.
	31X B7L	.	0.0013	.	0.0064	0.0044	.	.	.	.	.	(0.002)	.
	SRM 1110	.	.	.	.	.	.	.	.	.	.	.	.
	SRM 1111	.	.	.	.	.	.	.	.	.	.	.	.
	31X B9M	0.0065	(0.0005)	.	.	.	.	0.0047	.	0.0019	0.0181	.	.
	31X B24D	.	.	.	0.0008	.	.	0.0065	0.050	.	.	.	.
	PB MS10	.	.	.	.	.	.	.	.	last	.	.	.
	BAM M396	.	.	.	0.00022	0.00012	0.00079	0.00089	.	<0.001	.	.	.
	Number	Ag	B	C	Cd	Co	Cr	P	S	Se	Te		

38 mm Ø x 30 mm

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 LH1-1	7.99	16.90	64.90	.	.	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	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 B14G	4.02	36.52	58.85	0.0091	0.0103	0.0183	0.0117	0.0190	0.0104	0.0139	0.051	0.486	Ag:0.0130 Co:0.0109	~40mmØ x ~15mm
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 B15H	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
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
1	31X B16H	1.98	37.18	58.37	0.0056	0.0042	0.0162	0.0029	0.0076	0.0295	0.0126	0.197	2.13	Ag:0.0052 Co:0.0023	~40mmØ x ~15mm
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	1.96	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

CRM ALUMINUM BRASS SET

IMN W02 available in SET/4 only, others individually

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

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

~38-40 mm Ø x ~15 mm

Number	Bi	Zn	Cu	Ag*	Al	As	B*	Cd*	Co	Cr*	Fe	Mn	Ni	P	Pb	S*	Sb	Se*	Si	Sn
31X BIB3C	4.04	31.83	63.18	.	0.154	0.0476	.	14	0.0032	.	0.0510	.	0.127	0.0626	0.181	18	0.0321	47	0.0516	0.198
31X BIB1E	1.96	34.0	62.7	14	0.213	0.0290	.	91	0.0057	.	0.074	0.0266	0.301	0.062	0.090	(30)	0.012	(10)	0.065	0.376
31X BIB4D	0.80	34.8	62.9	14	0.435	0.0095	19	22	0.0108	6	0.094	0.00082	0.211	0.039	0.096	(50)	0.022	11	0.060	0.58

RM CARTRIDGE BRASS

cast typical analysis listed in mass %

31X: ~40 mm Ø x ~15 mm

others: 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
31X B4N	30.22	69.3	Cr:0.0013	0.059	0.0139	0.032	0.0083	0.043	.	0.032	0.019	0.0083	0.080	(0.002)	0.006	0.030	0.046
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

available in SET/5 or individually 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

Number	Cd	Cr	Cu	Se	Zn	Zr	Units
IMN MJ1	0.00355	0.0120	67.77	0.00062	Rem	.	available individually 40 mm Ø x ~28 mm
IMN MJ2	0.00377	0.00440	66.40	0.00037	Rem	.	available individually 40 mm Ø x ~28 mm
IMN MJ3	0.00165	0.00158	67.39	0.00035	Rem	.	available individually 40 mm Ø x ~28 mm
IMN MJ4	0.00130	0.00374	68.06	0.0124	Rem	.	available individually 40 mm Ø x ~28 mm
IMN MJ5	0.000360	0.00065	(67.82)	0.00288	Rem	.	available individually 40 mm Ø x ~28 mm
IMN MJJ1	.	.	67.82	.	Rem	0.0454	available individually 40 mm Ø x ~28 mm
IMN MJJ2	.	.	(68.03)	.	Rem	0.00017	available individually 40 mm Ø x ~28 mm
IMN MJJ3	.	.	67.87	.	Rem	0.00070	available individually 40 mm Ø x ~28 mm
IMN MJJ4	.	.	67.75	.	Rem	0.0074	available individually 40 mm Ø x ~28 mm

CRM FREE CUTTING BRASS SET

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 available individually
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 available in SET/5 only
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 available in SET/5 only
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 available individually
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 available individually

LEADED BRASS

= class, where 1 = CRM and 2 = RM

* Provisional Analysis

#	Number	Pb	Sn	Zn	Cu	Al	As	Bi	Co	Fe	Mn	Ni	P	Sb	Si
1	IARM Cu844-18	6.7	3.08	9.5	80.5	0.0010	0.0041	0.030	0.0015	0.030	.	0.209	0.0018	0.037	(0.001)
1	IMN BR1	5.03	4.9	5.07	Rem	0.0074	0.0102	.	.	0.085	0.080	0.009	0.009	0.090	(0.0077)
1	IARM Cu836-18	4.9	5.02	5.09	84.5	.	0.0098	0.035	0.0026	0.049	.	0.423	0.028	0.103	(0.003)
1	SRM 1124	3.363	0.3112	35.19	(62.5)	.	.	(0.0202)	(0.0014)	0.2068	(0.0009)	0.0801	(0.0224)	0.02325	.
2	CURM H30.24	3.02	<0.001	37.92	58.87	<0.001	<0.001	<0.001	.	0.005	<0.001	<0.001	.	<0.001	<0.001
1	33X RB2B	2.99	4.65	9.01	82.02	0.0078	0.0395	0.091	0.0326	0.503	0.0076	0.330	0.0435	0.0494	(0.0017)
1	BS 360C	2.86	0.104	35.3	61.5	(0.026)	(0.016)	.	(0.0003)	0.096	0.0025	0.020	(0.007)	0.0043	0.0026
1	BS 360B	2.77	0.15	35.7	(61.2)	(0.001)	0.002	(0.002)	(0.002)	0.117	0.0094	0.040	(0.002)	0.017	0.002
1	IARM Cu360-18	2.73	0.29	35.1	61.6	(0.010)	0.026	(0.0023)	0.0010	0.27	0.0131	0.0120	(0.003)	0.012	(0.010)
1	BS 360D	2.68	0.153	35.0	61.8	(0.0003)	(0.040)	.	(0.0004)	0.155	0.0011	0.029	(0.002)	(0.007)	(0.001)
1	31X B19S	2.36	0.0556	37.3	59.7	0.015	0.0214	0.019	0.0007	0.357	0.0194	0.0249	0.016	0.036	0.015
1	31X 7835-7A	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 7835-2L	2.07	0.206	33.4	63.7	0.136	0.069	0.013	0.0036	0.25	.	0.951	(0.08)	0.073	0.023
1	31X CZ132A	2.05	0.160	39.90	57.63	0.0007	0.0119	.	0.0009	0.165	.	0.9510	.	0.0054	(0.004)
2	HRT CU2015	2.00	0.19	.	57.57	.	.	.	.	0.14	.	0.04	0.004	.	.
1	31X CZ122A	1.97	0.0866	36.21	61.51	.	0.150	.	.	0.066	0.00097	0.0261	.	0.0088	(0.001)
1	BAM M394	1.93	0.232	.	57.70	(0.00010)	0.01001	0.00081	.	0.1191	0.00141	0.0399	0.00157	0.00238	(0.00053)
1	BAM M394a	1.92	0.174	.	57.64	(0.00079)	0.00959	0.00083	.	0.1323	0.00125	0.0386	0.00172	0.00241	(0.00058)
1	31X 7835-3K	1.70	0.355	36.64	59.9	0.488	0.059	0.0298	0.0069	0.484	0.048	0.146	0.033	0.060	(0.077)
1	31X 7835-5A	1.64	0.116	6.23	91.25	0.078	0.104	.	.	0.126	.	0.249	0.018	0.114	.
1	31X 7835-6D	1.31	0.70	37.2	59.9	0.527	0.0069	0.0047	0.0059	0.118	.	0.061	0.038	.	0.004
1	31X CZ114A	1.219	0.511	38.25	57.10	0.714	.	0.0107	.	0.740	1.475	0.0183	0.0018	(0.0032)	(0.0064)
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
2	BS 857B-2	1.21	1.13	34.91	[62.4]	0.364	0.0004	.	.	0.30	0.003	0.61	0.003	.	0.003
2	BS 857B-3	1.21	1.13	34.91	[62.4]	0.351	0.0003	.	.	0.30	0.003	0.61	0.003	.	0.004
2	BS 857B-4	1.20	1.13	34.91	[62.4]	0.339	0.0004	.	.	0.30	0.003	0.61	0.003	.	0.005
1	31X CZ115A	1.169	0.729	39.20	57.19	0.0007	0.0008	.	.	0.601	1.095	0.0143	0.0091	0.0020	(0.0005)
1	31X 7835-4K	0.98	0.200	38.0	59.9	0.153	0.058	0.018	0.0058	0.239	0.0262	0.099	0.156	0.0284	.
1	31X CZ112A	0.458	1.130	37.07	61.24	(0.0006)	0.0052	.	.	0.0488	0.0010	0.0150	0.0136	0.0043	(0.0033)

Number	Ag	B	Be	C	Cd	Cr	Mg	O	S	Se	Te	Units
IARM Cu844-18	0.0133	.	.	.	(0.0008)	.	.	.	0.023	0.0040	.	~38 mm Ø x ~3 or ~19 mm
IMN BR1	.	.	.	.	.	.	.	.	0.014	.	.	40 mm Ø x ~25 mm
IARM Cu836-18	0.0292	.	.	.	0.0014	.	.	.	0.041	0.0016	.	~38 mm Ø x ~3 or ~19 mm
SRM 1124	0.0131	.	.	.	0.00651	0.0155	.	.	(0.0031)	.	.	cont. cast 39 mm Ø x 19 mm
CURM H30.24	.	.	.	.	.	.	.	(0.2)	.	.	.	50 mm Ø x 10 - 12 mm
33X RB2B	0.105	.	.	.	.	(0.0013)	.	.	0.069	.	0.0078	chill cast ~42 mm Ø x ~17 mm
BS 360C	0.0040	.	(0.0002)	0.0014	.	(0.0008)	.	(0.0007)	(0.0008)	.	N:(0.0002)	38 mm Ø x ~7 or 19+ mm 17025
BS 360B	0.006	.	(0.001)	(0.002)	.	(0.0001)	.	0.0007	(0.0005)	last	(0.002)	38 mm Ø x 19 mm 17025
BS 360D	0.0059	.	(0.0003)	0.0013	.	(0.0005)	.	(0.0009)	(0.0008)	.	.	38 mm Ø x ~7 or 19+ mm 17025
31X B19S	0.0041	.	.	.	0.0110	0.0012	.	.	(0.003)	0.0010	0.0012	~38 mm Ø x ~15 mm
IARM Cu360-18	0.011	.	.	(0.003)	0.0034	(0.003)	.	.	.	.	.	31 mm Ø x 2 or 18 mm
31X 7835-7A	.	.	.	.	0.0047	.	.	.	0.0075	.	.	chill cast 40 mm Ø x ~15 mm
31X 7835-2L	0.015	0.0012	.	.	0.0040	.	.	.	.	.	.	chill cast ~40 mm Ø x ~15 mm
31X CZ132A	0.0050	.	.	.	0.0012	.	.	.	0.0008	.	.	wrought ~40 mm Ø x ~15 mm
HRT CU2015	.	.	.	.	.	.	.	.	.	.	.	40 mm Ø x 20 mm
31X CZ122A	0.0030	(0.0004)	.	.	0.0011	.	.	.	0.0009	.	.	wrought ~40 mm Ø x ~15 mm
BAM M394	.	.	.	.	0.00070	.	.	.	.	.	.	40 mm Ø x 30 mm
BAM M394a	.	.	.	.	0.00073	0.00013	.	.	.	.	.	40 mm Ø x 30 mm
31X 7835-3K	0.0205	.	.	.	0.0060	0.0107	.	.	.	.	0.0011	chill cast ~40 mm Ø x ~15 mm
31X 7835-5A	.	.	.	.	.	.	.	.	.	.	.	chill cast 42 mm Ø x 18 mm
31X 7835-6D	0.0048	0.0032	.	.	0.0017	.	.	.	(0.001)	(0.001)	0.0007	chill cast ~40 mm Ø x ~15 mm
31X CZ114A	.	.	.	.	.	.	.	.	.	.	.	wrought ~38 mm Ø x ~15 mm
BS 857B-1	(0.002)	.	.	.	.	.	.	.	.	.	last	cont. cast 38 mm Ø x 10 or 19 mm
BS 857B-2	(0.002)	.	.	(0.003)	.	.	.	.	(0.001)	.	(0.004)	cont. cast 38 mm Ø x 12 mm
BS 857B-3	(0.002)	.	.	(0.003)	.	.	.	.	(0.001)	.	(0.004)	cont. cast 38 mm Ø x 12 mm
BS 857B-4	(0.002)	.	.	(0.003)	.	.	.	.	(0.001)	.	(0.004)	cont. cast 38 mm Ø x 12 mm
31X CZ115A	0.0041	.	.	.	.	0.0005	.	.	.	.	.	wrought ~41 mm Ø x ~15 mm
31X 7835-4K	.	0.0020	.	.	0.0092	0.0051	.	.	.	.	.	chill cast ~40 mm Ø x ~15 mm
31X CZ112A	0.0043	.	.	.	.	.	.	.	.	.	.	wrought ~41 mm Ø x ~15 mm

CRM LEADED BRASS SET

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	available individually
IMN WG2	(0.00095)	0.016	56.99	0.42	(0.0024)	0.0051	.	2.66	(0.0024)	(0.021)	(0.0025)	Rem	available individually
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	available in set only
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	# 4 sold out
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	available in set only
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	available individually

CRM MANGANESE BRASS

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

31X: ~40 mm Ø x ~15-18 mm

CTIF: 2 Discs 60 mm Ø x 5 mm

Number	Mn	Zn	Cu	Al	Fe	Ni	Pb	Si	Sn	As	Co	P	Sb	Ag*	Bi*	Cd*	Cr*
31X MNB12C *	16.1	21.2	58.3	0.70	0.29	0.696	1.97	0.046	0.171	0.0100	0.012	0.078	0.0101	21	101	22	26
31X B13G	2.84	36.67	60.03	0.0148	0.182	0.212	0.0188	0.032	0.0127	0.0120	.	.	0.0056	.	116	.	.
31X MNB3F	2.11	25.57	66.41	1.41	1.25	0.377	0.509	1.642	0.423	0.044	0.036	0.056	0.044	99	.	97	360
31X B12G	1.720	36.66	60.51	0.081	0.430	0.491	0.0244	0.0207	0.0229	0.0181	.	.	0.0194	.	198	.	.
31X MNB6C	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	.	.	.

* 31X MNB12Ca lso contains C:0.009

CRM MANGANESE BRASS DISC AND ROD SETS

Number	Al	As	Bi	Cu	Fe	Mn	Ni	P	Pb	Sb	Si	Sn	Zn	availability	Units
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	set only	10 mm Ø x 100 mm
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	set only	10 mm Ø x 100 mm
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	set only	10 mm Ø x 100 mm
IMN MA4	0.33	.	.	57.40	0.20	2.75	0.69	0.15	.	0.20	0.27	0.015	Rem	set only	10 mm Ø x 100 mm
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	set only	10 mm Ø x 100 mm
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	set only	10 mm Ø x 100 mm
IMN WF1	.	.	0.00059	56.47	0.097	2.16	0.010	(0.0012)	0.010	0.00058	.	0.012	Rem	OK individually	44 mm Ø x 30 mm
IMN WF2	.	.	0.00091	57.66	0.21	1.79	0.040	(0.0032)	0.040	0.0018	.	0.045	Rem	OK individually	44 mm Ø x 30 mm
IMN WF3	.	.	0.0015	58.66	0.29	1.36	0.10	0.0075	0.070	0.0036	.	0.072	Rem	OK individually	44 mm Ø x 30 mm
IMN WF4	.	.	0.0021	60.50	0.42	0.57	0.15	0.0095	0.10	0.0045	.	0.11	Rem	OK individually	44 mm Ø x 30 mm
IMN WF5	.	.	0.0030	58.77	0.68	0.52	0.18	0.014	0.14	0.0061	.	0.16	Rem	set only	44 mm Ø x 30 mm
IMN WF6	.	.	0.00095	59.78	0.05	0.98	0.074	0.0020	0.026	.	.	0.028	Rem	OK individually	44 mm Ø x 30 mm

NAVAL BRASS

= class, where 1 = CRM and 2 = RM

31X NB: 42 mm Ø x ~15 mm

BS: 38 mm Ø x see below

CURM: 50 mm Ø x 10-12 mm

IARM: 38 mm Ø x 3 or 19 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 4J	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	.
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	.	.	.
1	31X NB3J	1.38	0.127	24.46	72.86	0.130	0.0559	0.0786	0.071	0.124	0.0599	0.203	(0.004)	0.197	0.127	0.0464	.	.
1	IARM Cu485-18	0.759	1.76	36.5	60.8	(0.002)	(0.055)	.	0.062	0.0013	0.013	.	.	(0.0018)	(0.003)	C:(0.002)	Cd: 0.0005	.
1	IARM Cu464-21	0.751	0.066	38.5	60.7	0.0006	0.0011	0.0010	0.096	0.0115	0.0084	0.0012	.	0.0016	0.0040	.	.	.
1	IARM 76D	0.73	1.69	36.8	60.7	(0.002)	(0.004)	0.0011	0.013	0.0006	(0.003)	0.0018	0.0012	0.0040	0.0037	0.0014	.	0.0010
1	BS 485A	0.725	1.39	36.2	61.5	0.0022	(0.0003)	.	0.010	(0.001)	0.0017	(0.002)	(0.0005)	(0.006)	(0.005)	C:(0.002)	O:(0.0009)	.
1	IARM Cu486-18	0.692	1.31	36.5	61.2	(0.0030)	(0.025)	(0.0004)	0.036	(0.0003)	0.032	(0.004)	(0.0030)	(0.0050)	(0.002)	(0.004)	.	(0.0006)
1	BS 464B	0.69	0.054	38.7	60.5	(0.004)	0.0005	.	0.050	(0.09)	0.0092	(0.002)	0.0005	(0.001)	0.011	O: 0.0013	~7 or 19mm	.
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)	.	.	~7 or 19mm	.
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	.	.	~7 or 19mm	.
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	.	.	.
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 1H	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)

