

# INDEX

ALLOY LISTING 23  
ALLOY SPECIFICATIONS 24  
ALUMINUM BRASS 11  
ALUMINUM BRONZE 16, 17, 18

BERYLLIUM-COBALT 4  
BISMUTH BRASS 11  
BISMUTH BRONZE 18  
BRASS 9, 10, 11, 13, 14, 15  
BRONZE 15, 16, 17, 18

CARTRIDGE BRASS 11, 12  
CHROMIUM COPPER 4  
CONVERTER COPPER 5  
COPPER 2, 3, 4  
COPPER ALLOYS 22  
COPPER IN VARIOUS FORMS 2  
COPPER WIRE 2

ENVIROBRASS 7

FEDERALLOY 7  
FREE CUTTING BRASS 12

GILDING METAL 5  
GLOBULE ARC 2  
GUN METAL 5

HIGH TENSILE BRASS 15

LEADED BRASS 12, 13  
LEADED BRONZE 20, 21  
LEADED TIN BRONZE 20, 21

MANGANESE ALLOY 5  
MANGANESE BRASS 13  
MANGANESE BRONZE 18

NAVAL BRASS 13  
NICKEL ALLOY 6, 7  
NICKEL BRASS 14  
NICKEL BRONZE 18

PHOSPHOR BRASS 14  
PHOSPHOR BRONZE 19  
PHOSPHORUS DEOXIDIZED 2

ROD 2, 4, 5, 13, 21

SEBILOY 7  
SILICON BRASS 14  
SILICON BRONZE 19  
SILVER ALLOY 8

TIN BRONZE 20, 21  
TIN COPPER 8

WIRE 2

XRF 22

**CRM PURITY COPPER DISC AND ROD SETS**

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

Number	Ag	As	Bi	Cd	Co	Cr	Fe	Mn	Ni	P	Pb	S	Sb	Se	Si	Sn	Te	Zn	Other
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)
IMN CP1	12	0.4	1.0	0.6	0.2	0.3	10	1.3	3.4	2.0	1.7	6.3	11	<1	.	5.6	3.0	1.9	
IMN CP2	36	140	.	72	39	0.5	8.1	5.9	20	11	120	35	160	77	(4)	4.8	12	92	
IMN CP3	60	63	47	35	20	45	15	30	13	44	81	60	120	43	(8)	17	46	33	
IMN CP4	110	14	13	11	4.2	86	44	55	3.4	130	28	94	48	10	(3)	40	75	17	
IMN CP5	31	65	9.4	2.5	34	48	77	49	39	110	13	21	27	35	(82)	2.1	7.8	38	
IMN CP6	20	0.85	.	.	<1	0.3	6.4	0.6	2.7	1.7	2.7	7.5	0.4	<1	.	0.7	.	1.4	
VS MO3-1	22.2	0.55	0.089	0.063	0.09	0.25	3.7	9.9	0.38	2.0	0.51	5.3	2.1	0.39	11.5	0.52	0.33	1.93	
VS MO3-2	11.0	2.2	1.62	9.1	5.3	2.9	5.3	5.5	15.0	7.3	2.9	6.8	7.8	0.97	13.0	1.39	1.13	1.07	Al:1.4 Mg:0.76
VS MO3-4	0.41	0.14	0.73	0.93	1.37	0.38	40.2	7.7	0.80	34.6	9.4	.	0.45	0.42	.	0.64	.	9.8	Al:1.9 Mg:1.01
VS MO3-5	3.3	15.8	15.9	0.22	17.8	9.2	18.4	15.1	29.3	14.3	24.1	12.0	25.8	12.7	8.4	13.3	12.6	19.4	Al:8.4 Mg:6.5
VS MO3-6	47.2	53.2	46	28	29.5	23.5	56.5	43.4	102	16.9	69	27.5	52.5	31.9	14.1	43.2	35	55.6	
VS MO3-7	10.8	0.96	0.49	0.59	.	0.11	10.9	3.08	0.36	0.95	0.30	3.9	0.90	.	.	0.29	0.47	0.95	Al:(0.6)
VS MO3-9	28.2	1.45	1.15	0.84	2.3	0.94	12.1	0.56	3.15	0.41	4.0	11.7	3.4	1.00	0.77	1.43	1.31	0.86	
VS MO3-k	10.5	1.51	1.11	0.81	0.71	0.60	3.6	3.09	2.63	0.84	1.54	6.1	2.8	0.78	0.91	1.09	0.97	1.9	Mg:0.82

**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 CP1	45.0	6.7	12.5	42.0	29.0	33.0	24.0	21.0	57.0	Rem
IMN CP2	9.0	1.1	.	2.8	0.7	0.6	1.4	.	2.2	Rem
IMN CP3	3.2	1.8	.	20.0	6.4	8.9	2.2	3.2	3.4	Rem
IMN CP4	18.0	43.0	1.2	3.7	7.8	1.1	11.0	1.0	31.0	Rem
IMN CP5	12.0	2.3	0.25	98.0	3.0	3.2	1.9	1.3	4.7	Rem
IMN CP6	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 ClC: CRM all others: RM 5 rods 3 mm Ø x 80 mm

Number	Ag	As	Bi	Cd	Co	Cr	Fe	Mn	Ni	Pb	Sb	Se	Sn	Te	Zn	O	P	S	Si
38X ClB	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 ClC	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
2	CURM 09.03	0.056	99.82	0.012	0.0033	<0.0003	<0.001	<0.0003	<0.0003	<0.0003	<0.0005	<0.0005	<0.001	<0.001
1	SRM C1251a	0.0420	99.89	0.0080	0.0285	(<0.0020)	0.0016	0.00132	0.00046	0.00236	0.00235	0.00149	0.0016	0.0024
1	SRM C1252a	0.0125	99.87	0.0158	0.0072	(<0.0020)	0.0118	0.0087	0.0043	0.0128	0.0060	0.0042	0.0120	0.00694