BS 464B and **BS 485A** are **17025****CRM NAVAL BRASS SET**

40 mm Ø x 25 mm

Number	Al	Bi	Cu	Fe	Mn	Ni	P	Pb	Sb	Si	Sn	Zn	availability
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	ok individually
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	ok individually
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	set only
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	set only
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	ok individually

CRM NICKEL AND PHOSPHOR BRASS

analysis listed in mass %

Number	Ni	P	Cu	Zn	Al	Cd	Cr	Fe	Mn	Pb	Sn	Units
31X B29A	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

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
available individually																		
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
available in SET ONLY																		
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

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 ERM-EB393a	3.35	(20.8)	75.8	0.00021	0.0143	0.00185	0.00297	0.0454	0.0104	(0.000093)	0.00390
2 CTIF LS3	3.3	19	76	0.43	0.10	0.15	0.11	0.011	0.58	0.107	0.15
1 31X WSB6F	3.13	0.0506	95.40	(0.0013)	0.158	0.924	0.0509	0.0179	0.0310	0.0406	0.0142
1 IARM 313A	3.09	21.3	75.4	(0.001)	0.011	(0.001)	(0.002)	0.09	0.042	0.014	0.006
2 HRT CU2021	2.9	10.0	86.6	0.0008	0.019	0.044	0.002	0.081	0.006	0.001	0.006

Number	Ag	As	B	C	Cd	Co	Cr	S	Zr	Units
CTIF LS2	.	.	.	.	.	.	.	.	.	60 mm Ø x 5 mm
ERM-EB393a	.	0.000134	Bi: (0.000019)	.	0.000061	.	0.000156	Se: (0.00047)	.	40 mm Ø x 30 mm
CTIF LS3	.	.	.	.	.	.	.	.	.	60 mm Ø x 5 mm
31X WSB6F	0.0131	0.0110	0.0054	.	0.0039	0.0095	.	.	.	~40 mm Ø x ~15 mm
IARM 313A	0.0017	0.0010	0.0008	(0.002)	(0.0003)	(0.004)	(0.001)	0.0016	(0.0004)	31 mm Ø x 2 mm
HRT CU2021	.	(0.0006)	Bi: 0.0006	.	0.0005	.	0.0006	0.001	.	42 mm Ø x 20 mm

CRM HIGH TENSILE BRASS

Number	Cu	Zn	Al	Fe	Mn	Si	As	C	Ni	P	Pb	S	Sb	Sn	Units
31X HT31B	67.00	17.06	6.82	3.01	5.69	0.0443	0.0005	0.0057	0.226	0.0030	0.0139	0.0007	B:0.0014	0.079	~40 mm Ø x ~15 mm
31X HT37A	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

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

BRONZE

Number	Cu	Fe	Ni	P	Pb	Sn	Zn	method	Units
32X CSN1A	.	0.0020	(0.0001)	0.0007	.	0.306	0.0039	wrought	~20 mm Ø x ~22 mm
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

CRM ALUMINUM BRONZE SETS

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

40 mm Ø x -25-30 mm

Number Singly?	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	no
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	yes
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	no
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	yes
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	yes
IMN BP1	8.935	0.00094	0.00053	0.00054	.	3.7	0.00305	.	0.00535	0.243	0.00055	0.00055	.	0.00052	(0.00544)	0.00043	0.0100	yes
IMN BP2	6.136	0.00215	0.00222	0.00214	.	26.7	0.0184	.	0.0189	1.032	0.00208	0.00238	.	0.00468	0.0220	0.00199	0.024	no
IMN BP3	7.120	0.00980	0.0102	0.00928	.	104	0.0743	.	0.152	1.850	0.00661	0.0103	.	0.0108	0.0804	0.0106	0.176	no
IMN BP4	4.632	0.0238	0.0207	0.0226	.	217	0.0131	.	0.304	2.522	0.0238	0.0229	.	0.0215	0.183	0.0229	0.343	no
IMN BP5	3.769	0.0361	0.0349	0.0356	.	374	0.200	.	0.411	3.528	0.0189	0.0347	.	0.0356	0.266	0.0336	0.459	yes
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	yes
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	yes
IMN B03	4.67	0.00662	0.00660	0.00570	.	54.8	0.0752	.	0.00884	0.00683	0.00550	0.0537	.	0.00568	0.0552	1.17	5.07	yes
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	yes
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	yes
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	yes
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	yes
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	no
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	no
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	yes

ALUMINUM BRONZE - LOW NICKEL

= class, where 1 = CRM and 2 = RM

#	Number	Al	Cu	As	Cr	Fe	Mg	Mn	Ni	P	Pb	Si	Sn	Zn
1	IARM Cu954-20	10.48	84.7	0.0007	0.028	3.84	.	0.54	0.30	0.009	0.018	0.029	0.010	0.068
1	IARM Cu955-18	10.37	80.8	(0.0020)	0.008	3.50	.	0.77	4.5	(0.013)	0.006	(0.022)	0.0056	0.038
1	IARM Cu954-18	10.36	84.7	(0.0030)	(0.003)	4.23	(0.0013)	0.29	0.134	(0.016)	0.016	0.025	0.047	0.141
1	BS 624	10.2	86.5	<0.01	.	3.02	.	0.16	0.052	<0.005	<0.005	0.019	(0.016)	(0.007)
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
2	HRT CU2018	10.00	84.06	.	.	3.06	.	2.49	0.04	0.014	(0.021)	0.020	0.014	0.10
1	VS BR1	9.6	.	.	.	3.32	.	1.41	0.015	0.007	0.016	0.041	0.011	0.075
1	VS BR4	9.4	.	.	.	3.38	.	1.51	0.043	.	0.015	0.077	0.008	0.034
1	32X CA 7A	9.37	88.06	.	0.0028	2.09	0.0004	0.151	0.234	.	(0.004)	0.017	0.0172	0.006
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	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	VS BR2	8.53	.	.	.	0.101	.	1.77	0.023	0.0083	0.0085	0.038	0.019	0.011
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
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
1	BS 642B	7.17	89.9	0.0015	0.0014	0.285	.	0.069	0.222	0.004	0.0152	2.15	0.0056	0.128
1	BS 642C	7.13	90.4	0.0008	0.0009	0.11	0.0014	0.0148	0.0363	0.0040	0.0109	2.20	0.0061	0.039
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 61400A	6.81	89.99	.	.	2.74	0.0050	0.082	0.0242	0.0008	(0.0007)	0.0124	0.301	0.060
1	BS 642D	6.73	91.2	(0.002)	0.0004	0.152	(0.0003)	0.018	0.047	0.0007	0.0038	1.77	0.019	0.093
1	IARMCu642-18	6.5	90.0	.	.	0.039	.	0.0024	(0.014)	(0.009)	0.019	1.96	0.019	1.19
2	CURM 51.12	6.36	88.29	0.111	.	2.67	.	1.33	0.112	<0.001	0.219	0.005	0.196	0.45
1	32X CA12A	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

Number	Ag	Be	C	Co	N	O	S	Sb	Zr	Units
IARM Cu954-20	0.00015	.	Bi:0.0012	0.0012	.	.	(0.005)	0.0018	.	38 mm Ø x 3 or 19 mm
IARM Cu955-18	0.0019	.	(0.0080)	0.0027	.	.	(0.0012)	(0.0020)	.	31 mm Ø x 2 or 18 mm
IARM Cu954-18	.	Bi:0.0011	(0.007)	0.017	(0.0006)	(0.0010)	(0.0020)	(0.0009)	(0.0004)	31 mm Ø x 2 or 18 mm
BS 624	.	.	0.0041	.	.	(0.0005)	<0.005	<0.01	.	44 mm Ø x -7 or 19+ mm
BS 954A	.	.	0.004	.	.	.	<0.0001	0.001	.	38 mm Ø x -7 mm last
HRT CU2018	.	.	.	.	.	.	.	.	.	40 mm Ø x 20 mm
VS BR1	.	.	.	.	.	.	.	.	.	38 mm Ø x 18 mm
VS BR4	.	.	.	.	.	.	.	.	.	38 mm Ø x 18 mm
32X CA 7A	0.0009	.	0.0028	0.0003	.	.	(0.001)	<0.01	.	42 mm Ø x 18 mm
BS 623	.	.	(0.002)	.	.	.	.	.	.	37 mm Ø x 12 mm last
IARM 79C	<0.005	.	0.003	<0.005	.	.	<0.001	<0.005	.	31 mm Ø x 2 or 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 -7 or 19+ mm
VS BR2	.	.	.	.	.	.	.	(0.004)	.	38 mm Ø x 18 mm
CURM 51.14	.	.	.	.	.	.	.	.	.	50 mm Ø x 10 - 12 mm
CURM 51.13	.	.	.	.	.	.	.	.	.	50 mm Ø x 10 - 12 mm
BS 642B	.	(<0.005)	0.0013	(<0.005)	(<0.0005)	(<0.0005)	(<0.0005)	0.0004	(<0.0005)	38 mm Ø x -7 or 19 mm
BS 642C	.	(<0.005)	(<0.005)	(<0.005)	(<0.005)	(<0.0005)	(<0.005)	(<0.0005)	(<0.0005)	38 mm Ø x -7 or 19 mm
C51.13	.	.	.	.	.	.	.	.	.	50 mm Ø x 10 - 12 mm
32X 61400A	0.0010	.	.	.	.	.	.	(0.0004)	.	~45 mm Ø x ~15 mm
BS 642D	0.0011	.	0.0011	(0.0007)	(0.0005)	0.0007	(0.0003)	(0.001)	(0.0001)	38 mm Ø x -7 or 19+ mm
IARMCu642-18	.	.	.	.	.	.	.	.	.	31 mm Ø x 2 or 18 mm
CURM 51.12	.	.	.	.	.	.	.	.	.	50 mm Ø x 10 - 12 mm
32X CA12A	0.0010	.	(0.002)	(0.0003)	.	.	.	.	.	42 mm Ø x 18 mm
C51.12	.	.	.	.	.	.	.	.	.	50 mm Ø x 10 - 12 mm
CURM 51.11	.	.	.	.	.	.	.	.	.	50 mm Ø x 10 - 12 mm

Need a larger size?

Most BS items are
available in any height.

ALUMINUM BRONZE - HIGH NICKEL

= class, where 1 = CRM and 2 = RM

#	Number	Al	Cu	As	Cr	Fe	Mg	Mn	Ni	P	Pb	Si	Sn	Zn
1	32X ALB 10B	12.11	73.64	0.0194	0.0152	3.63	0.0122	1.626	7.21	0.069	0.152	0.158	0.201	0.961
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 Cu954-21	10.55	85.1	.	0.022	3.66	0.0013	0.393	0.105	0.0031	0.012	0.029	0.0053	0.029
1	32X ALB 3S	10.43	80.01	0.0213	0.0392	3.720	0.0659	0.243	3.51	0.0345	0.117	0.155	0.1209	1.313
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 630A	10.05	81.0	(0.002)	.	3.73	.	0.11	4.81	<0.01	0.0069	0.037	0.019	0.17
2	HRT CU2001	10.05	79.09	.	.	4.79	.	0.36	4.94	0.011	0.015	0.08	0.018	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
2	HRT CU2009	9.93	78.88	.	.	3.73	.	0.29	6.22	0.010	0.037	0.19	0.020	0.54
1	IARM 334B	9.91	80.8	(0.003)	(0.004)	3.7	(0.001)	0.60	4.70	0.005	0.006	0.075	0.019	0.122
1	BS 630C	9.90	80.7	0.0007	0.0030	3.82	0.0011	0.325	4.82	0.0043	0.0093	0.064	0.0152	0.234
1	BS 630B	9.78	80.8	0.0007	0.0017	3.90	0.0009	0.281	4.88	0.0028	0.0056	0.0166	0.0289	0.254
1	IARM 334A	9.76	80.7	(0.004)	(0.01)	3.82	(0.001)	0.69	4.77	(0.005)	0.010	0.073	0.025	0.110
1	IARM 80D	9.67	(81.7)	(0.009)	(0.005)	2.99	(0.003)	0.346	5.01	(0.005)	(0.005)	0.025	0.093	(0.007)
1	32X ALB 6K	9.69	80.77	0.0116	(0.1)	2.71	0.0104	0.787	5.42	(0.006)	0.0749	0.073	0.120	0.126
1	VS BR3	9.6	.	.	.	4.00	.	0.227	3.85	(0.003)	0.007	0.071	0.005	0.009
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	C52.56	8.9	Rem	.	0.14	4.6	0.09	0.74	5.6	.	0.17	0.15	0.11	0.28
1	32X ALB 12A	8.29	82.90	.	.	1.094	0.0013	0.958	6.33	0.0101	0.0018	0.0202	0.310	0.0625
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
1	32X ALB 5K	7.21	83.72	.	0.192	2.04	0.179	1.416	3.92	(0.051)	0.0512	0.107	0.0293	0.80
1	32X ALB 13A	7.09	84.96	.	.	1.171	.	5.39	1.381	0.009	(0.0009)	0.086	0.0072	0.0194
1	32X ALB 8E	6.38	77.17	0.145	0.36	5.54	0.015	1.562	6.68	0.171	0.071	0.603	0.312	0.352
1	32X ALB 8F	6.21	77.04	0.189	0.088	5.37	0.194	1.57	6.11	0.261	0.049	0.513	0.435	1.395

#	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 10B	0.0144	.	.	.	0.0984	.	.	Te:0.0108	~40 mm Ø x ~15 mm					
BS 955C	0.014	.	.	.	.	.	(<0.002)	.	38 mm Ø x ~7 or 19+ mm					
IARM Cu954-21	0.0012	.	(0.0009)	.	(0.002)	(0.0019)	(0.0019)	.	38 mm Ø x 3 or 19 mm					
32X ALB 3S	0.0272	.	.	.	0.0760	.	.	Nb:0.018	~40 mm Ø x ~15 mm					
BS 954C	.	.	.	(0.004)	.	(<0.0005)	<0.003	.	38 mm Ø x ~7 or 19+ mm					
BS 954B	.	.	.	(0.005)	.	(<0.0005)	(0.001)	.	38 mm Ø x ~7 or 19+ mm					
BS 630A	.	.	.	0.005	.	(0.001)	<0.001	.	38 mm Ø x ~7 mm					
HRT CU2001	.	.	.	.	.	0.003	.	.	40 mm Ø x 20 mm					
C52.51	.	.	.	.	.	.	.	.	50 mm Ø x 10 - 12 mm					
HRT CU2009	.	.	.	.	.	.	.	.	40 mm Ø x 20 mm					
IARM 334B	0.0013 (0.001)	(0.001)	(0.001)	0.005	(0.003)	0.0008	(0.004)	(0.004)	31 mm Ø x 2 or 18 mm					
BS 630C	.	(<0.0005)	.	0.0060	0.0019	(<0.0005)	0.0003	.	38 mm Ø x ~7 or 19 mm+					
BS 630B	.	(<0.0005)	.	0.0067	0.0017	0.0013	(<0.0005)	.	38 mm Ø x ~7 or 19 mm+					
IARM 334A	(0.001) (0.001)	(0.001)	(0.001)	0.0058	(0.003)	0.0007	0.004	.	31 mm Ø x 2 or 18 mm					
IARM 80D	(0.04) <0.002	(0.004)	(0.004)	0.022	(0.003)	<0.02	<0.03	.	31 mm Ø x 2 or 18 mm					
32X ALB 6K	0.0082	.	.	.	0.139	.	.	.	~40 mm Ø x ~15 mm					
VS BR3	.	.	.	.	.	.	.	.	38 mm Ø x 18 mm					
BS CC954	.	.	.	(0.007)	.	(0.002)	0.004	.	32 mm Ø x 17 mm					
C52.56	.	.	.	.	.	.	.	.	50 mm Ø x 10 - 12 mm					
32X ALB 12A	0.044	.	.	.	0.0056	.	(0.0007)	.	~41 mm Ø x ~15 mm					
CURM 52.54	.	.	.	.	.	.	.	.	50 mm Ø x 10 - 12 mm					
32X ALB 5K	0.0061	.	.	0.0606	.	Nb:0.181	.	Te:0.047	~40 mm Ø x ~15 mm					
32X ALB 13A	.	.	.	.	0.0011	.	.	(0.0007)	~35 mm Ø x ~15 mm					
32X ALB 8E	0.0099	.	.	.	0.554	.	0.024	.	~40 mm Ø x ~15 mm					
32X ALB 8F	0.0100	.	.	0.0204	0.425	.	0.0250	.	~40 mm Ø x ~15 mm Nb:(0.002) Te:(0.003)					
Number	Ag	Be	Bi	C	Co	S	Sb	Se	Units					

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

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 CA11	10.54	84.45	1.27	0.779	1.95	0.109	0.254	0.258	0.211	.	.	.	0.125
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 CA37	9.84	76.79	6.85	0.752	4.98	0.0503	0.040	0.147	0.364	0.0118	.	0.085	0.077
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

CRM BISMUTH BRONZE

Number	Bi	Cu	Ni	P	Pb	Sn	Zn	Al	Fe	O	S	Sb	Se	Units
IARM CuMB1-18	4.51	88.98	0.58	0.049	0.015	5.58	0.47	(0.0012)	(0.0016)	(0.003)	(0.0020)	(0.003)	(0.0025)	31 mm Ø x 2 mm or 18 mm

MANGANESE BRONZE

= class, 1=CRM and 2=RM

BS 675B, 863B, 675A: 38 Ø x ~7 to 19+ mm

BS 675: 38 Ø x 12 mm

IARM: 31 Ø x 2 or 18 mm

#	Number	Mn	Al	Fe	Sn	Zn	Cu	As	C	Co	Cr	Ni	P	Pb	S	Sb	Si
1	BS 863B	2.97	5.25	2.84	0.033	26.1	[62.4]	0.0004	0.0028	0.0009	0.0042	0.081	0.0010	0.0205	0.0007	0.0012	0.0103
1	IARM 88C	2.99	5.79	2.98	0.147	22.86	64.5	(0.007)	0.005	0.0010	0.008	0.276	0.020	0.133	0.0010	(0.003)	0.091
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	BS 675B	0.175	(<0.005)	1.10	0.92	39.3	58.7	0.0009	(<0.001)	(0.0002)	(0.0002)	0.0071	0.0020	0.071	0.0002	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)	.	last	<0.01	<0.01	<0.01	(0.0013)	<0.01	<0.02

BS 675B and 863B are 17025**CRM NICKEL BRONZE SET**

available in SET/5 or individually

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

Need a larger size?