Number	Au	Bi	Cd	Cr	Mg	S	Se	Si	Te	Units
CURM 09.01	.	<0.0003	.	.	.	.	.	<0.001	.	50 mm Ø x 10-12 mm
CURM 09.02	.	<0.0005	.	.	.	.	.	<0.002	.	50 mm Ø x 10-12 mm
SRM C1253a	0.0072	(0.0056)	0.0070	0.0260	(0.0150)	(0.0050)	0.0136	(0.0580)	0.0168	32 mm x 32 mm x 19 mm
CURM 09.03	.	<0.0003	.	.	.	.	.	<0.001	.	50 mm Ø x 10-12 mm
SRM C1251a	0.00155	0.00037	(<0.0003)	(0.0003)	(<0.0020)	(0.0035)	0.0011	(<0.0050)	0.0016	32 mm x 32 mm x 19 mm
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/g 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  $\phi$  x 15-20 mm      BS: 38 mm  $\phi$  x ~7 or 19+ mm      IARM: 31 mm  $\phi$  x 2 or 18 mm  
 BAM, BCR, ERM: 38-40 mm  $\phi$  x 27-30 mm      CTIF: 40 mm  $\phi$  x 18 mm      IMN, VS: 40 mm  $\phi$  x 23-27 mm

#	Number	Al	As	Bi	Cd	Co	Cr	Fe	Mg	Mn	Ni	P	Pb	S
1	39X 17870AH	0.144	0.0023	0.0494	0.0022	0.0021	0.0012	0.074	0.033	0.0596	0.0555	0.0535	0.0328	0.0018
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 17869AF	0.0136	0.0099	0.045	0.0201	0.0036	.	0.0079	0.0010	0.0023	0.0102	0.0163	0.088	0.009
1	39X 17872A	0.0118	0.0203	0.0240	0.0013	0.0102	.	(0.045)	.	0.0055	0.0537	0.0045	0.293	0.0242
1	39X 17868AG	0.0072	0.0226	0.0308	0.0130	0.0248	.	0.110	0.0085	0.0123	0.0222	0.051	0.104	0.022
1	BAM EB386	0.00365	0.00242	0.00096	0.00078	0.000520	0.00124	0.00647	0.00361	0.00133	0.00250	0.00072	0.00234	0.00219
1	BS 110C **	<0.005	<0.005	0.0009	.	<0.005	<0.005	<0.05	<0.05	<0.005	<0.005	<0.005	<0.005	0.001
1	IARM 279A	(0.002)	(0.002)	(0.001)	.	(0.002)	0.86	0.025	(0.002)	0.014	(0.002)	(0.005)	(0.01)	0.0015
1	BAM 382	<0.00025	(0.0053)	0.000053	0.000090	0.000073	0.000056	0.00060	(0.00014)	0.00076	0.00017	.	0.00010	(0.0032)
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 17870AG	0.0012	0.0033	0.0470	0.0305	0.0017	.	.	.	.	0.0062	0.0012	0.0447	0.0026
1	39X 17866AG	(0.001)	0.0547	0.0128	0.0052	0.0325	.	(0.002)	.	0.0017	0.0608	0.0016	0.028	0.052
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	<0.0002	0.00016	(0.0038)
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 M384a	<0.0002	0.00054	0.000616	0.00041	0.000364	<0.0002	0.00027	<0.0002	0.00022	0.00061	<0.0002	0.00117	(0.00046)
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	BAM M383a	<0.0002	0.00025	0.00027	0.000116	0.000096	<0.0001	(0.00031)	<0.0001	0.000034	0.000113	<0.0001	0.000109	(0.00032)
1	BAM M383c	(0.00016)	0.000154	0.000101	0.000206	0.000121	<0.00015	(0.00014)	0.000111	0.000152	0.00042	<0.0001	0.00030	(0.00046)
1	39X 17867AD	.	0.0387	0.0153	0.0110	0.0194	.	.	0.0041	.	0.0410	0.0015	0.196	0.041
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 17873B	.	0.0197	0.0254	0.0023	0.0004	(0.0003)	0.0052	.	0.0005	0.0280	0.0009	0.059	0.0095
1	IMN CP2	.	0.0140	.	0.0072	0.0039	0.00005	0.00081	.	0.00059	0.0020	0.0011	0.0120	0.0035
1	39X 27869A	.	0.0098	0.0376	0.0028	0.0036	(0.0002)	0.0030	.	0.0190	0.0119	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 CP5	.	0.0065	0.00094	0.00025	0.0034	0.0048	0.0077	.	0.0049	0.0039	0.0110	0.0013	0.0021
1	IMN CP3	.	0.0063	0.0047	0.0035	0.0020	0.0045	0.0015	.	0.0030	0.0013	0.0044	0.0081	0.0060
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	IMN CP4	.	0.0014	0.0013	0.0011	0.00042	0.00086	0.0044	.	0.00055	0.00034	0.0130	0.0028	0.0094
1	IMN CS3	.	0.00138	0.00122	0.00134	0.00074	0.00109	0.00283	.	0.00126	0.00111	0.00121	0.00133	0.00188
1	BAM 372	.	0.00103	.	0.000163	.	.	.	.	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	0.00044	(0.00024)	(0.00009)	0.00070
1	IMN CP6	.	0.000085	0.000085	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	<0.0004	<0.0004	0.000013	0.00028	(0.000034)	0.000027	0.000073	.	0.00005	(0.00029)
1	BCR 017A	.	.	.	.	.	.	.	.	.	.	0.00069	.	0.00104
1	BAM 369	.	.	0.00097	.	0.00104	0.00092	.	0.00036	.	.	.	.	.
1	BAM 371	.	.	.	.	.	.	0.0018	.	.	.	.	.	0.0013