Most BS items are

available in any height.

PHOSPHOR BRONZE

= class, where 1 = CRM and 2 = RM

* Provisional Analysis

#	Number	P	Sn	Zn	Cu	Mn	Ni	Pb	Al	As	Fe	Mg	S	Sb	Si
1	32X PB11H	0.89	3.07	1.53	91.3	0.0404	0.70	1.07	0.070	0.187	0.377	0.015	0.011	0.446	0.084
1	BS 510C	0.335	5.43	0.13	94.1	<0.001	0.015	0.0051	(0.0009)	<0.005	0.0042	.	0.0019	<0.01	0.0028
1	32X 51000A	0.300	4.85	0.0105	94.87	.	0.0084	0.0032	0.0007	.	0.0024	.	0.0021	.	.
1	33X 54400A	0.243	3.97	3.87	86.79	.	0.244	4.69	0.0009	0.0156	0.072	.	0.0251	0.0362	.
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	IARM Cu510-18 (0.16)	4.54	0.0034	95.2	(<0.0010)	(0.017)	(0.0027)	(0.0004)	(0.0007)	(0.0008)	.	(0.0020)	(0.0008)	(<0.0050)	.
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 52100A	0.146	7.73	0.0026	92.10	.	0.0111	0.0031	0.0009	0.0009	0.0008	.	0.0008	.	.
1	32X PB14E	0.128	9.65	0.103	89.70	0.0141	0.103	0.0354	0.0201	0.0235	0.0211	.	0.070	0.0433	(0.003)
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 PB15B	0.104	2.04	0.75	.	0.0006	0.145	0.046	0.064	0.102	0.044	0.023	0.0016	0.020	.
1	32X PB13E	0.089	6.55	0.301	92.48	0.0440	0.0953	0.109	0.0251	0.0391	0.0549	.	.	0.092	0.053
1	BS 510B	0.074	4.6	0.251	[95.0]	0.0004	0.0211	0.0112	(0.006)	0.0010	0.009	.	0.007	(0.002)	(0.003)
1	IARM Cu544-18	0.069	4.14	3.80	88.0	.	0.019	3.92	.	.	(0.010)	.	.	.	.
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	HRT CU2016	0.050	7.23	0.006	92.67	.	0.007	0.006	.	.	0.004	.	0.003	0.006	.
2	C54.01	0.05	3.2	0.31	Rem	0.13	0.26	0.09	0.009	0.04	0.01	<0.001	0.03	0.08	0.006
1	BS 544B	0.0258	4.06	3.51	88.2	(0.0009)	0.068	3.9	(0.0009)	0.0043	0.087	.	0.0249	0.0244	0.0042
1	32X PB17A	0.017	21.8	0.0188	77.3	.	0.044	0.213	.	0.175	0.0009	.	0.0220	0.051	.
1	BS 544C	0.0092	4.10	3.78	88.4	<0.005	0.153	3.31	<0.05	(0.008)	0.055	.	0.058	0.0045	0.0029
1	32X PB16A	0.0073	17.60	0.0082	82.02	.	0.127	0.088	(0.0006)	0.0035	(0.001)	.	0.0049	0.013	0.005

Number	Ag	Bi	C	Co	Cr	N	O	Se	Units
32X PB11H	B:0.0021	0.023	.	0.034	.	.	.	.	~40 mm Ø x ~15 mm
BS 510C	(0.004)	.	(0.0010)	0.0008	<0.005	.	0.0006	.	38 mm Ø x ~7 or 19+ mm 17025
32X 51000A	0.0022	.	.	.	.	.	.	.	38 mm Ø x ~15 mm
33X 54400A	0.0124	.	.	0.0013	.	.	.	.	~38 mm Ø x ~15 mm
IARM 78B	.	.	.	.	.	.	.	.	31 mm Ø x 2 mm (OK) or 18 mm (LAST)
IARM Cu510-18	0.0019	.	(0.0018)	.	.	.	0.0011	.	31 mm Ø x 2 or 18 mm
IARM 77B	.	.	0.003	.	.	.	.	.	31 mm Ø x 2 or 18 mm
32X 52100A	0.0011	0.0019	.	.	.	.	.	.	38 mm Ø x ~15 mm
32X PB14E	0.0152	0.146	.	0.0047	.	.	.	.	~40 mm Ø x ~15 mm
BS 510A	.	.	(0.0006)	.	.	.	.	.	38 mm Ø x ~7 or 12 mm
CURM 54.02	.	.	.	.	.	.	.	.	50 mm Ø x 10-12 mm
32X PB15B	.	(0.0002)	.	0.037	0.0004	.	.	(0.0008)	~40 mm Ø x ~15 mm
32X PB13E	0.0205	0.0224	.	0.0088	.	.	.	.	~40 mm Ø x ~15 mm
BS 510B	Zr: (0.0004)	0.0010	(0.0006)	(0.0008)	(0.0001)	0.0009	.	.	38 mm Ø x ~7 or 19+ mm 17025
IARM Cu544-18	.	.	.	.	.	.	.	.	38 mm Ø x ~3 or 19 mm
CURM 54.01	.	.	.	.	.	.	.	.	50 mm Ø x 10-12 mm
HRT CU2016	.	.	.	.	.	.	.	.	40 mm Ø x 20 mm
C54.01	.	.	.	.	.	.	.	.	50 mm Ø x 10-12 mm
BS 544B	0.0173	.	0.0031	(0.0012)	(0.0007)	(0.0007)	0.0005	.	38 mm Ø x ~7 or 19+ mm 17025
32X PB17A	0.017	0.026	.	0.0018	(0.0004)	.	.	0.0022	~40 mm Ø x ~15 mm
BS 544C	<0.005	.	0.0018	(0.0020)	<0.005	.	0.0006	.	38 mm Ø x ~7 or 19+ mm 17025
32X PB16A	0.0166	0.0530	.	(0.0004)	.	.	.	Te: (0.002)	~40 mm Ø x ~15 mm

SILICON BRONZE

= class, where 1 = CRM and 2 = RM

#	Number	Si	Cu	Mn	Al	As	C	Cr	Fe	Ni	P	Pb	Sn	Zn
1	BS 655B	3.25	95.7	0.928	(<0.005)	0.0004	0.0012	0.0006	0.042	0.0043	0.0047	0.0205	0.0053	0.0248
1	BS 655C	3.22	95.6	0.958	(<0.005)	0.0006	(<0.005)	0.0021	0.052	0.0030	0.0035	0.0047	0.0049	0.0152
1	IARM 82B	3.22	95.3	1.04	0.002	<0.002	(0.003)	0.004	0.080	0.011	0.004	0.011	0.017	0.38
1	37X 65500A	3.13	95.75	0.960	0.0028	.	(0.0044)	0.0029	0.035	0.0059	0.0046	0.0034	0.0426	0.0353
1	IARM Cu655-18	3.15	95.5	0.98	(0.0020)	(0.0004)	(0.0100)	.	0.055	0.0034	(0.0020)	(0.018)	0.009	0.149
2	BS 655A	3.14	95.74	0.91	(0.002)	<0.002	(0.0006)	.	0.075	0.008	(0.004)	0.008	0.07	0.02
1	IARM Cu647-18	0.70	(96.5)	(0.099)	0.0027	.	.	.	(0.0056)	2.69	(<0.02)	(<0.007)	(<0.01)	(0.005)
Number		Be	Co	Mg	N	O	S	Sb	Zr	Units				
BS 655B		(<0.0005)	(<0.005)	(<0.0005)	(<0.0005)	(<0.0005)	0.0010	0.0002	(<0.0005)	38 mm Ø x ~7 or 19+ mm				17025
BS 655C		(<0.0005)	(<0.005)	(<0.005)	(<0.0005)	(<0.001)	0.0007	(<0.0005)	.	38 mm Ø x ~7, ~12 or 19+ mm				17025
IARM 82B		.	.	.	<0.0005	(0.001)	0.003	<0.01	.	31 mm Ø x 2 mm last				
37X 65500A		0.0014	.	.	.	.	0.0010	.	.	~38 mm Ø x ~15 mm				
IARM Cu655-18		.	Ag: (0.0015)	.	.	.	(0.0010)	(0.0008)	.	31 mm Ø x 2 or 18 mm				
BS 655A		.	.	.	.	.	(0.0006)	<0.002	.	38 mm Ø x ~7, 12 or 19+ mm				
IARM Cu647-18		.	.	(0.0086)	.	.	.	.	0.044	31 mm Ø x 2 or 18 mm				

CRM

SILICON BRONZE SET

BH1 BH3 and BH6 set only, others ok individually

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

LEADED, TIN, AND LEADED TIN BRONZE CHART 1 of 2

= class, where 1 = CRM and 2 = RM

#	Number	Sn	Pb	Zn	Cu	Al	Fe	Mn	Ni	P	S	Sb	Si
2	CTIF B1	15.15	0.202	0.92	82.90	0.072	0.088	.	0.063	0.037	0.030	0.444	0.055
1	32X SN7B	12.4	2.31	1.14	81.21	0.0254	0.036	.	0.276	0.0051	0.027	0.235	.
2	CURM 50.04	11.30	9.94	0.66	76.11	0.014	0.10	0.028	1.10	0.032	0.14	0.50	0.011
2	HRT CU2000	11.03	0.78	0.42	86.4	(0.001)	0.04	(0.01)	1.28	0.009	0.014	.	(0.01)
1	IARM 310A	10.56	0.064	0.10	89.2	0.0009	0.006	(0.001)	0.043	0.094	0.0021	(0.002)	(0.001)
2	CURM 50.02	10.34	10.67	0.006	78.84	.	.	.	.	0.046	.	.	.
1	32X 52480A	10.33	0.329	0.397	88.54	.	0.020	.	0.369	0.0103	0.0071	0.0182	(0.002)
2	BS 905A-2	10.3	0.032	2.3	[87.3]	(<0.005)	0.014	(<0.005)	0.018	0.056	(0.004)	0.004	(<0.005)
2	BS 905A-3	10.3	0.033	2.3	[87.3]	(<0.005)	0.013	(<0.005)	0.018	0.052	(0.004)	0.004	(<0.005)
2	BS 905A-4	10.3	0.033	2.2	[87.3]	(<0.005)	0.012	(<0.005)	0.018	0.049	(0.004)	0.004	(<0.005)
2	BS 905A-1	10.25	0.030	2.27	87.3	(<0.003)	0.015	(<0.003)	0.018	0.055	.	0.004	(<0.004)
1	BS 937C	9.99	9.15	0.196	80.0	(0.0008)	0.0033	(0.0007)	0.26	0.0009	0.025	0.55	(0.002)
1	32X 93700A	9.95	8.38	0.78	80.43	.	0.0011	.	0.307	(0.0015)	0.0017	0.0051	.
1	NCS HS45742	9.79	1.43	2.88	Rem	0.037	0.191	.	0.153	0.56	.	0.288	0.010
1	IARM 92C	9.65	9.42	0.146	80.35	0.0013	(0.008)	(0.0016)	0.170	0.073	0.026	0.078	(0.0019)
1	32X LB12E	9.63	8.64	0.459	79.76	0.0337	0.029	.	0.354	0.240	0.053	0.484	0.0099
2	HRT CU2017	9.24	8.91	0.37	80.11	.	0.011	.	1.25	0.007	0.026	0.14	.
1	IARM 89C	9.14	0.17	3.0	87.5	(0.002)	0.004	(0.001)	0.008	0.004	0.0011	0.008	(0.003)
1	BS 929	9.07	1.98	0.0055	85.3	(<0.00005)	0.0030	(<0.00005)	3.37	0.119	0.0026	0.0146	(<0.001)
1	NCS HS45743	9.06	4.20	1.39	Rem	0.028	0.100	.	0.056	0.38	.	0.206	0.020
2	CURM 50.01	9.01	11.13	0.91	75.38	<0.0005	0.074	<0.001	1.93	0.069	0.188	0.50	<0.001

Number	Ag	As	Bi	C	Cd	Co	Cr	Mg	Se	Te	Units
CTIF B1	.	.	.	.	.	.	.	.	.	.	60 mm Ø x 5 mm
32X SN7B	0.328	1.13	0.198	.	0.020	0.339	.	.	0.066	0.0204	~40 mm Ø x ~15 mm
CURM 50.04	.	0.06	0.10	.	.	.	.	.	.	.	50 mm Ø x 10-12 mm
HRT CU2000	.	.	.	.	.	.	.	.	.	.	40 mm Ø x 20 mm
IARM 310A	0.0020	(0.002)	(0.001)	(0.005)	(0.001)	0.0011	(0.001)	.	(0.001)	.	31 mm Ø x 2 or 18 mm
CURM 50.02	.	.	.	.	.	.	.	.	.	.	50 mm Ø x 10-12 mm
32X 52480A	0.0131	.	0.0013	.	.	.	.	.	.	.	~40 mm Ø x ~15 mm
BS 905A-2	0.002	0.002	.	(0.002)	.	.	.	.	.	.	38 mm Ø x 12 mm
BS 905A-3	(0.002)	0.002	.	(0.001)	.	.	.	.	.	.	38 mm Ø x 12 mm
BS 905A-4	(0.002)	0.002	.	(0.002)	.	.	.	.	.	.	38 mm Ø x 12 mm
BS 905A-1	(0.002)	(0.001)	.	.	.	.	.	.	.	.	38 mm Ø x 12 mm
BS 937C	(0.015)	0.0112	(0.018)	(0.0015)	(0.0002)	0.0006	(0.00004)	0.00060	(0.0008)	(0.0005)	38 mm Ø x 19+ mm 17025
32X 93700A	.	.	.	.	.	0.0004	.	.	.	.	~42 mm Ø x ~15 mm
NCS HS45742	.	.	.	.	.	.	.	.	.	.	40 mm Ø x 30 mm
IARM 92C	(0.05)	(0.005)	(0.011)	(0.002)	.	(0.0007)	(0.0007)	.	(0.001)	.	31 mm Ø x 2 or 18 mm
32X LB12E	0.0450	0.112	0.0338	.	.	0.061	.	.	.	0.0215	~40 mm Ø x ~15 mm
HRT CU2017	.	.	.	.	.	.	.	.	.	.	40 mm Ø x 20 mm
IARM 89C	0.005	0.004	(0.003)	(0.002)	(0.001)	(0.001)	(0.002)	0.0006	(0.001)	(0.0004)	31 mm Ø x 2 or 18 mm
BS 929	(<0.005)	0.0017	(<0.005)	(<0.005)	.	0.0031	(<0.005)	.	0.00031	.	51 mm Ø x ~7 or 19+ mm 17025
NCS HS45743	.	.	.	.	.	.	.	.	.	.	40 mm Ø x 30 mm
CURM 50.01	0.19	.	0.024	.	.	.	.	.	.	.	50 mm Ø x 10 - 12 mm
Number	Ag	As	Bi	C	Cd	Co	Cr	Mg	Se	Te	Units

LEADED, TIN, AND LEADED TIN BRONZE CHART 2 of 2

= class, where 1 = CRM and 2 = RM

#	Number	Sn	Pb	Zn	Cu	Al	Fe	Mn	Ni	P	S	Sb	Si
1	BS 929MOD	8.9	2.9	0.25	84.2	(0.13)	0.11	0.007	3.34	(0.011)	(0.014)	(0.026)	0.0057
1	BS 903E	8.63	0.100	4.11	87.0	(0.001)	0.0072		0.293	0.056	0.0092	0.010	(0.0018)
2	CURM 50.03	8.41	8.86	1.72	77.42	0.005	0.018	0.037	2.89	0.159	0.064	0.24	0.005
1	IARM Cu903-18	8.3	(0.066)	4.6	86.5	(0.0010)	(0.012)	(0.0004)	0.41	(0.060)	(0.0017)	(0.002)	(0.0040)
1	32X LB10G	8.29	12.60	0.110	77.10	(0.0005)	0.0011	.	0.690	0.0034	0.0100	0.599	.
2	BS 903B	7.9	0.10	4.39	86.7	(0.001)	0.049	0.0004	0.50	0.073	0.006	0.003	0.002
1	NCS HS45741	7.77	2.92	4.04	Rem	0.057	0.27		0.204	0.093		0.108	0.051
1	BAM 374	7.60	0.00083	0.00404	92.22		0.0040	0.00043	0.00327	0.1697	(0.0013)	(0.00063)	(0.0010)
2	BS 938-1	7.16	14.8	0.26	77.1	(0.002)	(0.015)	(0.001)	0.49	(0.059)	0.009	0.033	(0.004)
1	BS 936	6.99	10.7	0.244	81.5	0.0007	0.0026	(0.0006)	0.36	(0.053)	0.009	0.102	0.0040
1	IARM Cu932-18	6.82	7.95	3.44	81.2	(0.0007)	0.070		0.454	0.040	0.031	0.31	.
1	IARM 91E	6.69	7.59	3.68	81.3	0.0015	0.110	0.0007	0.300	0.026	0.028	0.168	0.0021
1	BS 932G	6.35	7.78	2.92	82.0	(0.002)	0.028	(0.0005)	0.39	0.11	0.035	0.173	0.0014
1	BS 932F	6.30	7.32	3.39	[82.1]	(0.0008)	0.057	(0.0002)	0.388	0.0105	0.0368	0.199	0.0011
1	BS 932H	6.28	7.62	2.79	82.4	0.0020	0.019	(0.0005)	0.41	(0.11)	0.038	0.185	(0.002)
1	IARM 184A	6.0	19.0	0.37	(74)	0.0016	(0.003)	(0.002)	0.30	0.008	0.021	0.27	(0.002)
1	32X LB13D	5.98	7.04	0.77	85.1	0.0014	0.0159		0.629	0.033	0.074	0.092	0.008
1	BAM 377	5.92	0.00449	0.01006	94.04	0.00451	0.01042	0.000921	0.01074	(0.0010)	(0.00068)	0.00130	(0.0134)
2	BS 922B-1	5.8	1.33	3.95	88.4	(0.001)	0.010	(0.002)	0.61	0.037		0.002	(0.001)
2	BS 922B-2	5.8	1.33	3.91	88.4	(0.001)	0.008	(0.002)	0.61	0.031	.	0.002	(0.001)
2	BS 922B-4	5.8	1.33	3.82	88.4	(0.001)	0.007	(0.002)	0.61	0.021	.	0.002	(0.001)
2	BS 922B-5	5.8	1.33	3.78	88.4	(0.001)	0.006	(0.002)	0.61	0.017	.	0.002	(0.001)
1	BAM 378	5.738	(0.00042)	(0.00073)	94.13	(0.0001)	0.0182	(0.000074)	0.00183	0.0602	(0.00091)	0.00061	(0.0010)
1	32X LB16A	5.55	18.78	0.450	74.42	(0.0012)	0.0040		0.793	(0.0018)	0.0011	(0.0012)	.
1	32X LB14H	5.16	15.04	0.254	78.4	0.0008	0.041	.	0.300	0.039	0.036	0.103	0.0012
1	IARM 267A	4.95	0.026	2.06	87.8	0.003	0.019	(0.002)	5.1	0.037	0.0014	<0.03	0.003
1	BS 836D	4.82	4.9	4.84	84.8	0.0011	0.026	(0.0002)	0.370	0.086	0.039	0.108	0.0027
1	BS 836B	4.71	4.6	4.85	85.2	0.0015	0.022	(0.0007)	0.377	0.096	0.036	0.102	(0.0032)
1	BS 836C	4.7	4.72	4.91	85.0	(0.0015)	0.017	(0.0007)	0.370	0.066	0.038	0.104	0.0032
1	32X LB15F	4.53	20.15	0.147	74.5	0.0009	0.0039		0.104	0.063	0.021	0.198	0.0018
1	BAM M397	3.99	0.229	1.96	.	.	.	.	0.336	.	0.45	0.097	.
1	BAM M397a	3.9	0.227	1.87	.	.	.	.	0.337	.	0.45	0.097	.
1	IARM 72B	0.029	1.99	7.81	90.08	.	0.007	.	0.004	0.005	0.0015	0.006	(0.002)

Number	Ag	As	Bi	C	Cd	Co	Cr	Mg	Se	Te	Units	
BS 929MOD	.	0.0020	.	(0.003)	.	(0.0017)	.	0:0.0007	.	.	51 mm Ø x -7 or 19+ mm	17025
BS 903E	.	(0.002)	.	(0.002)	.	(0.002)	(0.0007)	N:(0.0004)	0:(0.007)	.	38 mm Ø x -7 or 19+ mm	17025
C50.03	.	0.094	0.027	.	.	.	.	.	.	.	50 mm Ø x 10-12 mm	
IARM Cu903-18	0.0059	(0.0010)	.	(0.0020)	.	0.0019	.	0:0.0013	.	.	31 mm Ø x 2 or 18 mm	
32X LB10G	0.0686	0.169	0.093	.	.	0.084	.	.	.	.	40 mm Ø x -15 mm	
BS 903B	.	0.003	.	(0.0004)	.	.	.	.	.	.	38 mm Ø x -7 or 19+ mm	last
NCS HS45741	.	.	.	.	.	.	.	.	.	.	40 mm Ø x 30 mm	
BAM 374	0.00121	(0.00043)	(0.00022)	.	.	.	.	.	(0.0002)	.	40 mm Ø x 30 mm	
BS 938-1	0.0048	(0.004)	.	.	.	.	.	.	.	.	38 mm Ø x 12 mm	
BS 936	0:0.0026	0.0045	N:(0.0001)	(0.0025)	.	(0.003)	(0.00004)	.	.	Ti:(0.00006)	50 mm Ø x 19+ mm	17025
IARM Cu932-18	0.019	0.0073	0.094	(0.0025)	0.0007	(0.0024)	.	.	(0.009)	.	38 mm Ø x -3 or 19 mm	
IARM 91E	0.015	0.008	0.109	(0.003)	0.0011	0.0024	(0.0008)	.	0.004	.	31 mm Ø x 2 mm	
BS 932G	.	0.0096	.	(0.011)	.	0.0025	(0.001)	.	0:0.0014	.	38 mm Ø x -7 or 19+ mm	17025
BS 932F	.	0.0091	.	(0.0053)	.	0:0.0025	.	.	.	last	38 mm Ø x -11 mm	17025
BS 932H	.	0.010	.	(0.007)	.	0.0028	.	0:0.0016	.	.	38 mm Ø x -7 or 19+ mm	17025
IARM 184A	(0.01)	0.010	(0.03)	(0.004)	.	(0.001)	(0.001)	.	.	.	31 mm Ø x 2 or 18 mm	
32X LB13D	0.0249	0.118	0.058	.	0.0006	0.0044	.	.	.	.	40 mm Ø x -15 mm	
BAM 377	0.00644	(0.0010)	0.00422	.	.	.	0.00669	.	0.0055	.	40 mm Ø x 30 mm	
BS 922B-1	(0.001)	0.001	.	.	.	.	.	.	.	.	41 mm Ø x 12 mm	
BS 922B-2	(0.001)	0.001	.	.	.	.	.	.	.	.	41 mm Ø x 12 mm	
BS 922B-4	(0.001)	0.001	.	.	.	.	.	.	.	.	41 mm Ø x 12 mm	
BS 922B-5	(0.001)	0.001	.	.	.	.	.	.	.	.	41 mm Ø x 12 mm	
BAM 378	0.00266	0.00995	(0.0001)	.	0.01007	0.0089	0.0311	0.00287	(0.0002)	0.00850	40 mm Ø x 30 mm	
32X LB16A	0.0016	0.0120	.	.	.	.	.	.	.	.	32 mm Ø x 17 mm	
32X LB14H	0.046	0.055	0.496	.	0.0005	0.0018	.	.	.	.	40 mm Ø x -15 mm	
IARM 267A	(0.002)	(0.004)	(0.005)	(0.003)	.	(0.002)	(0.001)	.	(0.002)	.	31 mm Ø x 2 or 18 mm	
BS 836D	0.023	0.0081	0.093	(0.003)	.	0.0027	0:0.0012	(0.0004)	Be:(0.00009)	.	44 mm Ø x -7 or 19+ mm	17025
BS 836B	0.025	0.0081	0.10	(0.0032)	.	0.0027	0:0.0010	(0.0005)	Be:(0.00009)	.	44 mm Ø x -7 or 19+ mm	17025
BS 836C	0.024	0.0082	0.10	(0.003)	.	0.0027	0:0.0014	(0.0007)	Be:(0.000005)	.	44 mm Ø x -7 or 19+ mm	17025
32X LB15F	0.023	0.0163	0.129	.	0.0006	0.0004	.	.	.	.	40 mm Ø x -15 mm	
BAM M397	.	(0.00029)	.	.	.	.	.	.	<0.0001	<0.0001	40 mm Ø x 30 mm	
BAM M397a	.	(0.00029)	.	.	.	.	.	.	<0.0001	<0.0001	40 mm Ø x 30 mm	
IARM 72B	.	(0.003)	.	0.002	.	.	.	.	.	.	31 mm Ø x 2 or 18 mm	
Number	Ag	As	Bi	C	Cd	Co	Cr	Mg	Se	Te	Units	

Number	Ag	As	Bi	C	Cd	Co	Cr	Mg	Se	Te	Units
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CRM LEADED, TIN, AND LEADED TIN BRONZE DISC AND ROD SETS

available individually except IMN WL4 and WL5 are SET ONLY

IMN BB: 10 mm Ø x 100 mm

IMN BL: 40 mm Ø x 27 mm

IMN BI, WL: 40 mm Ø 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
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 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

COPPER ALLOY XRF SET

Part Number: BS CU-22 AVAILABLE INDIVIDUALLY

~7 mm thick discs (BS 938-1 ~12mm)

17025

CDA	Number	Cu	Al	Fe	Mn	Ni	Pb	Si	Sn	Zn	As	C	P	S	Sb	Be	Co	
110	BS 110B	99.94	<0.0002	0.0005	<0.0001	<0.0002	0.00052	<0.0004	<0.0002	<0.0003	<0.0001	0.0007	<0.0006	0.00030	<0.0005	<1ppm	<1ppm	0: 0.0363
145	BS 14500	99.4	(<0.0006)	0.0041	0.00004	.	0.0008	(<0.002)	0.0002	0.004	(<0.0005)	0.0005	0.0075	0.0033	(<0.001)	($<1ppm$)	($<1ppm$)	0: 0.0007
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	Cr: 0.0032
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	.	.	
922	BS 922B-1	88.4	(0.001)	0.010	(0.002)	0.61	1.33	(0.001)	5.8	.	0.001	.	0.037	.	0.002	.	.	Ag: (0.001)
929	BS 929	85.3	(<0.00005)	0.0030	.	3.37	1.98	(<0.001)	9.07	0.0055	0.0017	(<0.005)	0.119	0.0026	0.0146	.	0.0031	0: 0.0031
938	BS 938-1	77.1	(<0.002)	0.015	(0.001)	0.49	14.8	(<0.004)	7.16	0.26	(0.004)	.	0.059	0.009	0.033	.	.	Ag: 0.0048
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	.	.	
955	BS 955C	80.6	10.68	4.04	0.06	4.31	0.003	0.025	0.003	0.15	(<0.002)	.	0.012	.	(<0.002)	.	.	Ag: 0.014
CDA	Number	Cu	Al	Fe	Mn	Ni	Pb	Si	Sn	Zn	As	C	P	S	Sb	Be	Co	

ALLOY	ISO?	NUMBER	ALLOY	ISO?	NUMBER	ALLOY	ISO?	NUMBER
101		IARM Cu101-18	630		BS 630A	922		BS 922B-1
110	17025	BS 110B	630	17025	BS 630B	922		BS 922B-2
110	17025	BS 110C	630	17025	BS 630C	922		BS 922B-4
110		IARM Cu110-18	630		IARM 80D	922		BS 922B-5
110		IARM 70C	642	17025	BS 642B	927.1		32X SN1
122.2		CURM 09.03	642	17025	BS 642C	929	17025	BS 929
125		CURM 09.02	642	17025	BS 642D	929 MOD	17025	BS 929MOD
145	17025	BS 14500	642		IARM 81B	931 MOD		C71.34
145	17025	BS 14500A	642		IARM Cu648-18	932	17025	BS 932F
145		IARM 278A	647		IARM Cu647-18	932	17025	BS 932G
172		BS 172Be-1	655		37X 65500	932	17025	BS 932H
172	17025	BS 172Be-2	655		BS 655A	932		IARM 91E
172		CTIF 4872	655	17025	BS 655B	932		IARM Cu932-18
172		IARM Cu172-18	655	17025	BS 655C	932 MOD		CTIF B23
172		IARM Cu172-19	655		IARM 82B	936	17025	BS 936
173		36X CBC4	655		IARM Cu655-18	936		CTIF B31
175	17025	BS 17500	673		31X HT37	937		32X 93700
175.1		36x CBC5	675		BS 675	937	17025	BS 937C
175.1	17025	BS 17510	675		BS 675A	937		CURM 50.02
180		36X 274	675	17025	BS 675B	937		IARM 92C
181.50	17025	BS 18150	675		IARM 83B	938		BS 938-1
181.50	17025	BS 18150A	687		BAM 368	941		32x LB16
181.55		36X CCR1	693		ERM-EB393A	941		IARM 184A
182		IARM 279A	693		IARM 313A	945 MOD		CTIF B32
182		IARM Cu182-18	702.6		37X 218	947		IARM 267A
240		C30.07	706		36X 70600A	952.2		CTIF 2152-S
260		C48.06	706		BS 706	953		CTIF CA3
260		CURM 48.04	706		BS 706A	954		BS 954A
261.3		C48.03	706		BS 706B	954		BS 954B
274		C38.06	706	17025	BS 706C	954		BS 954C
274		C38.06-1	706		CTIF CuNi 10	954		BS CC954
280		C30.03	706		IARM 84C	954		IARM Cu954-18
280		C30.12	706		HRT CU2014	954		IARM Cu954-19
314		IARM 72B	713		BAM 389	954		IARM Cu954-21
316		31X 7835-7	715		36X 71500	955		BS 955C
360	17025	BS 360B	715		BS 715A	955		IARM Cu955-18
360	17025	BS 360C	715	17025	BS 715B	955 MOD		CTIF CA10
360	17025	BS 360D	715	17025	BS 715C	955.1		IARM 334A
360		IARM Cu360-18	715		IARM 85C	955.1		IARM 334B
360		SRM 1124	715		IARM Cu715-18	955.1 MOD		CTIF CA22
370		31X B18	715		IARM Cu715-20	956		32X CA12
371		C30.22	715		SRM 1276a	964		IARM 236A
464		BS 464A	767		C65.28	976		IARM 298A
464	17025	BS 464B	798.3		34X 79830	Coinage Alloy		36X CN21
464		IARM Cu464-21	815		IARM 158B	Coinage Alloy		36X CN23
482		BS 482A	815		IARM 158C	Cu IX		SRM C1252a
482		IARM 75B	836	17025	BS 836B	Cu VIII		SRM C1251a
482		IARM 75C	836	17025	BS 836C	Cu X		SRM C1253a
485		BS 485a	836	17025	BS 836D	Envirobrass 2-1		IARM 226A
485		IARM 76D	836		IARM Cu836-18	Envirobrass 2-2		IARM 227A
485		IARM Cu485-18	836 + Al		IMN BR1	Envirobrass 2-3		IARM 228A
486		IARM Cu486-18	838		33X GM8	Federalloy I-836		IARM 265A
510		32X 51000	844		IARM Cu844-18	Federalloy I-844		IARM 264A
510		BS 510A	855		31X B2N	Federalloy I-848A		IARM 263A
510	17025	BS 510B	855		31X TB3	Federalloy III-932		IARM 266A
510	17025	BS 510C	855		C38.01	Hiduron 130		IARM CuH130-18
510		IARM 77B	855		C38.02	Hiduron 191		IARM CuH191-18
510		IARM Cu510-18	855		C38.03	NARloy-A		IARM 159A
512		32X 92100	855		C38.04	NARloy-Z		IARM 160A
521		32X 52100	855		C38.05	Spinodal Alloy		36X SP1
521		HRT CU2016	857		BS 857B-1	Spinodal Alloy		36X SP2
524		C11.04	857		BS 857B-2			
544		33X 54400	857		BS 857B-3			
544	17025	BS 544B	857		BS 857B-4			
544		BS 544C	862		CTIF LH7			
544		IARM 78B	863	17025	BS 863B			
544		IARM Cu544-18	863		IARM 88C			
544 MOD	17025	BS 544c	873		31X WSB6			
610 MOD		31X B17	893.2, Magnolia B		IARM CuMB1-18			
614		32X 61400	902		BAM 377			
615.5		36X CN22	903		BS 903B			
622		CTIF 2154-V	903	17025	BS 903E			
623		32X CA7	903		IARM 89C			
623		BS 623	905		BS 905A-1			
623		BS 623A	903		IARM Cu903-18			
623		IARM 79B	905		BS 905A-2			
623		IARM 79C	905		BS 905A-3			
624		32X ALB3	905		BS 905A-4			
624	17025	BS 624	907		IARM 310A			
624		C52.51	908		32X PB10			
624		CTIF 3011-G	908		HRT CU2000			
624		CTIF CA21	910 MOD		CTIF B1			