# Number Al As Bi Cd Co Cr Fe Mg Mn Ni P Pb S

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 17870AH	0.0415	0.0118	0.007	0.0054	0.0500	0.0285	0.0285	.	556	17	.	.	102	.	.	.
BAM M376a	0.0202	0.0210	.	0.0247	0.0215	(0.00045)	0.0217	0.00422	163	.	(41)	.	.	.	.	.
39X 17869AF	0.040	0.0243	0.0013	0.044	0.0319	.	0.082	.	376	53	.	.	37	.	.	last
39X 17872A	0.0217	0.0103	.	0.180	0.0208	.	0.107	(0.0024)	214	(15)	.	.	241	.	.	.
39X 17868AG	0.030	0.0133	.	0.103	0.0206	.	0.197	.	249	101	.	.	76	.	.	last
BAM EB386	0.00312	0.00116	.	0.00283	0.00383	0.00331	0.00495	.	.	.	.	.	.	.	.	.
BS 110C **	** Provisional Analysis	<0.05	<0.05	.	.	.	<0.05	.	.	.	.	[99.9]	.	9	.	.
IARM 279A	(0.004)	0.020	.	0.021	.	.	(0.01)	0.012	(30)	.	(20)	.	99.1	(10)	.	.
BAM 382	0.00007	0.00006	<0.0006	0.000429	0.000061	(0.00006)	0.00060	<0.0003	1.8	.	.	.	.	.	.	.
IARM 278A	<0.005	(0.002)	(0.002)	(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 17870AG	0.0478	0.0261	.	0.0031	0.0011	.	0.129	.	468	9	.	.	78	last	Ge*: 76	
39X 17866AG	0.0065	0.0072	0.0029	0.171	0.0224	0.047	0.047	77	24	.	.	364	.	.	.	
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)	(2)	.	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)	.	.
BS 110B	<0.0005	<0.0004	<0.0002	<0.0002	<0.0002	17025	<0.0003	<2	.	7	<1	99.94	.	363	Ca*: <3	.
BAM M384a	0.00054	0.00058	<0.0003	0.00026	0.00093	<0.0001	0.00053	(0.00001)	10.7	.	.	.	.	(0.26)	.	.
BAM M383b	0.000169	0.000117	<0.0002	0.00008	0.00057	<0.0001	0.00093	<0.0001	10.6	.	.	.	.	(0.41)	.	.
BAM M383a	0.000191	0.000134	<0.0001	0.000101	0.000177	<0.0002	0.00171	<0.0001	11.1	.	.	.	.	(0.23)	.	.
BAM M383c	0.000213	0.00025	<0.00025	0.00019	0.00046	(0.00026)	0.00025	(0.00029)	10.6	.	.	.	.	(0.40)	.	.
39X 17867AD	0.0143	0.0067	.	0.115	0.0078	.	0.0325	.	79	75	.	.	130	.	Ge*: 62	
39X 27866A	0.0052	0.0028	.	0.0448	0.0032	.	0.0287	.	57	16	.	.	437	.	Ge*: 29	
39X 17873B	0.0202	0.0143	.	0.0247	0.0144	.	0.0160	.	291	.	.	.	40	.	.	
IMN CP2	0.0160	0.0077	(0.0004)	0.00048	0.0012	.	0.0092	.	36	.	.	Rem	.	.	.	.
39X 27869A	0.0362	0.0127	.	0.0106	0.0153	.	0.0065	.	349	80	.	.	90	.	Ge*: 123	
IMN																

**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)	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-COBALT ALLOY**

# = class, where 1 = CRM and 2 = RM  
 F = Form, where w = wrought and c = cast  
 36X: 38-41 mm Ø x ~15-17 mm CTIF: 60 mm Ø x 5 mm BS: 38 mm Ø x ~7 or 19+ mm IARM: 31 mm Ø x 2 or 18 mm

# F Number	Be	Co	Cu	Al	Cr	Fe	Mn	Ni	Pb	Si	Sn	Zn	mass % except * = ppm
2 c CTIF 4584	2.53	0.04	97.05	0.033	.	0.120	(0.002)	0.015	(0.002)	0.166	0.022	0.022	
2 c CTIF 4872	1.93	0.400	97.00	0.059	(0.04)	0.107	0.008	0.103	0.019	0.16	0.044	0.119	
1 w 36X CBC4E	1.869	0.215	97.47	0.0258	.	0.0274	.	0.0080	0.329	0.048	0.002	0.003	Mg: 0.0035 P: 0.0027
2 w BS 172 Be-1	1.89	0.206	97.68	(0.02)	0.0032	0.052	0.0010	0.039	(0.002)	0.055	0.033	0.0070	P: 0.003
1 w 36X CBC3D	1.840	0.209	97.77	0.019	.	0.046	.	0.007	0.0025	0.039	0.0021	0.004	Mg: 0.0040
2 c CTIF 4766	1.58	0.64	96.83	0.027	(0.2)	0.165	0.007	0.203	0.053	0.11	0.100	0.070	
2 c CTIF CuBeCo6	1.54	(1.9)	93.09	0.135	0.0576	0.109	0.0173	(1.4)	0.0397	0.26	0.0135	0.0330	Ag: 1.37
2 c CTIF 4583	0.84	(0.002)	96.35	0.029	.	(0.15)	0.064	2.02	0.084	0.08	0.25	0.094	
1 w 36X CBC6	0.507	1.045	97.11	0.0490	.	0.0243	.	1.132	0.0014	0.0263	0.0041	0.0010	Mg: 0.0070 Zr: 0.0553
1 w BS 17500	0.43	2.31	(97.1)	0.0210	0.0015	0.0262	0.081	0.095	0.0005	0.0641	(0.0002)	0.0065	Ca: 54* C: 20* 17025
1 w 36X CBC5B	0.404	0.0084	97.61	0.0104	.	0.0108	.	1.905	0.0015	0.004	0.0013	0.0010	Ag: 0.0011 Mg: 0.0009
2 c CTIF 4873	0.17	0.98	98.40	0.094	0.105	0.078	(0.002)	0.049	(0.003)	0.088	(0.007)	(0.003)	