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

Alloy	Notes	Cu	Ag	Al	Fe	Mn	Ni	P	Pb	S	Sb	Si	Sn	Zn	As	Be	Bi	Co	Cr	Mg	Ti	Zr
101	Purity 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	0.1 = Ag+Cu, 0.0 = 0.0010	>99.95	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
103	0.1 = Ag+Cu, 0.0 = 0.0010	>99.95	>0.027	.	.	.	.	0.001-0.005	.	.	.	.	.	.	.	.	.	.	.	.	.	.
104	0.1 = Ag+Cu, 0.0 = 0.0010	>99.95	>0.034	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
105	0.1 = Ag+Cu, 0.0 = 0.0010	>99.95	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
107	0.1 = Ag+Cu, 0.0 = 0.0010	>99.95	>0.085	.	.	.	.	0.005-0.012	.	.	.	.	.	.	.	.	.	.	.	.	.	.
108	0.1 = Ag+Cu+P	>99.95	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
109.1	0.1 = Ag+Cu, 0.0 = 0.005	>99.95	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
109.2	0.1 = Ag+Cu, 0.0 = 0.02	>99.99	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
109.3	0.1 = Ag+Cu, 0.0 = 0.02	>99.99	>0.044	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
109.4	0.1 = Ag+Cu, 0.0 = 0.02	>99.99	>0.085	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
110	0.1 = Ag+Cu	>99.99	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
110.1	0.1 = Ag+Cu	>99.99	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
110.2	0.1 = Ag+Cu	>99.99	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
110.3	0.1 = Ag+Cu	>99.99	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
110.4	Purity Limits, 0.0 = 0.010-0.005	>99.99	<0.0025	.	<0.0010	<0.0005	<0.0010	.	<0.0005	<0.0015	<0.0004	.	<0.0005	.	<0.0005	<0.00010	.	.	.	.	.	
111	0.1 = Ag+Cu	>99.99	>0.027	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
113	0.1 = Ag+Cu	>99.99	>0.034	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
114	0.1 = Ag+Cu	>99.99	>0.054	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
115	0.1 = Ag+Cu	>99.99	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
116	0.1 = Ag+Cu	>99.99	>0.085	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
117	0.1 = Cu+P, B 0.004-0.020	>99.99	.	.	.	.	.	<0.04	.	.	.	.	.	.	.	.	.	.	.	.	.	.
119.04	0.1 = Ag+Cu	>99.99	>0.027	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
119.05	0.1 = Ag+Cu	>99.99	>0.034	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
119.06	0.1 = Ag+Cu	>99.99	>0.054	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
119.07	0.1 = Ag+Cu	>99.99	>0.085	.	.	.	.	0.004-0.012	.	.	.	.	.	.	.	.	.	.	.	.	.	.
120	0.1 = Ag+Cu	>99.99	.	.	.	.	.	0.005-0.012	.	.	.	.	.	.	.	.	.	.	.	.	.	.
121	0.1 = Ag+Cu	>99.99	>0.014	.	.	.	.	0.015-0.040	.	.	.	.	.	.	.	.	.	.	.	.	.	.
122	0.1 = Ag+Cu	>99.99	.	.	.	.	.	0.015-0.025	.	.	.	.	.	.	.	.	.	.	.	.	.	.
122.1	0.1 = Ag+Cu	>99.99	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
122.2	0.1 = Ag+Cu	>99.99	.	.	.	.	.	0.040-0.055	.	.	.	.	.	.	.	.	.	.	.	.	.	.
123	0.1 = Ag+Cu	>99.99	.	.	.	.	.	0.015-0.040	.	.	.	.	.	.	.	.	.	.	.	.	.	.
125	0.1 = Ag+Cu, Te-Se <0.025	>99.99	.	.	.	.	<0.050	>0.03	<0.004	.	<0.003	.	<0.05	<0.000	<0.012	<0.003	<0.003	.	.	.	.	.
125.1	0.1 = Ag+Cu, Te-Se <0.025	>99.99	.	.	.	.	<0.050	.	<0.004	.	<0.003	.	<0.05	<0.000	<0.012	<0.003	<0.003	.	.	.	.	.
127	0.1 = Ag+Cu, Te-Se <0.025	>99.99	>0.027	.	.	.	<0.050	.	<0.004	.	<0.003	.	<0.05	<0.000	<0.012	<0.003	<0.003	.	.	.	.	.
Alloy	Notes	Cu	Ag	Al	Fe	Mn	Ni	P	Pb	S	Sb	Si	Sn	Zn	As	Be	Bi	Co	Cr	Mg	Ti	Zr
128	0.1 = Ag+Cu, Te-Se <0.025	>99.99	>0.034	.	.	.	<0.050	.	<0.004	.	<0.003	.	.	.	<0.012	.	<0.003	.	.	.	.	.
129	0.1 = Ag+Cu, Te-Se <0.025	>99.99	>0.054	.	.	.	<0.050	.	<0.004	.	<0.003	.	.	.	<0.012	.	<0.003	.	.	.	.	.
130	0.1 = Ag+Cu, Te-Se <0.025	>99.99	>0.085	.	.	.	<0.050	.	<0.004	.	<0.003	.	.	.	<0.012	.	<0.003	.	.	.	.	.
131	0.1 = Ag+Cu	>99.99	.	.	.	.	.	.	.	.	.	.	.	.	0.15-0.50	.	.	.	.	.	.	.
141	0.1 = Ag+Cu	>99.99	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
141.8	0.1 = Ag+Cu	>99.99	.	<0.01	.	.	.	<0.075	<0.02	.	.	.	.	<0.002	.	.	.	.	.	.	.	.
141.81	0.1 = Ag+Cu, C <0.005, Cd <0.002	>99.99	.	.	.	.	.	<0.002	<0.002	.	.	.	.	.	0.15-0.50	.	.	.	.	.	.	.
142	0.1 = Ag+Cu	>99.99	.	.	.	.	.	0.015-0.040	.	.	.	.	.	.	0.30-0.50	.	.	.	.	.	.	.
142.1	0.1 = Ag+Cu	>99.99	.	.	.	.	.	0.013-0.050	.	.	.	.	.	.	.	.	.	.	.	.	.	.
143	0.1 = Ag+Cu+Cu, Cd 0.05-0.15	>99.99	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
143.1	0.1 = Ag+Cu+Cu, Cd 0.10-0.30	>99.99	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
144	0.1 = Ag+Cu+Sn+P, Te-Se <0.02	>99.99	.	.	.	.	.	.	<0.05	.	<0.003	.	0.10-0.20	<0.05	.	.	.	.	.	.	.	.
144.1	0.1 = Ag+Cu+Sn	>99.99	.	.	.	.	.	.	.	.	.	.	0.10-0.20	.	.	.	.	.	.	.	.	.
144.15	0.1 = Ag+Cu+Sn	>99.99	.	.	.	.	.	.	.	.	.	.	0.10-0.15	.	.	.	.	.	.	.	.	.
144.2	0.1 = Ag+Cu+Sn+Te, Te-Se 0.02-0.05	>99.99	.	.	.	.	.	.	.	.	.	.	0.05-0.15	.	.	.	.	.	.	.	.	.
144.3	0.1 = Ag+Cu	>99.99	.	.	.	.	.	.	.	.	.	.	0.25-0.35	.	.	.	.	.	.	.	.	.
144.4	0.1 = Ag+Cu+Sn	>99.99	.	.	.	.	.	.	.	.	.	.	0.005-0.010	.	.	.	.	.	.	.	.	.
145	0.1 = Ag+Cu+Te, Te 0.40-0.70	>99.99	.	.	.	.	.	0.004-0.012	<0.05	.	.	.	.	.	.	.	.	.	.	.	.	.
145.1	0.1 = Ag+Cu+Te, Te 0.30-0.70	>99.99	.	.	.	.	.	.	<0.05	.	.	.	.	.	.	.	.	.	.	.	.	.
145.2	0.1 = Ag+Cu+Te, Te 0.40-0.70	>99.99	.	.	.	.	.	0.004-0.020	.	.	.	.	.	.	.	.	.	.	.	.	.	.
145.3	0.1 = Ag+Cu, Te 0.003-0.022	>99.95	.	.	.	.	.	0.001-0.005	.	0.20-0.50	.	.	0.003-0.22	.	.	.	.	.	.	.	.	.
147	0.1 = Ag+Cu+P+H	>99.99	.	.	.	.	.	0.002-0.005	<0.05	0.05-0.15	.	.	.	.	.	.	.	.	.	.	.	.
147.1	0.1 = Ag+Cu+P+H	>99.99	.	.	.	.	.	0.010-0.030	<0.05	0.20-0.50	.	.	.	.	.	.	.	.	.	.	.	.
147.2	0.1 = Ag+Cu+P+H	>99.99	.	.	.	.	.	0.10-0.03	<0.10	0.20-0.50	.	.	.	.	.	.	.	.	.	.	.	.
147.3	0.1 = Ag+Cu+P+H	>99.99	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
150	0.1 = Ag+Cu	>99.99	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
151	0.1 = Ag+Cu	>99.99	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
151.5	0.1 = Ag+Cu+Zn	>99.99	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
155	0.1 = Ag+Cu	>99.99	0.027-0.10	.	.	.	.	0.040-0.080	.	.	.	.	.	.	.	.	.	.	.	.	.	.
156	0.1 = Ag+Cu	>99.99	.	.	.	.	.	0.06-0.09	.	.	.	.	.	.	.	.	.	.	.	.	.	.
157.1	0.1 = Ag+Cu, 0.0 = 0.07-0.15	>99.71	.	0.08-0.12	<0.01	.	.	.	<0.01	.	.	.	.	.	.	.	.	.	.	.	.	.
157.15	0.1 = Ag+Cu, 0.0 = 0.12-0.19	>99.62	.	0.13-0.17	<0.01	.	.	.	<0.01	.	.	.	.	.	.	.	.	.	.	.	.	.
157.15	0.1 = Ag+Cu, B 1.2-1.8, 0.0 = 0.19	>97.82	.	0.13-0.17	<0.01	.	.	.	<0.01	.	.	.	.	.	.	.	.	.	.	.	.	.
157.2	0.1 = Ag+Cu, 0.0 = 0.16-0.24	>99.52	.	0.18-0.22	<0.01	.	.	.	<0.01	.	.	.	.	.	.	.	.	.	.	.	.	.
157.25	0.1 = Ag+Cu, 0.0 = 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
159	0.1 = Ag+Cu	>99.99	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
159	0.1 = Ag+Cu	>99.99	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
159	0.1 = Ag+Cu	>99.99	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
159	0.1 = Ag+Cu	>99.99	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
159	0.1 = Ag+Cu	>99.99	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
159	0.1 = Ag+Cu	>99.99	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
159	0.1 = Ag+Cu	>99.99	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
159	0.1 = Ag+Cu	>99.99	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
159	0.1 = Ag+Cu	>99.99	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
159	0.1 = Ag+Cu	>99.99	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
159	0.1 = Ag+Cu	>99.99	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
159	0.1 = Ag+Cu	>99.99	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
159	0.1 = Ag+Cu	>99.99	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
159	0.1 = Ag+Cu	>99.99	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
159	0.1 = Ag+Cu	>99.99	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
159	0.1 = Ag+Cu	>99.99	.	.	.																	

[illegible]

Alloy	Notes	Cu	Ag	Al	Fe	Mn	Ni	P	Pb	S	Sb	Si	Sn	Zn	As	Be	Bi	Co	Cr	Mg	Ti	Zr	
197	Ni+Co <0.10 Ni+Co <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	.	.	
197.1		rem	.	.	0.05-0.40	<0.05	<0.10	0.07-0.15	<0.05	.	.	.	<0.20	<0.20	.	.	.	.	0.03-0.06	.	.		
197.2		rem	.	.	0.05-0.50	<0.05	<0.10	0.05-0.15	<0.05	.	.	.	<0.20	<0.20	.	.	.	<0.05	.	0.06-0.20	.	.	
197.5		rem	.	.	0.02-0.50	<0.05	<0.05	0.01-0.10	<0.05	.	.	.	0.10-1.00	0.30-1.50	.	.	.	.	0.01-0.20	.	.		
198		rem	.	.	1.5-3.0	.	.	<0.10	.	.	.	.	.	.	1.0-5.0	.	.	.	<0.10	.	<0.10	<0.10	
198.1		>99.50	.	.			.																
199		97.0-98.0	.	.	<0.05	.	.	.	<0.02	.	.	.	.	rem	.	.	.	.	.	.	.	2.9-3.4	
205		94.0-96.0	.	.	<0.05	.	.	.	<0.03	.	.	.	.	rem	.	.	.	.	.	.	.	.	
210		89.0-91.0	.	.	<0.05	.	.	.	<0.05	.	.	.	.	rem	.	.	.	.	.	.	.	.	
220																							
226		86.0-89.0	.	.	<0.05	.	.	.	<0.05	.	.	.	.	rem	.	.	.	.	.	.	.	.	.
230		84.0-86.0	.	.	<0.05	.	.	.	<0.05	.	.	0.20-0.40	.	rem	.	.	.	.	.	.	.	.	
230.3		83.5-85.5	.	.	<0.05	.	.	.	<0.05	.	.	.	.	rem	.	.	.	.	.	.	.	.	
234		81.0-84.0	.	.	<0.05	.	.	.	<0.05	.	.	.	.	rem	.	.	.	.	.	.	.	.	
240		78.5-81.5	.	.	<0.05	.	.	.	<0.05	.	.	.	.	rem	.	.	.	.	.	.	.	.	
240.8		78.0-82.0	.	<0.10	.	.	.	.	<0.20	.	.	.	.	rem	.	.	.	.	.	.	.	.	
250		74.0-76.0	.	.	<0.05	.	.	.	<0.05	.	.	.	.	rem	.	.	.	.	.	.	.	.	
256		71.0-73.0	.	.	<0.05	.	.	.	<0.05	.	.	.	.	rem	.	.	.	.	.	.	.	.	
260		68.5-71.5	.	.	<0.05	.	.	.	<0.07	.	.	.	.	rem	.	.	.	.	.	.	.	.	
261		68.5-71.5	.	.	<0.05	.	.	0.02-0.05	<0.05	.	.	.	.	rem	0.02-0.08	.	.	.	.	.	.	.	
261.3		68.5-71.5	.	.	<0.05	.	.	.	<0.05	.	.	.	.	rem	.	.	.	.	.	.	.	.	
262		67.0-70.0	.	.	<0.05	.	.	.	<0.07	.	.	.	.	rem	.	.	.	.	.	.	.	.	
263.8		68.0-72.0	.	<0.10	<0.05	.	.	.	<0.30	.	.	.	.	rem	.	.	.	.	.	.	.	.	
268		64.0-68.5	.	.	<0.05	.	.	.	<0.15	.	.	.	.	rem	.	.	.	.	.	.	.	.	
270		63.0-68.5	.	.	<0.07	.	.	.	<0.10	.	.	.	.	rem	.	.	.	.	.	.	.	.	
272		62.0-65.0	.	.	<0.07	.	.	.	<0.07	.	.	.	.	rem	.	.	.	.	.	.	.	.	
274		61.0-64.0	.	.	<0.05	.	.	.	<0.10	.	.	.	.	rem	.	.	.	.	.	.	.	.	
280		59.0-63.0	.	.	<0.07	.	.	.	<0.30	.	.	.	<0.05	rem	.	.	.	.	.	.	.	.	
282		58.0-61.0	.	<0.005	<0.05	.	.	0.12-0.22	<0.03	.	.	.	.	rem	.	.	.	.	.	.	.	.	
285.8		49.0-52.0	.	<0.10	<0.10	.	.	.	<0.50	.	.	.	.	rem	.	.	.	.	.	.	.	.	
298		49.0-52.0	.	<0.10	<0.10	.	.	.	<0.50	.	.	.	.	rem	.	.	.	.	.	.	.	.	
310		89.0-91.0	.	.	<0.10	.	.	.	0.30-0.70	.	.	.	.	rem	.	.	.	.	.	.	.	.	
312		87.5-90.5	.	.	<0.10	.	<0.25	.	0.7-1.2	.	.	.	.	rem	.	.	.	.	.	.	.	.	
314		87.5-90.5	.	.	<0.10	.	0.7-1.2	.	1.3-2.5	.	.	.	.	rem	.	.	.	.	.	.	.	.	
316		87.5-90.5	.	.	<0.10	.	.	0.04-0.10	1.3-2.5	.	.	.	.	rem	.	.	.	.	.	.	.	.	
Alloy	Notes	Cu	Ag	Al	Fe	Mn	Ni	P	Pb	S	Sb	Si	Sn	Zn	As	Be	Bi	Co	Cr	Mg	Ti	Zr	
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	.	.	.	.	.	.	0.30-0.70	.	.	.	.	rem	0.02-0.06	.	.	.	.	.	.	.	.
330		65.0-68.0	.	.	<0.07	.	.	.	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	.	.	.	.	.	.	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	.	.	.	<0.25	rem	.	.	.	.	.	.	.	.	.
366		58.0-61.0	.	.	<0.15	.	.	.	0.25-0.70	.	.	.	<0.25	rem	0.02-0.06	.	.	.	.	.	.	.	.
367		58.0-61.0	.	.	<0.15	.	.	.	0.24-0.70	.	0.02-0.10	.	<0.25	rem	.	.	.	.	.	.	.	.	.
368		58.0-61.0	.	.	<0.15	.	.	0.02-0.10	0.25-0.70	.	.	.	<0.25	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	.	.	.	<0.30	rem	.	.	.	.	.	.	.	.	.
380.1		55.0-60.0	.	0.10-0.60	<0.30	.	.	.	1.5-3.0	.	.	.	.	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		56.0-59.0	.	.	<0.35	.	.	.	2.5-4.5	.	.	.	.	rem	.	.	.	.	.	.	.	.
385.9		56.5-59.0	.	.	<0.35	.	.	.	2.0-3.5	.	.	.	.	rem	.	.	.	.	.	.	.	.
386		56.0-59.0	.	.	<0.35	.	.	.	2.5-3.5	.	<0.02	.	.	rem	.	.	.	.	.	.	.	.
404		rem	.	.	.	.	.	.	.	.	.	.	.	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	.	.	0.10-0.50	.	.	.	<0.05	.	.	.	.	1.0-2.5	.	.	.	.	.	.	.	.
408.5		94.5-96.5	.	.	0.05-0.20	.	.	.	<0.02	.	.	.	.	0.20-2.50	.	.	.	.	.	.	.	.
408.6		94.0-96.0	.	.	0.01-0.05	.	.	.	<0.05	.	.	.	.	rem	.	.	.	.	.	.	.	.
409		92.0-94.0	.	.	<0.05	.	.	.	<0.05	.	.	.	.	rem	.	.	.	.	.	.	.	.
410		91.0-93.0	.	.	<0.05	.	.	.	<0.05	.	.	.	.	0.50-0.80	.	.	.	.	.	.	.	.
411		89.0-92.0	.	.	<0.05	.	.	.	<0.10	.	.	.	.	2.0-2.8	.	.	.	.	.	.	.	.
411.2		89.0-92.0	.	.	0.05-0.20	.	.	.	<0.05	.	.	.	.	0.30-0.70	.	.	.	.	.	.	.	.
413		89.0-93.0	.	.	<0.05	.	.	.	<0.10	.	.	.	.	0.30-0.70	.	.	.	.	.	.	.	.
415		89.0-93.0	.	.	<0.05	.	.	.	<0.10	.	.	.	.	0.7-1.3	.	.	.	.	.	.	.	.
419		89.0-92.0	.	.	<0.05	.	.	.	<0.10	.	.	.	.	1.5-2.2	.	.	.	.	.	.	.	.
420		88.0-91.0	.	.	<0.05	.	.	.	<0.10	.	.	.	.	4.8-5.5	.	.	.	.	.	.	.	.
421		87.5-89.0	.	.	<0.05	.	.	.	<0.05	.	.	.	.	1.5-2.0	.	.	.	.	.	.	.	.
422		86.0-89.0	.	.	<0.05	.	.	.	<0.05	.	.	.	.	2.2-3.0	.	.	.	.	.	.	.	.
422.2		88.0-91.0	.	.	0.05-0.20	.	.	.	<0.05	.	.	.	.	0.8-1.4	.	.	.	.	.	.	.	.
425		87.0-90.0	.	.	<0.05	.	.	.	<0.05	.	.	.	.	0.7-1.4	.	.	.	.	.	.	.	.
425.2		88.0-91.0	.	.	0.05-0.20	.	.	.	<0.05	.	.	.	.	1.5-3.0	.	.	.	.	.	.	.	.
426		87.0-90.0	.	.	0.05-0.20	.	.	.	<0.05	.	.	.	.	1.5-3.0	.	.	.	.	.	.	.	.
430	Ni = Ni+Co	84.0-87.0	.	.	<0.05	.	.	.	<0.10	.	.	.	.	2.5-4.0	.	.	.	.	.	.	.	.
432		85.0-88.0	.	.	<0.05	.	.	.	<0.05	.	.	.	.	1.7-2.7	.	.	.	.	.	.	.	.
434		84.0-87.0	.	.	<0.05	.	.	.	<0.05	.	.	.	.	0.40-0.60	.	.	.	.	.	.	.	.
435		79.0-83.0	.	.	<0.05	.	.	.	<0.10	.	.	.	.	0.40-1.00	.	.	.	.	.	.	.	.
436		88.0-93.0	.	.	<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	.	.	<0.05	.	.	.	<0.07	.	.	.	.	0.50-1.50	.	.	.	.	.	.	.	.
444		70.0-73.0	.	.	<0.05	.	.	.	<0.07	.	.	.	.	0.8-1.2	.	.	.	.	.	.	.	.
445		70.0-73.0	.	.	<0.05	.	.	.	<0.07	.	.	.	.	0.8-1.2	.	.	.	.	.	.	.	.
454.5		65.0-66.0	.	0.20-0.40	.	.	.	.	<0.07	.	.	.	.	0.10-0.30	.	.	.	.	.	.	.	.
Alloy	Notes	Cu	Ag	Al	Fe	Mn	Ni	P	Pb	S	Sb	Si	Sn	Zn	As	Be	Bi	Co	Cr	Mg	Ti	Zr
462		62.0-65.0	.	<0.03	<0.10	.	.	.	<0.20	.	.	.	.	0.50-1.00	.	.	.	.	.	.	.	.
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	.	0.02-0.10	.	.	0.50-1.00	.	.	.	.	.	.	.	.
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	.	.	0.03-0.07	1.8-2.2	.	.	.	.	1.8-2.2	.	.	.	.	.	.	.	.
479.4	Ni = Ni+Co	63.0-66.0	.	.	0.10-1.00	.	.	.	1.0-2.0	.	.	.	.	rem	.	.	.	.	.	.	.	.
482		59.0-62.0	.	.	<0.10	.	.	.	0.40-1.00	.	.	.	.	0.50-1.00	.	.	.	.	.	.	.	.
485		59.0-62.0	.	.	<0.10	.	.	.	1.3-2.2	.	.	.	.	0.50-1.00	.	.	.	.	.	.	.	.
485.1		59.0-62.0	.	.	.	.	.	.	1.0-2.5	.	.	.	.	0.7-1.5	.	.	.	.	.	.	.	.
486		59.0-62.0	.	.	.	.	.	.	1.0-2.5	.	.	.	.	0.8-1.5	.	.	.	.	.	.	.	.
490.8		49.0-52.0	.	<0.10	.	.	.	.	<0.50	.	.	.	.	rem	.	.	.	.	.	.	.	.
501		rem	.	.	<0.05	.	.	.	<0.05	.	.	.	.	0.50-0.80	.	.	.	.	.	.	.	.
502		rem	.	.	<0.10	.	.	.	<0.05	.	.	.	.	1.0-1.5	.	.	.	.	.	.	.	.
505		rem	.	.	<0.10	.	.	.	<0.05	.	.	.	.	1.0-1.7	.	.	.	.	.	.	.	.
505.1		rem	.	.	.	.	.	.	.	.	.	.	.	0.10-0.25	.	.	.	.	.	.	.	.
506.8		rem	.	.	0.05-0.20	.	.	.	<0.05	.	.	.	.	1.0-1.7	.	.	.	.	.	.	.	.
506.9		>97.00	.	.	0.05-0.40	.	.	.	<0.02	.	.	.	.	0.5-1.5	.	.	.	.	.	.	.	.
507		rem	.	.	<0.10	.	.	.	<0.05	.	.	.	.	1.5-2.0	.	.	.	.	.	.	.	.
507.05		>96.50	.	.	0.10-0.40	.	.	.	<0.02	.	.	.	.	<0.50	.	.	.	.	.	.	.	.
507.1		rem	.	.	.	.	.	.	.	.	.	.	.	1.7-2.3	.	.	.	.	.	.	.	.
507.15		rem	.	.	0.05-0.15	.	.	.	<0.02	.	.	.	.	1.7-2.3	.	.	.	.	.	.	.	.
507.25		>94.00	.	.	0.05-0.20	.	.	.	<0.02	.	.	.	.	1.5-2.5	.	.	.	.	.	.	.	.
507.8		rem	.	.	0.05-0.20	.	.	.	<0.05	.	.	.	.	1.7-2.3	.	.	.	.	.	.	.	.
508		rem	.	.	<0.10	.	.	.	<0.05	.	.	.	.	2.6-3.4	.	.	.	.	.	.	.	.
509		rem	.	.	<0.10	.	.	.	<0.05	.	.	.	.	<0.30	.	.	.	.	.	.	.	.
510		rem	.	.	<0.10	.	.	.	<0.05	.	.	.	.	4.2-5.8	.	.	.	.	.	.	.	.
510.8		rem	.	.	0.05-0.20	.	.	.	<0.05	.	.	.	.	<0.30	.	.	.	.	.	.	.	.
511		rem	.	.	<0.10	.	.	.	<0.05	.	.	.	.	<0.30	.	.	.	.	.	.	.	.
511.8		rem	.	.	0.05-0.20	.	.	.	<0.05	.	.	.	.	<0.30	.	.	.	.	.	.	.	.
511.9		rem	.	.	0.05-0.15	.	.	.	<0.02	.	.	.	.	<0.30	.	.	.	.	.	.	.	.
Alloy	Notes	Cu	Ag	Al	Fe	Mn	Ni	P	Pb	S	Sb	Si	Sn	Zn	As	Be	Bi	Co	Cr	Mg	Ti	Zr
511.9		rem	.	.	0.05-0.15	.	.	.	<0.02	.	.	.	.	3.0-6.5	.	.	.	<0.15	.	.	.	.