**CRM CHROMIUM COPPER**

Number	Cr	Ag	Al	Fe	Mn	Ni	Pb	Si	Sn	Zn	Zr	Cu
IARM 158C	1.04	(0.01)	0.002	0.090	0.019	0.32	0.01	0.02	0.01	0.014	.	98.5
IARM 158B	0.85	(0.01)	0.002	0.090	0.019	0.32	0.01	0.02	0.01	0.014	.	98.5
BS 18150A	0.79	.	0.0023	0.007	0.0010	0.0019	0.0011	0.027	0.0144	0.0006	0.203	[98.9]
BS 18150	0.74	.	0.0009	0.0047	0.0010	0.0010	0.0005	0.019	0.0097	0.0006	0.113	[99.1]
36X CCR1E	0.652	0.0042	0.0013	0.0170	.	0.0111	0.0008	.	0.0018	(0.0011)	0.079	99.24
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 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 or 18 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 <b>17025</b>
BS 18150	(0.0004)	0.0009	(0.0002)	.	.	(0.0006)	0.0037	0.0007	(0.0001)	38 mm Ø x ~7 or 19+ mm <b>17025</b>
36X CCR1E	0.0007	.	.	(0.0003)	.	.	0.0223	0.0016	.	~50 mm Ø x ~17 mm
36X 274B	.	.	0.0042	.	.	.	0.0015	.	.	~40 mm Ø x ~15 mm

**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

IMN CT: 40 mm Ø x 30 mm

IMN CG, CH: 10 mm Ø x 100 mm

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

**CRM GILDING METAL**

Number	Cu	Fe	Ni	P	Pb	Sn	Zn	method	Units
SRM 1114	96.4	0.01	0.021	0.009	0.012	0.02	3.4	wrought	31 mm Ø x 19 mm
SRM C1114	96.4	0.01	0.021	0.009	0.012	0.02	3.4	cast	31 mm x 31 mm x 19 mm
SRM 1113	95.0	0.04	0.057	0.008	0.026	0.06	4.8	wrought	31 mm Ø x 19 mm
SRM 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 in SET/5 only

wrought 40 mm Ø x 25 mm

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

**GUN METAL**

C, CURM: 50 mm Ø x 10 - 12 mm

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 *	13.7	3.0	7.0	0.73	0.09	rem	0.025	0.005	0.025	0.075	0.08	Cd:0.07						
33X GM4AD	5.90	3.02	5.27	1.482	0.0932	84.02	0.0206	0.0015	0.0228	0.0442	0.0077	.	* Provisional Analysis	0.00060	0.0034	0.034	0.18	0.002
33X GM8G	5.71	4.03	6.21	0.1491	0.033	83.64	0.1018	.	0.0114	0.062	0.0222	.	.	0.0062	0.0083	0.0237	0.0568	0.0010
33X GM5N	4.16	5.18	4.80	0.802	0.194	84.56	0.049	0.070	0.0408	0.0510	0.0207	Cd:0.0111	Te:0.0043	0.0098	0.063	0.0654	0.070	
33X GM20A	3.87	4.07	0.106	0.999	0.570	87.58	0.141	(0.001)	0.196	0.031	0.0382	0.015	0.219	0.063	.	2.004	Cd:0.0229	
33X GM6K	1.409	6.58	3.94	0.890	0.0256	86.51	0.0148	0.0012	0.158	0.0359	0.0100	.	0.0022	0.0041	0.090	0.259	(0.0009)	
RM																		
CURM 71.32	6.52	6.46	4.43	0.70	0.35	80.48	0.34	0.12	0.25	0.051	.	0.05	0.046	0.016	0.08	0.26	0.022	
CURM 71.31	4.27	4.38	6.44	2.07	0.098	82.30	0.052	0.045	0.11	0.027	.	<0.01	0.010	0.060	0.11	0.006		
33X GM29A	4.23	6.12	0.050	0.0289	0.0102	89.36	0.0026	(0.0004)	0.0017	0.0019	.	(0.0004)	(0.0005)	0.138	0.0024	0.0015	0.0027	
33X GM24A	3.67	3.85	3.35	0.0087	0.0083	88.88	0.0046	(0.0001)	0.0010	0.0009	.	(0.0013)	<0.0005	0.190	0.003	0.0012	0.0028	
CURM 71.33	3.60	4.96	6.84	0.938	0.018	83.60	<0.002	<0.001	<0.001	<0.002	.	<0.0005	<0.0005	<0.001	<0.001	<0.002	<0.005	
C71.34	1.55	8.20	2.47	<0.01	0.29	rem	0.025	0.007	0.18	0.029	.	0.03	0.05	0.020	0.16	0.071	0.04	