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			0.03-0.35	<0.02				4.0-6.0	<0.30								
519		rem			0.05-0.20			0.03-0.10	<0.05				5.0-7.0	<0.30								
519.8		rem			<0.10			0.03-0.35	<0.05				5.5-7.0	<0.20								
521		rem			0.05-0.20			0.02-0.10	<0.05				7.0-9.0	<0.30								
521.8		rem																				
524		rem			<0.10			0.03-0.35	<0.05				9.0-11.0	<0.20								
524.8	Q:Wt%P>90.5	rem			0.05-0.20			0.02-0.10	<0.05				9.0-11.0	<0.20								
526	Q:Wt%P>90.5	rem			<0.10	1.0-2.0		0.03-0.35	<0.05				2.2-3.3	<0.20								
529	Q:Wt%P>90.5	rem			<0.10	1.0-2.0		0.03-0.35	<0.05				7.0-9.0	<0.20								
532		rem			<0.10			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	Q:Wt%P>90.5	rem			<0.10			0.03-0.35	3.5-4.5				3.5-4.5	<0.30								
548	Q:Wt%P>90.5	rem			<0.10			0.03-0.35	4.0-6.0				4.0-6.0	<0.30								
551.8	Q:Wt%P>90.5	rem						4.8-5.2														
551.81	Q:Wt%P>90.5	rem						7.0-7.5														
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														
590		rem	29-31											30-34								
606		rem		4.0-7.0	<0.50				<0.01				1.7-2.0									
607		rem		2.3-2.9																		
608		rem		5.0-6.5	<0.10				<0.10						0.20-0.35							
610		rem		6.0-8.5	<0.50				<0.02					<0.20								
613		rem		6.0-7.5	2.0-3.0			<0.015	<0.01				0.20-0.50	<0.10								
614		rem		6.0-8.0	1.5-3.5			<0.015	<0.01					<0.20								
615	Q:Wt%P>90.5	rem		7.7-8.3				1.8-2.2	<0.015													
615.5	Q:Wt%P>90.5	rem		5.5-6.5	<0.20				<0.05					<0.80								
618	Q:Wt%P>90.5	rem		8.5-11.0	0.50-1.50			1.5-2.5	<0.05					<0.10								
619	Q:Wt%P>90.5	rem		8.5-10.0	3.0-4.5				<0.02					<0.80								
622	Q:Wt%P>90.5	rem		11.0-12.0	3.0-4.2				<0.02					<0.02								
623	Q:Wt%P>90.5	rem		8.5-10.0	2.0-4.0			<1.0	<0.02					<0.02								
Alloy	Notes	Cu	Ag	Al	Fe	Mn	Ni	P	Pb	S	Sb	Si	Sn	Zn	As	Be	Bi	Co	Cr	Mg	Ti	Zr
624	Q:Wt%P>90.5	rem		10.0-11.5	2.0-4.5	<0.30							<0.20									
625	Q:Wt%P>90.5	rem		12.5-13.5	3.5-5.0	<2.00			<0.02													
625.8	Q:Wt%P>90.5	rem		12.0-13.0	3.0-5.0				<0.02													
625.81	Q:Wt%P>90.5	rem		13.0-14.0	3.0-5.0				<0.02													
625.82	Q:Wt%P>90.5	rem		14.0-15.0	3.0-5.0				<0.02													
627.3	Q:Wt%P>90.5	rem		8.5-11.0	4.0-6.0	<0.50			<0.05					<0.40						<0.05		
630	Q:Wt%P>90.5	rem		9.0-11.0	2.0-4.0	<1.50								<0.30								
630.1	Q:Wt%P>90.5	rem		9.7-10.9	2.0-3.5	<1.50								<0.30								
630.2	Q:Wt%P>90.5	rem		10.5-11.5	4.0-5.5	<1.50			<0.03					<0.30								
632	Q:Wt%P>90.5	rem		8.7-9.5	3.5-4.3	1.2-2.0			<0.02													
632.3	Q:Wt%P>90.5	rem		8.5-9.5	3.0-5.0	<3.50			<0.02													
632.8	Q:Wt%P>90.5	rem		8.5-9.5	3.0-5.0	0.6-3.5			<0.02													
633	Q:Wt%P>90.5	rem		5.0-7.5	2.0-6.0	11.0-13.0			<0.02													
633.8	Q:Wt%P>90.5	rem		7.0-8.5	2.0-4.0	11.0-14.0			<0.02													
634	Q:Wt%P>90.5	rem		2.6-3.2	<0.15			<0.15	<0.05						<0.15							
636	Q:Wt%P>90.5	rem		3.0-4.0	<0.15			<0.15	<0.05						<0.15							
638	Q:Wt%P>90.5	rem		2.5-3.1	<0.20			<0.20	<0.05						<0.15							
641.1	Q:Wt%P>90.5	rem		8.0-11.0	<0.30	<0.50			1.0-2.0													
642	Q:Wt%P>90.5	rem		6.3-7.6	<0.30	<0.10			<0.05													
642.1	Q:Wt%P>90.5	rem		6.3-7.0	<0.30	<0.10			<0.05													
642.5	Q:Wt%P>90.5	rem		5.5-7.5	<1.00	<0.50			<0.05													
644	Q:Wt%P>90.5	rem		3.5-4.5	<0.05				<0.03													
647	Q:Wt%P>90.5	rem			<0.10				<0.10													
647.1	Q:Wt%P>90.5	rem																				
647.2	Q:Wt%P>90.5	rem																				
647.5	Q:Wt%P>90.5	rem																				
647.25	Q:Wt%P>90.5	rem			<0.25				<0.01													
647.3	Q:Wt%P>90.5	rem																				
647.4	Q:Wt%P>90.5	rem							<0.01													
647.5	Q:Wt%P>90.5	rem			<1.00			<0.10														
647.6	Q:Wt%P>90.5	rem			0.10-0.40				<0.02													
647.8	Q:Wt%P>90.5	rem				0.01-1.00			<0.02													
649	Q:Wt%P>90.5	rem		<0.10	<0.10				<0.05													
651	Q:Wt%P>90.5	rem			<0.80				<0.05													
653	Q:Wt%P>90.5	rem			<0.80				<0.05													
654	Q:Wt%P>90.5	rem							<0.05													
Alloy	Notes	Cu	Ag	Al	Fe	Mn	Ni	P	Pb	S	Sb	Si	Sn	Zn	As	Be	Bi	Co	Cr	Mg	Ti	Zr
624	Q:Wt%P>90.5	rem		10.0-11.5	2.0-4.5	<0.30							<0.20									
625	Q:Wt%P>90.5	rem		12.5-13.5	3.5-5.0	<2.00			<0.02													
625.8	Q:Wt%P>90.5	rem		12.0-13.0	3.0-5.0				<0.02													
625.81	Q:Wt%P>90.5	rem		13.0-14.0	3.0-5.0				<0.02													
625.82	Q:Wt%P>90.5	rem		14.0-15.0	3.0-5.0				<0.02													
627.3	Q:Wt%P>90.5	rem		8.5-11.0	4.0-6.0	<0.50			<0.05					<0.40						<0.05		
630	Q:Wt%P>90.5	rem		9.0-11.0	2.0-4.0	<1.50								<0.30								
630.1	Q:Wt%P>90.5	rem		9.7-10.9	2.0-3.5	<1.50								<0.30								
630.2	Q:Wt%P>90.5	rem		10.5-11.5	4.0-5.5	<1.50			<0.03					<0.30								
632	Q:Wt%P>90.5	rem		8.7-9.5	3.5-4.3	1.2-2.0			<0.02													
632.3	Q:Wt%P>90.5	rem		8.5-9.5	3.0-5.0	<3.50			<0.02													
632.8	Q:Wt%P>90.5	rem		8.5-9.5	3.0-5.0	0.6-3.5			<0.02													
633	Q:Wt%P>90.5	rem		5.0-7.5	2.0-6.0	11.																

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	<0.00	0.50-1.30	<0.6		<0.05			2.8-3.8	<1.50	<1.50								
656	Cu = Ag+Cu	rem			<0.00	<1.50			<0.02			2.8-4.0	<1.50	<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										
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				<0.20				
663	Cu = Ag+Cu	84.5-87.5			1.3-1.7		<0.05	<0.02	<0.05			<0.05	1.5-3.0	rem				<0.20				
664	Cu = Ag+Cu	FeCo 1.4-2.4			1.3-1.7		<0.05	<0.02	<0.05			<0.05	11.0-12.0	rem				0.30-0.70				
664.1	Cu = Ag+Cu	FeCo 1.8-2.3			1.3-1.7		<0.05	<0.02	<0.05			<0.05	11.0-12.0	rem				0.30-0.70				
664.2	Cu = Ag+Cu	rem			0.50-1.50				<0.05				<0.05	12.7-17.0								
667	Cu = Ag+Cu	68.5-71.5			<0.10	0.8-1.5			<0.07				<0.30	rem								
668	Cu = Ag+Cu	60.0-63.0			<0.35	2.0-3.5	<0.25		<0.05				<0.30	rem								
669	Cu = Ag+Cu	62.5-64.5			<0.25	11.5-12.5			<0.05				rem	rem								
669.5	Cu = Ag+Cu	rem			<0.50	14.0-15.0			<0.01				14.0-15.0	rem								
670	Cu = Ag+Cu	63.0-68.0			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	0.50-1.50	0.50-1.50		0.50-1.50				0.50-1.50	rem								
673	Cu = Ag+Cu	58.0-63.0			<0.50	2.0-3.5	<0.25		<0.30				<0.30	rem								
674	Cu = Ag+Cu	57.0-60.0			0.50-2.00	<0.35	<0.25		<0.10				0.50-1.50	rem								
674.1	Cu = Ag+Cu	55.5-59.0			1.3-2.3	1.0-2.4	<2.0		<0.8				0.7-1.3	rem								
674.2	Cu = Ag+Cu	57.0-58.5			1.0-2.0	1.5-2.5	<0.25		0.25-0.80				<0.35	rem								
675	Cu = Ag+Cu	57.0-60.0			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	55.5-57.0			0.50-1.20	1.0-2.0			0.50-1.50				rem	rem								
677	Cu = Ag+Cu	55.5-58.0			0.7-1.5	0.05-0.30	1.5-2.3		0.50-1.00				<0.20	rem				0.04-0.80				
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			0.40-1.00	0.40-1.00	<1.5		<1.0				<0.50	rem								
678.2	Cu = Ag+Cu	56.5-59.5			0.30-1.30	0.30-2.00	<1.5		<0.10				0.30-1.00	rem								
680	Cu = Ag+Cu	56.0-60.0			0.25-1.25	0.01-0.50	0.20-0.80		<0.05				0.04-0.15	rem								
681	Cu = Ag+Cu	56.0-60.0			0.25-1.25	0.01-0.50			<0.05				0.75-1.10	rem								
682	Cu = Ag+Cu	58.0-60.0			0.6-1.0	0.6-1.0							0.07-0.15	rem								
686	Cu = Ag+Cu	56.0-60.0			0.30-1.50	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	<0.05			<0.07				rem	rem				0.25-0.55				
688	Cu = Ag+Cu	72.0-74.6			3.0-3.8	<0.20			<0.05				21.3-24.1	rem								
689	Cu = Ag+Cu	Al+Zn 25.1-27.1			3.0-3.8	<0.05			<0.025				rem	rem								
689.5	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		<0.05				<0.10	rem								
694	Cu = Ag+Cu	80.0-83.0			<0.20	<0.20	0.8-1.4		<0.30				0.8-1.3	rem								
694.3	Cu = Ag+Cu	80.0-83.0			<0.20	<0.20			<0.30				3.5-4.5	rem								
694.4	Cu = Ag+Cu	80.0-83.0			<0.20	<0.20			<0.30				3.5-4.5	rem								
694.5	Cu = Ag+Cu	80.0-83.0			<0.20	<0.40			<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								
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			0.50-1.50				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, Cl <0.05	rem			1.4-2.3	<0.10	40.0-48.0		<0.02				<0.14	rem				<0.20				
699.1	Cu = Ag+Cu	rem			0.25-0.80	1.0-1.4	<0.10		<0.01				3.0-5.0	rem								
699.5	Cu = Ag+Cu	51.0-54.0				36.0-40.0	8.5-10.5		<0.01					rem								
701	Cu = Ag+Cu	rem			<0.05	<0.50	3.0-4.0		<0.05				<0.25	rem								
702	Cu = Ag+Cu	rem			<0.10	<0.40	2.0-3.0		<0.05					rem								
702.3	Cu = Ag+Cu	rem				<0.10	2.2-3.2		<0.05				0.40-0.80	0.10-0.50				0.05-0.30				
702.5	Cu = Ag+Cu	rem			<0.20	<0.10	2.2-4.2		<0.05				0.25-1.20	<1.00								
702.6	Cu = Ag+Cu	rem				1.0-3.0	1.0-3.0	<0.01	<0.05				0.20-0.70	<1.00								
702.7	Cu = Ag+Cu	rem			0.28-1.00	<0.15	1.0-3.0		<0.05				0.10-1.00	<1.00								
702.8	Cu = Ag+Cu	rem			<0.015		1.3-1.7	0.020-0.040	<0.05				0.22-0.30	1.0-1.5								
702.9	Cu = Ag+Cu	rem			<0.015		1.3-1.7	0.020-0.040	<0.02				0.22-0.30	2.1-2.7								
703	Cu = Ag+Cu; Fe+Mn	>90.50			<0.05	<0.50	4.7-5.7						0.20-1.20	<1.00				0.18-0.50				
703.2	Cu = Ag+Cu	rem			0.20-1.20		2.5-5.0		<0.05				0.35-0.45	<1.00								
704	Cu = Ag+Cu	rem			1.3-1.7	0.30-0.80	4.8-6.2		<0.05				0.35-0.45	<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	10.0-11.0	10.0-11.0		<0.01					<1.00								
706.2	Cu = Ag+Cu	>86.50			1.0-1.8	<0.01	9.0-11.0	<0.02	<0.02					<0.50								
706.9	Cu = Ag+Cu; C<0.03, Hg<0.0005	rem			<0.005	<0.001	9.0-11.0	<0.001	<0.001				<0.02	<0.001				<0.02				<0.001
707	Cu = Ag+Cu	rem			<0.05	<0.50	9.5-10.5		<0.05					<0.20								
708	Cu = Ag+Cu	rem			<0.10	<0.15	10.5-12.5		<0.05					<1.00								
709	Cu = Ag+Cu	rem			<0.60	<0.60	13.5-16.5		<0.05					<1.00								
710	Cu = Ag+Cu	rem			<1.00	<1.00	19.0-23.0		<0.05					<1.00								
711	Cu = Ag+Cu	rem			<0.10	<0.15	22.0-24.0		<0.05					<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

Alloy	Notes	Cu	Ag	Al	Fe	Mn	Ni	P	Pb	S	Sb	Si	Sn	Zn	As	Be	Bi	Co	Cr	Mg	Ti	Zr
711.1	Cu = Ag+Cu	rem			<0.20	<0.35	21.5-23.5		<0.05					<1.00							<0.05	
713	Cu = Ag+Cu	rem			0.40-1.00	<1.00	23.5-26.5		<0.05					<1.00								
715	Cu = Ag+Cu	rem			0.40-1.00	<1.00	29.0-33.0	<0.02	<0.05	<0.02				<0.50								
715.8	Cu = Ag+Cu, C <0.70	rem		<0.05	<0.50	<0.30	29.0-33.0	<0.03	<0.05	<0.024		<0.15		<0.05								
715.81	Cu = Ag+Cu, C <0.02, Hg <0.0005	rem			0.40-0.70	<1.00	29.0-32.0	<0.02	<0.02	<0.01	<0.001	<0.25	<0.001	<0.001	<0.001		<0.001	<0.05		<0.10	0.29-0.50	
716.3	Cu = Ag+Cu, C <0.06	rem		<0.002	0.40-1.00	0.50-1.50	30.0-32.0	<0.001	<0.01	<0.03		<0.015									<0.001	
716.4	Cu = Ag+Cu, C <0.06	rem			1.7-2.3	1.5-2.5	29.0-32.0		<0.01	<0.03						0.30-0.70						
717	Cu = Ag+Cu	rem			0.40-1.00		29.0-33.0			<0.03												
719	Cu = Ag+Cu, C <0.04	rem			<0.50	0.20-1.00	28.0-33.0	<0.02	<0.015	<0.015		<0.25		<0.05				2.2-3.0			0.01-0.20	0.02-0.35
721.5	Cu = Ag+Cu, C <0.10	rem			<0.10	<0.05	43.0-46.0		<0.05			<0.50		<0.20								
721.5	Cu = Ag+Cu, C <0.08	rem			0.5-1.0	<1.00	15.0-18.0		<0.05			<0.03		<1.00				0.30-0.70			<0.03	
724	Cu = Ag+Cu	rem		1.5-2.5	<0.10	<1.00	11.0-15.0		<0.05					<0.50						0.05-0.40		
724.2	Cu = Ag+Cu, C <0.05	rem		1.0-2.0	0.7-1.2	3.5-5.5	13.5-16.5	<0.01	<0.02	<0.15		<0.15		<0.20					<0.50	<0.05		
725	Cu = Ag+Cu	rem			<0.20	<0.20	8.5-10.5		<0.05					<0.50								
726	Cu = Ag+Cu	91.0-93.0			<0.20	<0.20	3.5-4.5	<0.05	<0.05					<0.50								
726.5	Cu = Ag+Cu	rem			<0.10	<0.10	7.0-8.0		<0.01					<0.50								
727	Cu = Ag+Cu, Nb <0.10	rem			<0.50	0.05-0.30	8.5-9.0		<0.02					<0.50			<0.001			<0.15		
728	Cu=Ag+Cu, Nb 0.1-0.3, B <0.001	rem		<0.10	<0.50	0.05-0.30	9.5-10.5	<0.005	<0.005	<0.0025	<0.02	<0.05		<1.00					0.005-0.15		<0.01	
729	Cu = Ag+Cu	rem			<0.50	<0.30	14.5-15.5		<0.02					<0.50						<0.15		
729.5	Cu = Ag+Cu	rem			<0.60	<0.60	20.0-22.0		<0.05					<0.50								
731.5	Cu = Ag+Cu	rem			<0.25	<0.50	4.0-7.0		<0.10					<0.50								
732	Cu = Ag+Cu	rem			<0.05	<1.00	19.0-23.0		<0.05					<0.50								
735	Cu = Ag+Cu	70.5-73.5			<0.25	<0.50	16.5-19.5		<0.10					<0.50								
738	Cu = Ag+Cu	68.5-71.5			<0.25	<0.50	11.0-13.0		<0.05					<0.50								
740	Cu = Ag+Cu	69.0-73.5			<0.25	<0.50	9.0-11.0		<0.05					<0.50								
743	Cu = Ag+Cu	63.0-66.0			<0.25	<0.50	7.0-9.0		<0.10					<0.50								
744	Cu = Ag+Cu	62.0-66.0			<0.05	<0.05			<0.05					<0.50								
745	Cu = Ag+Cu	63.5-66.5			<0.25	<0.50	9.0-11.0		<0.10					<0.50								
752	Cu = Ag+Cu	63.5-66.5			<0.25	<0.50	16.5-19.5		<0.05					<0.50								
754	Cu = Ag+Cu	63.5-66.5			<0.25	<0.50	14.0-16.0		<0.05					<0.50								
757	Cu = Ag+Cu	63.5-66.5			<0.25	<0.50	11.0-13.0		<0.05					<0.50								
757.2	Cu = Ag+Cu	60.0-65.0			<0.25	<0.50	11.0-13.0		<0.04					<0.50								
759	Cu = Ag+Cu, Ni = Ni+Cu	60.0-65.0			<0.25	<0.50	17.0-19.0		<0.10					<0.50								
Alloy	Notes	Cu	Ag	Al	Fe	Mn	Ni	P	Pb	S	Sb	Si	Sn	Zn	As	Be	Bi	Co	Cr	Mg	Ti	Zr
760	Cu = Ag+Cu, Ni = Ni+Cu	60.0-63.0			<0.25	<0.50	7.0-9.0		<0.10					rem								
761	Cu = Ag+Cu, Ni = Ni+Cu	59.0-63.0			<0.25	<0.50	7.0-9.0		<0.10					rem								
762	Cu = Ag+Cu, Ni = Ni+Cu	57.0-61.0			<0.25	<0.50	11.0-13.5		<0.10					rem								
763	Cu = Ag+Cu, Ni = Ni+Cu	60.0-64.0			<0.50	<0.50	17.0-19.0	0.50-2.00						rem								
763.9	Cu = Ag+Cu, Ni = Ni+Cu	59.0-63.0			<0.50	<0.50	23.0-26.0		0.8-1.1				0.40-0.60	rem								
764	Cu = Ag+Cu, Ni = Ni+Cu	58.5-61.5			<0.25	<0.50	16.5-19.5		<0.05					rem								
766	Cu = Ag+Cu, Ni = Ni+Cu	55.0-58.0			<0.25	<0.50	11.0-13.5		<0.10					rem								
767	Cu = Ag+Cu, Ni = Ni+Cu	55.0-58.0			<0.25	<0.50	14.0-16.0		<0.05					rem								
770	Cu = Ag+Cu, Ni = Ni+Cu	53.5-56.5			<0.25	<0.50	16.5-19.5		<0.05					rem								
770.1	Cu = Ag+Cu, Ni = Ni+Cu	54.0-56.0			<0.30	0.05-0.35	17.0-19.0		<0.03					rem								
773	Cu = Ag+Cu, Ni = Ni+Cu	46.0-50.0		<0.01	<0.30		9.0-11.0	<0.25	<0.05			0.04-0.25		rem								
773.1	Cu = Ag+Cu, Ni = Ni+Cu	46.0-56.0		<0.01		<0.50	9.0-11.0	<0.25	<0.05			0.04-0.25		rem								
774	Cu = Ag+Cu, Ni = Ni+Cu	43.0-47.0			<0.20	<0.25	9.0-11.0		<0.20				<0.15	rem								
776	Cu = Ag+Cu, Ni = Ni+Cu	42.0-45.0			<0.35	<0.50	12.0-14.0		<0.25					rem								
782	Cu = Ag+Cu, Ni = Ni+Cu	63.0-67.0				<0.35	7.0-9.0		1.5-2.5					rem								
788	Cu = Ag+Cu, Ni = Ni+Cu	63.0-67.0			<0.25	<0.50	9.0-11.0		1.5-2.0					rem								
790	Cu = Ag+Cu, Ni = Ni+Cu	63.0-67.0			<0.35	<0.50	11.0-13.0		1.5-2.2					rem								
792	Cu = Ag+Cu, Ni = Ni+Cu	59.5-66.5			<0.35	<0.50	11.0-13.0		0.8-1.4					rem								
793	Cu = Ag+Cu, Ni = Ni+Cu	55.0-59.00			<0.50	<0.50	11.0-13.0	0.50-2.00						rem								
796	Cu = Ag+Cu, Ni = Ni+Cu	43.5-46.5				1.5-2.5	9.0-11.0		0.8-1.2					rem								
796.2	Cu = Ag+Cu, Ni = Ni+Cu	46.0-48.0				<0.50	8.0-11.0		0.50-2.00					rem								
798	Cu = Ag+Cu, Ni = Ni+Cu	45.5-48.5			<0.25	1.5-2.5	9.0-11.0		1.5-2.5					rem								
798.1	Cu = Ag+Cu, Ni = Ni+Cu	46.0-48.0			<0.35	<0.50	8.0-11.0		2.0-3.5					rem								
798.2	Ni = Ni+Cu	46.0-48.0			<0.50	<0.50	8.0-11.0		2.0-3.5					rem								
798.3	Cu = Ag+Cu, Ni = Ni+Cu	45.5-47.0			<0.45	0.15-0.55	9.0-10.5		1.0-2.5					rem								
799	Cu = Ag+Cu, Ni = Ni+Cu	47.5-50.5			<0.25	<0.50	6.5-8.5		1.0-1.5					rem								
801	Cu = Ag+Cu, Ni = Ni+Cu	>60.95																				
803	Cu = Ag+Cu, Ni = Ni+Cu	>60.95																				
804.1	Cu = Ag+Cu, Ni = Ni+Cu	>60.95	>0.034																			
805	Cu=Ag+Cu, Ni=Ni+Cu, B <0.02	>60.75	>0.034																			
807	B <0.02	>60.75																				
809		>60.70	>0.034					0.040-0.065									0.02-0.10	0.6-1.0				
812		>60.70																				
813		>60.50																				
814		>60.50																				
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
815		>98.00	.	<0.10	<0.10	.	2.0-3.0	.	<0.02	.	.	<0.15	<0.10	<0.10	.	.	.	.	0.40-1.50	.	.	.
815.4		>95.10	.	<0.10	<0.15	.	0.25-1.50	.	<0.02	.	.	0.40-0.80	<0.10	<0.10	.	.	.	0.25-1.50	0.40-0.60	.	.	.
817		>94.20	0.80-1.20	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1.4-1.7	.	.	.
818		>95.60	0.80-1.20	.	.	.	.	.	.	.	.	.	.	.	.	.	.	2.4-2.7	<0.10	.	.	.
820		>95.00	.	<0.10	<0.10	.	<0.20	.	<0.02	.	.	<0.15	<0.10	<0.10	.	.	.	.	0.45-0.80	.	.	.
821		>95.50	.	.	.	.	0.25-1.50	.	.	.	.	.	.	.	.	.	.	0.25-1.50	.	.	.	.
822		>96.50	.	.	.	.	1.0-2.0	.	.	.	.	.	.	.	.	.	.	0.35-0.80	.	.	.	.
824		>96.40	.	<0.15	<0.20	.	<0.10	.	<0.02	.	.	0.20-0.35	<0.10	<0.10	.	.	.	0.20-0.40	<0.10	.	.	.
825		>95.50	.	<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	.	<0.20	.	<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	.	.	.	2.25-2.45	<0.10	.	.	.
828		>94.80	.	<0.15	<0.25	.	<0.20	.	<0.02	.	.	0.20-0.35	<0.10	<0.10	.	.	.	2.50-2.75	<0.10	.	.	.
833		92.0-94.0	.	.	.	.	.	.	1.0-2.0	.	.	.	1.0-2.0	2.0-6.0	.	.	.	0.35-0.70	<0.10	.	.	.
834		88.0-92.0	.	.	.	.	.	.	<0.50	.	.	.	<0.20	8.0-12.0	.	.	.	.	.	.	.	.
834.1		88.0-91.0	.	<0.005	<0.05	.	<0.05	.	<0.10	.	.	<0.005	1.0-2.0	rem	.	.	.	.	.	.	.	.
834.2		88.0-92.0	.	<0.005	<0.05	.	<0.10	.	<0.50	.	.	<0.005	0.25-0.70	rem	.	.	.	.	.	.	.	.
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	.	.	.	.	.	.	.	.
835		86.0-88.0	.	<0.008	<0.25	.	0.50-1.00	<0.03	3.5-4.5	<0.08	<0.25	<0.005	5.5-6.5	1.0-2.5	.	.	.	.	.	.	.	.
835.2		rem	.	.	<0.30	.	<1.0	.	3.5-4.5	.	<0.25	.	3.5-4.5	1.5-4.0	.	.	.	.	.	.	.	.
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	.	.	.	.	.	.	.	.
837		83.0-88.0	.	<0.005	<0.30	.	<0.30	<0.50	<0.50	<0.08	<0.25	<0.005	<1.00	rem	.	.	.	.	.	.	.	.
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	.	.	.	.	.	.	.	.
838.1		rem	.	<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	.	.	.	.
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	.	.	.	.	.	.	.	.
844		78.0-82.0	.	<0.005	<0.40	.	<1.0	<0.20	6.0-8.0	<0.08	<0.25	<0.005	2.3-3.5	7.0-10.0	.	.	.	.	.	.	.	.
844.1		rem	.	<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	.	.	.	<0.05	.	.	.	.
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	.	.	.	.	.	.	.	.
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	.	.	.	.	.	.	.	.
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	.	.	.	.	.	.	.	.
852.1		70.0-75.0	.	<0.005	<0.80	.	<1.0	.	2.0-5.0	.	.	<0.005	1.0-3.0	rem	.	.	.	.	.	.	.	.
853		68.0-72.0	.	.	<0.50	.	<1.0	.	<0.50	.	.	.	<0.50	rem	.	.	.	.	.	.	.	.
853.1		68.0-73.0	.	<0.01	<0.90	.	<1.0	.	2.0-5.0	.	.	<0.05	0.50-1.50	24.0-32.0	.	.	.	.	.	.	.	.
854		65.0-70.0	.	<0.35	<0.70	.	<0.20	.	1.5-3.8	.	.	.	<0.20	rem	.	.	.	.	.	.	.	.
855		59.0-63.0	.	.	<0.20	.	<0.20	.	<0.20	.	.	.	<0.20	rem	.	.	.	.	.	.	.	.
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	.	.	<0.20	<0.20	<0.20	.	<0.20	.	.	<0.05	<0.20	rem	.	.	.	.	.	.	.	.
857		58.0-64.0	.	<0.8	<0.70	.	<1.0	.	0.8-1.5	.	.	<0.05	0.50-1.50	32.0-40.0	.	.	.	.	.	.	.	.
857.1		58.0-63.0	.	0.20-0.80	<0.80	<0.50	<1.0	.	1.0-2.5	.	.	<0.05	<1.00	rem	.	.	.	.	.	.	.	.
858		>57.00	.	<0.50	<0.50	<0.25	<0.50	<0.01	<1.5	<0.05	<0.65	<1.50	<0.20	31.0-41.0	<0.05	.	.	.	.	.	.	.
861		66.0-68.0	.	4.5-5.5	2.0-4.0	2.5-5.0	.	.	<0.20	.	.	.	<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	.	0.50-1.50	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	.	.	<0.50	.	.	1.0-5.0	<1.00	<5.00	.	.	.	.	.	.	.	.
873		>94.00	.	<0.8	<0.20	0.8-1.5	.	.	<1.0	.	.	3.5-4.5	<1.00	<0.25	.	.	.	.	.	.	.	.
874		>79.00	.	.	.	.	.	.	.	.	.	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	.	.	2.5-4.0	.	12.0-16.0	.	.	.	.	.	.	.	.
874.3		>79.00	.	<0.8	.	.	.	0.03-0.06	<1.0	.	0.03-0.06	.	.	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	.	0.03-0.06	.	.	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	.	<0.50	.	.	3.0-5.0	.	3.0-5.0	.	.	.	.	.	.	.	.
878		>80.00	.	<0.15	<0.15	<0.15	<0.20	<0.01	<0.15	<0.05	<0.65	3.8-4.2	<0.25	12.0-16.0	<0.05	.	.	.	.	.	.	.
879		>63.00	.	<0.15	<0.40	<0.15	<0.50	<0.01	<0.25	<0.05	<0.65	0.8-1.2	<0.25	30.0-36.0	<0.05	.	.	.	.	.	.	.
883.2		87.0-91.0	.	<0.005	<0.20	.	<1.0	<0.30	<0.09	<0.08	<0.35	<0.005	5.0-7.0	<1.00	.	.	.	4.0-6.0	.	.	.	.
883.25		84.0-88.0	.	<0.005	<0.15	.	<1.0	<0.10	<0.08	<0.08	<0.35	<0.005	9.0-11.0	<1.00	.	.	.	2.7-3.7	.	.	.	.
885.1		Se 0.35-0.75	.	<0.005	<0.20	.	<1.0	<0.05	<0.25	<0.08	<0.35	<0.005	4.0-6.0	4.0-6.0	.	.	.	0.5-1.5	.	.	.	.
885.2		Se 0.80-1.10	.	<0.005	<0.20	.	<1.0	<0.05	<0.25	<0.08	<0.35	<0.005	5.0-6.0	4.0-6.0	.	.	.	1.6-2.2	.	.	.	.
885.5		58.0-54.0	.	0.10-0.60	<0.50	.	<1.0	<0.01	<0.10	<0.05	<0.35	<0.005	0.50-1.50	32.0-40.0	.	.	.	0.6-1.2	.	.	.	.
888.31		87.0-91.0	.	<0.005	<0.30	.	<1.0	<0.05	<0.10	<0.08	<0.35	<0.005	2.7-3.7	2.0-4.0	.	.	.	2.7-3.7	.	.	.	.
888.33		87.0-91.0	.	<0.005	<0.30	.	<1.0	<0.05	<0.10	<0.08	<0.35	<0.005	4.0-6.0	2.0-4.0	.	.	.	1.7-2.7	.	.	.	.
888.35		85.0-89.0	.	<0.005	<0.30	.	<1.0	<0.10	<0.10	<0.08	<0.35	<0.005	6.0-7.5	2.0-4.0	.	.	.	1.7-2.7	.	.	.	.
888.37		84.0-88.0	.	<0.005	<0.30	.	<1.0	<0.05	<0.10	<0.08	<0.35	<0.005	3.0-4.0	6.0-10.0	.	.	.	0.7-1.2	.	.	.	.
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
938.44		83.0-86.0	.	<0.005	<0.30	<0.20	<1.0	<0.05	<0.20	<0.08	<0.25	<0.005	3.0-5.0	7.0-10.0	.	.	2.0-4.0	.	.	.	.	.
939.4		64.0-68.0	.	<0.005	0.7-2.0	.	20.0-23.0	0.10-0.15	<0.01	<0.05	<0.10	<0.15	3.0-5.0	3.0-5.0	.	.	4.0-5.5	.	.	.	.	.
939.4		91.0-94.0	.	<0.005	<0.20	.	<0.50	<0.05	<0.30	<0.05	<0.20	<0.005	9.0-11.0	<0.50	.	.	.	.	.	.	.	.
939.5		89.0-91.0	.	<0.005	<0.25	<0.10	<1.0	<0.05	<0.30	<0.05	<0.20	<0.005	7.5-9.0	3.0-5.0	.	.	.	.	.	.	.	.
939.6		86.0-89.0	.	<0.005	<0.20	.	<1.0	<0.05	<0.30	<0.05	<0.20	<0.005	9.0-11.0	1.0-3.0	.	.	.	.	.	.	.	.
939.7	ren	88.0-90.0	.	<0.005	<0.15	.	<0.50	0.50-1.20	<0.30	<0.05	<0.20	<0.005	10.0-12.0	<0.50	.	.	.	.	.	.	.	.
939.8		85.0-89.0	.	<0.005	<0.15	.	<0.50	<0.05	<0.25	<0.05	<0.20	<0.005	11.0-13.0	<0.25	.	.	.	.	.	.	.	.
939.8.1	ren		.	<0.005	<0.15	.	<0.50	0.15-0.80	<0.25	<0.05	<0.20	<0.005	11.0-13.0	<0.30	.	.	.	.	.	.	.	.
939.9		86.0-89.0	.	<0.005	<0.15	.	<0.50	<0.05	<0.25	<0.05	<0.20	<0.005	12.0-14.0	<0.25	.	.	.	.	.	.	.	.
939.10		84.0-86.0	.	<0.005	<0.10	.	<0.8	<0.05	<0.20	<0.5	<0.20	<0.005	14.0-16.0	<1.50	.	.	.	.	.	.	.	.
939.11		>99.70	.	<0.005	.	.	<0.50	<1.00	<0.25	<0.05	<0.20	<0.005	15.0-17.0	<0.25	.	.	.	.	.	.	.	.
939.11		82.0-85.0	.	<0.005	<0.25	.	<0.50	<1.00	<0.25	<0.05	<0.20	<0.005	18.0-20.0	<0.25	.	.	.	.	.	.	.	.
939.13		79.0-82.0	.	<0.005	<0.25	.	<0.50	<1.00	<0.25	<0.05	<0.20	<0.005	18.0-20.0	<0.25	.	.	.	.	.	.	.	.
939.16		86.0-89.0	.	<0.005	<0.20	.	1.2-2.0	<0.30	<0.25	<0.05	<0.20	<0.005	9.7-10.8	<0.25	.	.	.	.	.	.	.	.
939.16		84.0-87.0	.	<0.005	<0.20	.	1.2-2.0	<0.30	<0.25	<0.05	<0.20	<0.005	11.3-12.5	<0.25	.	.	.	.	.	.	.	.
939.22		86.0-90.0	.	<0.005	<0.25	.	<1.0	<0.05	1.0-2.0	<0.05	<0.20	<0.005	5.5-6.5	3.0-5.0	.	.	.	.	.	.	.	.
939.22		86.0-89.0	.	<0.005	<0.25	.	0.7-1.0	<0.03	1.7-2.5	<0.05	<0.20	<0.005	4.5-5.5	3.0-4.5	.	.	.	.	.	.	.	.
939.2.2		86.0-88.0	.	.	<0.25	.	0.5-1.0	<0.05	1.5-2.5	.	.	.	5.0-6.0	3.0-5.5	.	.	.	.	.	.	.	.
939.3		85.0-89.0	.	<0.005	<0.25	.	<1.0	<0.05	0.30-1.00	<0.05	<0.25	<0.005	7.5-9.0	2.5-5.0	.	.	.	.	.	.	.	.
939.3.1	ren		.	<0.005	.	.	<1.0	<0.05	0.30-1.50	.	<0.25	<0.005	7.5-8.5	3.5-4.5	.	.	<0.03	.	.	.	.	.
939.3.1		86.0-89.0	.	<0.005	<0.25	.	<1.0	<0.05	1.0-2.5	<0.05	<0.25	<0.005	9.0-11.0	1.0-3.0	.	.	<0.05	.	.	.	.	.
939.4.1		85.0-88.0	.	<0.005	<0.30	.	0.8-1.5	<0.30	1.0-1.5	<0.05	<0.25	<0.005	10.0-12.0	<0.50	.	.	.	.	.	.	.	.
939.5		86.0-88.5	.	<0.005	<0.20	.	<0.7	<0.03	0.8-1.5	<0.05	<0.25	<0.005	9.3-10.5	1.3-2.5	.	.	<0.03	.	.	.	.	.
939.6	ren		.	<0.005	<0.15	.	<1.0	<0.25	0.30-1.50	<0.05	<0.25	<0.005	9.5-10.5	1.7-2.8	.	.	.	.	.	.	.	.
939.6.1	ren		.	<0.005	<0.20	.	<1.0	<0.25	1.0-2.5	<0.05	<0.25	<0.005	9.0-11.0	<0.70	.	.	.	.	.	.	.	.
939.7	ren		.	<0.005	<0.20	.	<2.0	<0.10	4.0-6.0	<0.05	<0.25	<0.005	9.0-11.0	<1.00	.	.	.	.	.	.	.	.
939.7.1	ren		.	<0.005	<0.20	.	<0.8	<0.05	4.0-6.0	<0.05	<0.25	<0.005	15.0-17.0	<0.80	.	.	.	.	.	.	.	.
939.8		78.0-82.0	.	<0.005	<0.50	.	0.8-1.2	<0.05	4.0-6.0	<0.05	<0.25	<0.005	12.0-14.0	<0.50	.	.	.	.	.	.	.	.
939.8.1		82.0-86.0	.	<0.005	<0.20	.	2.8-4.0	<0.50	2.0-3.2	<0.05	<0.25	<0.005	9.0-11.0	<0.25	.	.	.	.	.	.	.	.
939.9		81.0-85.0	.	<0.005	<0.25	.	<1.0	<0.30	2.0-5.0	<0.05	<0.35	<0.005	6.5-8.5	<2.00	.	.	.	.	.	.	.	.
939.9.1	ren		.	<0.005	<0.20	.	<1.0	<0.15	6.0-8.0	<0.05	<0.35	<0.005	6.3-7.5	1.0-4.0	.	.	.	.	.	.	.	.
939.9.2		82.0-85.0	.	<0.005	<0.20	.	<1.0	<0.50	7.0-9.0	<0.08	<0.50	<0.005	7.0-9.0	<0.80	.	.	.	.	.	.	.	.
939.9.3		81.0-85.0	.	<0.005	<0.20	.	<1.0	<0.50	7.0-9.0	<0.08	<0.50	<0.005	7.0-9.0	<0.80	.	.	.	.	.	.	.	.
939.9.4		82.0-85.0	.	<0.005	<0.20	.	<1.0	<0.50	7.0-9.0	<0.08	<0.50	<0.005	7.0-9.0	<0.80	.	.	.	.	.	.	.	.
939.9.5		83.0-86.0	.	<0.005	<0.20	.	<1.0	<0.05	8.0-10.0	<0.08	<0.30	<0.005	4.3-6.0	<2.00	.	.	.	.	.	.	.	.
939.9.6		79.0-83.0	.	<0.005	<0.20	.	<1.0	<0.15	11.0-13.0	<0.08	<0.30	<0.005	6.0-8.0	<1.00	.	.	.	.	.	.	.	.
939.9.7		78.0-82.0	.	<0.005	<0.70	.	<0.50	<0.10	8.0-11.0	<0.08	<0.50	<0.005	9.0-11.0	<0.80	.	.	.	.	.	.	.	.
939.9.7.2		>83.00	.	<0.005	<0.15	.	<0.50	<0.10	7.0-9.0	<0.08	<0.50	<0.005	3.5-4.5	<4.00	.	.	.	.	.	.	.	.
939.9.8		75.0-79.0	.	<0.005	<0.15	.	<1.0	<0.05	13.0-16.0	<0.08	<0.80	<0.005	6.3-7.5	<0.80	.	.	.	.	.	.	.	.
939.9.9		76.5-79.5	.	<0.005	<0.40	.	<0.8	<1.50	14.0-18.0	<0.08	<0.50	<0.005	5.0-7.0	<1.50	.	.	.	.	.	.	.	.
939.9.10		69.0-72.0	.	<0.005	<0.25	.	0.50-1.00	<0.05	14.0-16.0	<0.08	<0.50	<0.005	12.0-14.0	<0.50	.	.	.	.	.	.	.	.
939.9.11		72.0-79.0	.	<0.005	<0.25	.	<1.0	<0.05	18.0-22.0	<0.08	<0.80	<0.005	4.5-6.5	<1.00	.	.	.	.	.	.	.	.
939.9.12		68.5-75.5	.	<0.005	<0.35	.	<0.50	<0.08	3.0-4.0	<0.08	<0.50	<0.005	3.0-4.0	<3.00	.	.	.	.	.	.	.	.
939.9.13		67.0-72.0	.	<0.005	<0.15	.	<1.0	<0.08	22.0-25.0	<0.08	<0.80	<0.005	4.5-6.0	<0.80	.	.	.	.	.	.	.	.
939.9.14		ren	.	.	<0.50	.	0.25-1.00	<0.05	27.0-34.0	.	<0.50	.	1.5-3.0	<0.50	.	.	.	.	.	.	.	.
939.9.15		68.5-75.5	.	.	<0.35	.	<0.50	<0.10	24.0-32.0	.	<0.50	.	4.0-7.0	<0.50	.	.	.	.	.	.	.	.
939.9.16		ren	.	<0.005	<0.70	.	<0.50	<0.10	21.0-25.0	<0.08	<0.50	<0.005	3.0-4.0	<3.00	.	.	.	.	.	.	.	.
939.9.17		ren	.	<0.005	<0.15	.	<1.0	<0.05	9.0-12.0	<0.08	<0.80	<0.005	7.0-9.0	<0.80	.	.	.	.	.	.	.	.
939.9.18		ren	.	<0.005	<0.15	.	<1.0	<0.05	16.0-22.0	<0.08	<0.80	<0.005	6.0-8.0	<1.20	.	.	.	.	.	.	.	.
947		85.0-89.0	.	<0.005	<0.25	<0.20	4.5-6.0	<0.05	<0.10	<0.05	<0.15	<0.005	4.5-6.0	1.0-2.5	.	.	.	.	.	.	.	.
948		84.0-89.0	.	<0.005	<0.25	<0.20	4.5-6.0	<0.05	0.30-1.00	<0.05	<0.15	<0.005	4.5-6.0	1.0-2.5	.	.	.	.	.	.	.	.
949		79.0-81.0	.	<0.005	<0.30	<0.10	4.0-6.0	<0.05	4.0-6.0	<0.08	<0.25	<0.005	4.0-6.0	4.0-6.0	.	.	.	.	.	.	.	.
952		>86.00	.	8.5-9.5	2.5-4.0	<1.00	<1.0	.	<0.05	.	.	<0.25	<0.10	<0.50	.	.	.	.	.	<0.05	.	.
952.1		>86.00	.	8.5-9.5	2.5-4.0	<1.00	<1.0	.	<0.05	.	.	<0.25	<0.10	<0.50	.	.	.	.	.	.	.	.
952.2		ren	.	9.5-10.5	2.5-4.0	<0.50	<2.5	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
953		>86.00	.	9.0-11.0	0.8-1.5	<0.50	<1.5	.	.	.	.	.	.	.	.</							