**CRM MANGANESE ALLOY SET**

AVAILABLE IN SET/6 ONLY

40 mm Ø x 13 mm

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

NICKEL ALLOY

#	Number	Ni	Ag	Al	Bi	Co	Cr	Cu	Fe	Mn	Nb	P	Pb	S	Si	Sn	Zn
1	36X CN6J	32.51	0.0189	0.079	0.0260	0.0433	2.17	63.41	0.481	0.567	0.271	0.0187	0.0165	0.0097	0.150		0.147
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	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	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)	.	.	.	68.0	0.61	0.82	.	0.006	(0.007)	0.001	0.10	0.008	0.10
1	IARM 236A	30.0	.	0.003	0.003	0.004	0.002	66.7	0.91	1.04	.	0.003	0.004	0.003	0.19	0.005	0.002
1	36X CN7F	29.95	.	.	(0.014)	0.108	1.51	65.58	1.021	0.659	0.58	(0.021)	0.028	0.0151	0.304	0.039	0.203
2	C62.11	29.8	.	.	.	<0.005	.	rem	0.60	0.52	.	.	<0.005	<0.005	0.36	0.04	0.097
2	CTIF CN33	29.75	.	(0.0105)	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
1	36X CN10B	28.35	.	1.346	0.122	1.491	61.63	4.76	0.552	0.450	(0.009)	0.013	0.030	0.906	0.0164	0.058	
1	36X CN4K	27.49	.	0.0013	0.0077	0.052	0.022	69.48	2.67	0.164	0.0139	0.0078	(0.023)	0.0076	0.025	0.009	0.041
1	36X CN9K	26.40	.	0.051	0.0197	0.0785	2.02	66.94	1.262	1.005	1.37	(0.021)	0.070	0.0105	0.406	0.0351	.
2	C62.15	25.9	.	.	0.042	.	.	rem	2.36	0.23	.	.	0.016	0.023	0.014	0.03	0.04
1	BAM 389	24.7	.	.	0.0044	0.0770	0.0153	74.3	0.107	0.415	.	0.0093	0.0098	.	.	0.0262	0.1125
2	C62.14	20.2	.	.	.	0.03	.	rem	1.49	0.24	.	.	0.01	0.083	0.022	0.12	0.12
2	C65.30	19.8	.	.	.	.	.	55.0	1.0	0.09	.	0.05	0.25	0.04	0.10	0.04	23.5
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
1	36X CN3M	19.55	0.0099	.	.	0.0701	0.0259	76.60	0.996	0.726	0.030	0.049	0.223	0.0153	0.349	0.190	1.014
2	C65.29	16.8	.	.	.	.	.	58.9	0.39	0.17	.	0.07	0.11	0.07	0.02	0.08	23.4
1	34X NS4F	16.61	0.0324	0.0454	.	0.152	.	64.97	0.447	0.304	.	0.0570	0.071	0.0110	0.102	0.0300	17.09
1	34X NS5G	16.55	0.0096	0.085	.	0.211	.	57.33	0.247	0.1103	.	0.104	0.896	.	0.122	0.142	23.87
1	36X SP2A	15.72	0.0181	0.0003	(0.0027)	0.119	.	74.91	(0.09)	0.0019	.	(0.0006)	0.026	0.0030	(0.0023)	8.92	0.029
1	36X CN2J	15.47	.	0.005	0.0045	0.264	0.240	80.78	1.70	1.26	(0.032)	0.015	0.048	0.035	0.044	0.061	0.0358
1	36X 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	34X NS3F	14.96	0.100	(0.0003)	.	0.0922	.	64.16	0.285	0.0377	.	0.0295	0.178	0.0028	(0.0017)	0.056	19.96
1	36X 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	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	34X NS2F	13.39	0.0026	.	.	0.0118	(0.001)	61.09	0.085	0.0013	.	0.0091	0.063	(0.020)	(0.003)	0.019	25.31
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
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
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 CN1P	9.27	.	0.055	.	0.114	0.156	(85.9)	1.856	1.77	0.0236	0.0574	0.035	0.0071	0.104	0.227	0.351
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
1	37X 218A	2.52	.	0.0022	.	0.0013	0.032	96.57	0.074	0.0883	.	0.0014	0.0025	0.007	0.58	0.015	0.027
1	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	Te	Ti	Zr	Units
36X CN6J				0.0198					0.0510	0.0228	~40 mm Ø x ~15 mm
IARM 85C	0.0009			0.008		0.01					31 mm Ø x 2 or 18 mm
36X 71500A		0.0049		0.0240							~40 mm Ø x ~15 mm
36X CN5P		0.0053	0.0035	(0.008)		0.0106			0.0203		~40 mm Ø x ~15 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
IARM 236A				0.010		.	<0.005				31 mm Ø x 2 or 18 mm N: 2ppm, O: 0.002
36X CN7F		(0.004)		0.0106	0.0024	0.0041			(0.037)	(0.003)	40 mm Ø x 17 mm
C62.11						0.03					50 mm Ø x 10 - 12 mm
CTIF CN33				0.025	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
36X CN10B		(0.012)		0.0107					0.227	0.080	~40 mm Ø x ~15 mm
36X CN4K				0.0053		(0.0004)			(0.004)		40 mm Ø x 17 mm
36X CN9K				0.005		.				0.111	~40 mm Ø x ~15 mm
C62.15						0.004					50 mm Ø x 10 - 12 mm
BAM 389					0.0016	0.067	0.0046		0.0660	0.098	40 mm Ø x 30 mm
C62.14						0.002					50 mm Ø x 10 - 12 mm
C65.30						0.01					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
36X CN3M		(0.0025)	0.0042	0.020		0.075					~40 mm Ø x ~15 mm
C65.29						0.01					50 mm Ø x 10 - 12 mm
34X NS4F						0.0009					40 mm Ø x ~10 mm
34X NS5G											~40 mm Ø x ~15 mm
36X SP2A		0.0005				0.0002	0.006		(0.0008)		40 mm Ø x 15 mm
36X CN2J				0.004		0					

## CRM NICKEL ALLOY SETS

available in SETS only, as grouped

analysis listed in mass %

NA: 28 mm Ø x 25 mm

MN5: 35 mm Ø x 30 mm  
NB: 40 mm Ø x 25 mmN: 35 mm Ø x 30 mm  
NC: 40 mm Ø x 12 mm

Number	Ni	Al	As	Bi	C	Cd	Co	Cu	Fe	Mg	Mn	P	Pb	S	Sb	Si	Sn	Zn
IMN NC1	23.17	.	0.0056	0.0011	0.0320	0.0142	0.0062	.	0.0501	0.0016	0.552	0.0147	0.0025	0.0709	0.0024	0.0854	0.0374	0.776
IMN NC2	24.21	0.0219	0.0104	0.0046	(0.0026)	0.0189	0.0115	.	0.290	0.0024	0.413	.	0.0021	0.0837	0.0049	0.196	0.0457	0.508
IMN NC3	24.68	0.229	0.0167	0.0077	(0.0036)	0.0120	0.0282	.	0.106	0.0561	0.148	0.0312	0.0027	(0.0202)	0.0084	0.0609	0.0171	0.244
IMN NC4	25.39	0.332	0.0251	0.0117	0.0500	0.0049	0.101	.	0.426	0.0170	0.0172	0.0113	0.0120	0.0022	0.0113	0.0197	0.0087	0.0099
IMN NC5	25.82	0.0749	0.0427	0.0213	0.0050	0.0018	0.151	.	0.369	0.0861	0.0623	0.0222	0.0409	.	0.0161	0.0198	0.0044	0.0152
IMN NB1	23.77	0.071	0.024	0.011	0.040	0.016	0.010	75.71	0.11	0.017	0.029	0.025	0.011	0.0019	0.0025	0.093	0.0038	0.052
IMN NB2	24.38	0.043	0.0045	0.0082	0.019	0.0053	0.023	74.73	0.085	0.0059	0.46	0.030	0.014	0.0084	0.0036	0.13	0.014	0.037
IMN NB3	25.87	0.12	0.0076	0.0070	0.034	0.0082	0.017	73.20	0.14	0.013	0.23	0.019	0.011	0.011	0.0057	0.068	0.040	0.20
IMN NB4	25.78	0.013	0.0097	0.0040	0.018	0.0064	0.013	73.45	0.21	0.028	0.015	0.0085	0.0084	0.015	0.0092	0.024	0.065	0.33
IMN NB5	24.94	0.0014	0.011	0.0010	0.012	0.0012	0.0067	73.42	0.28	0.036	0.57	0.0036	0.0060	0.028	0.012	0.0057	0.10	0.57
IMN N1	25.38	.	.	.	.	.	0.0050	Rem	0.0056	.	0.0018	.	0.0019	.	.	0.0070	0.0089	0.019
IMN N2	24.28	.	.	.	.	.	0.023	Rem	0.35	.	0.21	.	0.011	.	.	0.025	0.012	0.16
IMN N3	22.57	.	.	.	.	.	0.055	Rem	0.77	.	0.50	.	0.020	.	.	0.062	0.023	0.33
IMN N4	21.39	.	.	.	.	.	0.080	Rem	1.07	.	0.71	.	0.039	.	.	0.13	0.038	0.47
IMN NA1	7.19	.	.	.	(0.020)	.	.	Rem	2.52	.	1.51	.	0.081	(0.081)	.	.	.	0.80
IMN NA2	9.05	.	.	.	(0.023)	.	.	Rem	2.03	.	1.03	.	0.056	(0.065)	.	.	.	0.55
IMN NA3	10.35	.	.	.	(0.019)	.	.	Rem	1.15	.	0.60	.	0.035	(0.036)	.	.	.	0.30
IMN NA4	12.15	.	.	.	(0.012)	.	.	Rem	0.50	.	0.21	.	0.0066	(0.0069)	.	.	.	0.019
IMN MN5-1	3.21	.	0.0007	0.00011	.	.	.	Rem	0.0041	.	.	(0.00027)	0.0062	.	0.00019	.	.	.
IMN MN5-2	4.50	.	0.0011	0.00071	.	.	.	Rem	0.033	.	.	0.010	0.012	.	0.00078	.	.	.
IMN MN5-3	5.29	.	0.0017	0.0012	.	.	.	Rem	0.062	.	.	0.016	0.016	.	0.0013	.	.	.
IMN MN5-4	5.90	.	0.0038	0.0018	.	.	.	Rem	0.083	.	.	0.026	0.024	.	0.0019	.	.	.

## CRM SEBILOY / ENVIROBRASS / FEDERALLOY

Number	Sn	Zn	Bi	Se	As	Co	Fe	Ni	P	Pb	Sb	Cu
32X SEB4E	10.05	7.02	2.48	0.119	0.0065	0.308	0.093	0.0199	0.0043	0.0357	0.0343	79.82
32X SEB6C	7.14	4.55	0.615	0.322	0.083	0.231	0.151	0.860	0.0118	0.0463	0.235	85.66
32X 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)
32X SEB1D	4.26	7.81	4.25	0.812	0.0402	0.0478	0.071	0.102	0.0021	0.197	0.305	81.88
IARM 228A	4.1	4.1	1.53	0.67	0.003	0.001	0.052	0.45	0.032	0.026	0.010	89.0
IARM 263A	3.5	15.8	2.55	(0.002)	0.003	0.001	0.047	0.66	0.040	0.022	0.06	(78)
32X SEB7A	3.20	4.42	3.58	1.19	0.038	0.119	0.074	1.165	0.0206	0.343	0.262	85.46
IARM 264A	3.03	5.33	3.6	(0.001)	(0.004)	(0.001)	0.048	0.54	0.027	0.057	0.074	(87.3)
32X SEB3E	2.96	0.887	6.47	1.30	0.0325	0.0491	0.0113	1.214	0.0139	0.296	0.108	86.47

Number	Ag	Al	B	C	Cd	Cr	Mn	N	O	S	Si	Units
32X SEB4E	.	0.0007	.	.	0.0017	.	.	.	.	.	.	~40 mm Ø x ~15 mm
32X SEB6C	.	.	.	.	0.0036	.	.	.	.	.	.	40 mm Ø x 15 mm
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 or 18 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 or 18 mm
IARM 227A	0.004	0.002	.	0.003	.	(0.001)	0.001	(0.0002)	0.0013	0.005	0.002	31 mm Ø x 2 or 18 mm
IARM 265A	(0.002)	0.003	.	.	.	(0.001)	(0.002)	.	.	(0.002)	0.003	31 mm Ø x 2 or 18 mm
32X SEB1D	.	.	.	.	0.0033	.	.	.	.	0.0052	.	~40 mm Ø x ~15 mm
IARM 228A	0.003	0.002	.	0.003	.	0.001	0.001	<0.0005	(0.002)	0.004	0.002	31 mm Ø x 2 or 18 mm
IARM 263A	(0.006)	(0.002)	.	<0.005	.	(0.002)	(0.002)	.	.	(0.002)	0.003	31 mm Ø x 2 or 18 mm
32X SEB7A	.	.	.	.	0.0074	.	.	.	.	0.067	.	42 mm Ø x 17 mm
IARM 264A	(0.005)	0.003	.	(0.004)	.	(0.002)	(0.002)	.	.	0.0013	0.003	31 mm Ø x 2 or 18 mm
32X SEB3E	.	.	.	.	0.0095	.	.	.	.	0.0180	.	~40 mm Ø x ~15 mm