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	C <0.10, Nb <1.00	rem		12.0-13.5	3.0-5.0	<1.50	<0.50	<0.02	<0.01	<0.02	.	<0.50	.	.	.	.	.	.	.	.	.	.
962	C <0.15, Nb 0.50-1.50	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, Nb 0.50-1.50	rem		.	0.50-1.50	0.25-1.50	18.0-22.0	<0.02	<0.01	<0.02	.	<0.50	.	.	.	.	.	.	.	.	.	.
964	C <0.15, Nb 0.50-1.50	rem		.	0.25-1.50	<1.50	28.0-32.0	<0.02	<0.03	<0.02	.	<0.50	.	.	.	.	.	.	.	.	.	.
966		rem		.	0.8-1.1	<1.00	29.0-33.0	.	<0.01	.	.	<0.15	.	.	.	0.40-0.70	.	.	.	.	.	.
967	Nb 0.10-0.30, B <0.01	rem		.	0.7-1.0	<0.70	29.0-33.0	.	<0.01	.	.	<0.15	.	.	.	1.10-1.20	.	.	.	.	0.01-0.20	0.1-0.2
968	Nb <0.10	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	.	.	<0.001	.	0.005-0.15	<0.01	.	.
969		rem		.	<0.50	0.50-0.30	14.5-15.5	.	<0.02	.	.	<0.30	5.8-8.5	<0.50	.	.	.	.	<0.15	<0.15	.	.
969.5	Nb <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	<0.15	.	.
973		53.0-58.0		<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	<0.05	4.5-5.5	<0.08	<0.25	<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	3.0-4.5	3.0-9.0	.	.	.	.	.	.	.	.
978		64.0-67.0		<0.005	<1.50	<1.00	24.0-27.0	<0.05	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	.	6.0-2.0	<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	.	.	<0.02	30.0-40.0	.	.	.	<0.50	<0.10	.	.	.	.	.	.	.	.
988		56.5-62.5	<5.50	.	<0.35	.	.	.	37.5-42.5	.	.	.	<0.25	<0.10	.	.	.	.	.	.	.	.
988.4		rem	.	.	<0.35	.	.	.	40.0-44.0	.	.	.	1.0-5.0	.	.	.	.	.	.	.	.	.
		rem	.	.	<0.35	.	.	.	44.0-58.0	.	.	.	1.0-5.0	.	.	.	.	.	.	.	.	.
993	Incramet 600	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	.	.	0.50-2.00	.	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	39.0-46.0	<0.20	.	<0.02	.	.	<0.10	<0.10	<0.20	.	.	.	<0.20	.	.	.	.
997	Nb 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	.	.	.	.	.	.	.	.
Alloy	Notes	Cu	Ag	Al	Fe	Mn	Ni	P	Pb	S	Sb	Si	Sn	Zn	As	Be	Bi	Co	Cr	Mg	Ti	Zr

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