**RM SILVER ALLOY**

31 mm Ø x 2 or 18 mm

Number	Ag	C	P	S	Zr
IARM 159A	3.48	(0.002)	(<0.01)	(<0.01)	.
IARM 160A	3.03	0.003	(0.004)	(<0.003)	0.40
Al, Co, Cr, Fe, Mn, Ni, Pb, Si, Sn, and Zn: (<0.01)					

**RM TIN COPPER**

cast typical analysis

32X: 40 mm Ø x 15 mm

C: 50 mm Ø x 10-12 mm

Number	Sn	Al	As	Bi	Cu	Fe	Mg	Mn	Ni	P	Pb	S	Sb	Si	Zn
C11.04	9.6	<0.005	<0.005	<0.0005	rem	<0.005	<0.001	<0.005	<0.005	0.05	0.01	<0.001	<0.005	<0.005	<0.005
C11.03	7.4	<0.005	<0.005	<0.0005	rem	<0.005	<0.001	<0.005	<0.005	0.04	0.01	<0.001	<0.005	<0.005	<0.005
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 only

40 mm Ø x 30 mm

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



## CRM BRASS SETS

wrought available in SETS only, as grouped

MB: 40 mm Ø x 18 mm

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
--------	----	----	----	----	----	----	----	----	----	----	----	---	----	----	----	----

## 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
CURM 30.04	64.34	35.62	<0.001	<0.001	<0.003	0.009	<0.001	<0.001	0.003	<0.005	0.016	0.009
C38.06	(62)	rem	<0.001	<0.005	<0.001	<0.002	<0.002	<0.005	<0.005	<0.002	<0.002	<0.002
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	0.02	0.19	0.02	0.01	0.14	0.01
C30.12	60.85	rem	<0.005	<0.005	<0.002	<0.005	0.90	0.52	<0.01	<0.005	<0.005	<0.01
C30.03	60.6	39.3	<0.002	<0.005	<0.005	<0.005	<0.005	<0.01	<0.01	<0.005	<0.005	<0.01
C30.13	60.6	rem	<0.002	<0.005	<0.002	<0.005	1.9	<0.01	<0.01	<0.005	<0.005	<0.01
C30.15	60.6	rem	<0.002	<0.005	<0.002	0.55	<0.005	<0.01	<0.01	<0.005	<0.005	<0.01
C30.14	60.5	rem	<0.005	<0.005	<0.005	<0.01	2.4	1.0	<0.01	<0.005	<0.005	<0.005
C30.22	58.28	rem	<0.003	0.011	<0.005	0.006	<0.005	<0.01	1.05	<0.012	<0.005	0.009
C30.02	55.6	rem	<0.002	<0.005	<0.005	<0.005	<0.005	<0.005	<0.01	<0.005	<0.005	<0.01
C30.01	51.48	rem	<0.002	<0.005	0.005	<0.005	<0.005	<0.005	<0.01	<0.005	<0.005	<0.01

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 4-1	34.55	61.75	0.100	.	.	0.466	0.227	.	0.109	.	2.017	.	0.12	0.693
CTIF L 3	32.70	62.35	0.91	.	.	0.36	0.90	.	0.205	.	1.02	.	0.034	1.50
CTIF L 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 ~40-43 mm Ø x ~15-18 mm

#	Number	Zn	Cu	Al	As	Bi	Fe	Mn	Ni	Pb	Sb	Si	Sn
1	331X B18K	39.41	59.37	0.0193	0.0215	0.0196	0.0237	0.0207	0.0233	1.018	0.0205	0.019	0.0117
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
1	31X TB3K	37.92	61.58	0.0045	0.0454	0.0030	0.0282	0.0244	0.0637	0.169	0.0222	0.016	0.089
2	SRM 1107	37.3	61.2	.	.	.	0.037	.	0.098	0.18	.	.	1.04
1	31X B11H	36.65	60.72	0.0262	0.0061	0.0054	0.802	0.653	1.033	0.0134	0.0057	0.0063	0.0117
1	31X B10M	36.05	60.18	0.358	0.0087	0.0215	(1.39)	0.205	1.475	0.0274	0.0124	0.0389	0.0310
1	31X TB5B *	36	Rem	0.06	0.40	0.30	0.09	0.28	0.10	0.60	0.22	0.12	0.13
1	31X TB1K	35.17	63.08	0.493	0.111	0.0414	0.171	0.280	0.0619	0.207	0.105	0.080	0.134
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 B26F	30.30	62.93	1.005	0.126	0.106	0.649	0.408	1.396	0.930	0.098	0.252	1.476
1	31X B21E	29.55	69.32	0.0244	0.0908	0.104	0.126	0.0603	0.117	0.113	0.105	0.059	0.101
1	31X B4M	28.97	70.60	0.0011	0.0516	0.0103	0.111	0.0011	0.0649	0.045	0.0118	(0.002)	0.053
1	31X B5L *	24.0	Rem	0.015	0.035	0.008	0.035	0.002	0.027	0.085	0.015	(0.001)	0.27
1	31X B6B	19.93	79.90	0.0010	0.0009	0.0010	0.0097	0.0039	0.0066	0.0122	0.0011	0.015	0.0029
1	31X B27B	17.65	80.65	0.0015	0.048	0.0320	0.111	0.0059	0.0315	0.492	0.0243	0.0044	0.985
1	31X B22F	15.92	82.47	0.0402	0.165	0.17	0.158	.	0.154	0.152	0.161	0.047	0.160
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 B8J	10.23	89.37	(0.001)	0.0074	0.030	0.132	0.0006	0.0421	0.082	0.0254	(0.002)	0.0311
1	31X B23D	9.97	89.57	0.0048	0.0482	0.0463	0.060	0.0053	0.047	0.046	0.0448	0.0046	0.060
1	31X B9L	3.83	96.05	(0.0005)	0.0053	0.0068	0.0168	0.0017	0.0129	0.0549	0.0075	0.0036	0.0245
1	31X 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

#	Number	Zn	Cu	Al	As	Bi	Fe	Mn	Ni	Pb	Sb	Si	Sn
	Number	B	C	Cd	Co	Cr	Hg	P	S	Se			
	31X B18K	Ag:0.0143	.	0.0254	0.0015	(0.013)	.	0.0195	Te:0.017	.			
	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)			
	31X TB3K	(0.0005)	.	0.0043	.	.	.	.	.	.			
	SRM 1107	.	.	.	.	.	.	.	.	.			
	31X B11H	.	.	.	.	.	.	.	.	.			
	31X B10M	.	.	.	0.0390	0.0192	.	.	.	.			
	31X TB5B *	Ag:0.22	.	0.5	0.02	0.003	.	* Provisional Analysis					
	31X TB1K	0.0010	Ag:0.0455	0.0118	0.0500	.	.	0.0201	.	.			
	31X TB4G	(0.0004)	.	0.0032	0.0067	.	.	.	Te:0.0035	.			
	31X B26F	0.0011	Ag:0.053	0.0147	0.1197	.	.	0.0593	.	Te:(0.009)			
	31X B21E	.	.	.	.	.	.	0.1269	(0.002)	Te:0.0353			
	31X B4M	.	.	0.0236	0.0263	0.0038	.	0.0302	0.0114	.			
	31X B5L *	(0.0005)	.	0.004	0.025	(0.001)	.	* Provisional Analysis					
	31X B6B	0.0023	.	0.0037	0.0063	<0.0005	.	.	.	.			
	31X B27B	(0.0005)	(0.0014)	.	.	.	.	0.0159	0.0080	.			
	31X B22F	0.0043	.	0.0117	0.139	.	.	0.207	0.030	.			
	31X B7L	0.0013	.	0.0064	0.0044	.	Te:(0.002)	.	.	.			
	SRM 1110	.	.	.	.	.	.	.	.	.			
	SRM 1111	.	.	.	.	.	.	.	.	.			
	31X B8J	.	.	0.0155	0.0072	(0.0005)	.	0.0026	0.045	.			
	31X B23D	.	.	0.0010	0.0472	.	.	0.030	0.053	.			
	31X B9L	(0.0003)	.	.	.	.	.	.	.	.		0.0029	
	31X B24D	.	.	0.0008	.	.	.	0.0065	0.050	.			
	PB MS10	.	.	.	.	.	.	.	.	.			
	Number	B	C	Cd	Co	Cr	Hg	P	S	Se			

## 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	31X B17F	6.05	33.9	60.0	(0.015)	(<0.005)	(0.02)	(<0.005)	(0.01)	(0.05)	(<0.005)	(0.007)	0.010		~40 mm Ø x ~15-18 mm
1	BAM 388	4.972	4.81	89.27	.	.	0.0303	0.0512	0.00736	0.000969	.	.	0.857		40 mm Ø x 30 mm
2	C30.19	4.65	rem	69.9	<0.005	<0.002	<0.005	<0.005	<0.01	<0.01	<0.01	<0.005	1.07		50 mm Ø x 10-12 mm
1	31X 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	0.18	1.96		50 mm Ø x 10-12 mm
2	CURM 30.21	1.44	40.08	56.23	.	.	0.003	<0.001	<0.001	0.004	.	0.213	2.01		50 mm Ø x 10-12 mm
2	CTIF LH 12	1.13	33.15	62.75	.	.	(1.2)	0.125	0.505	0.21	.	(0.06)	0.83		60 mm Ø x 5 mm
2	CTIF LH 11	0.46	26.20	66.80	.	.	0.36	0.71	2.91	1.26	.	0.88	0.44		60 mm Ø x 5 mm

\* BAM 368 also contains 62.1 ppm Mg

## CRM ALUMINUM BRASS SET

available in SET/4 only

40 mm Ø x 35 mm

Number	Al	As	Bi	Cd	Cr	Cu	Fe	Mg	Mn	Ni	P	Pb	Sb	Si	Sn	Zn
IMN WO1	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 WO2	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 WO3	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 WO4	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

chill cast

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

~40 mm Ø x ~15 mm

Number	Bi	Zn	Cu	Al	As	B*	Cd*	Co	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 BIB1D	1.87	37.20	59.57	0.124	0.0303	.	100	.	0.053	0.0273	0.255	0.0451	0.157	(10)	0.0106	31	0.169	0.463
31X BIB2E	1.031	35.01	61.12	0.504	0.0224	.	55	0.0437	0.143	.	0.550	0.0232	0.118	<10	0.087	27	0.151	1.267
31X BIB4C	0.851	34.69	62.45	0.412	0.0131	17	28	0.0291	0.123	0.0146	0.199	0.0373	0.092	.	0.0477	133	0.203	0.85

## RM CARTRIDGE BRASS

cast typical analysis listed in mass %

50 mm Ø x 10 - 12 mm

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

\* For the above chart, \* indicates a value of &lt;0.0005

## CRM CARTRIDGE BRASS SET

available in SET/5 only

remainder is Zinc

wrought 40 mm Ø x 25 mm

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

**CRM CARTRIDGE BRASS SETS** 40 mm Ø x ~28 mm

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

available in SETs only, as grouped

**CRM FREE CUTTING BRASS SET** available in SET/5 only 40 mm Ø x 25 mm

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

**LEADED BRASS** # = class, where 1 = CRM and 2 = RM

#	Number	Pb	Sn	Zn	Cu	Al	As	Bi	Co	Fe	Mn	Ni	P	Sb	Si
1	<b>BS 836A-3</b>	5.31	4.58	4.59	84.7	(0.0014)	0.008	.	.	0.025	(0.001)	0.46	0.084	0.068	(0.0021)
1	<b>BS 836A-4</b>	5.31	4.58	4.64	84.7	(0.0013)	0.008	.	.	0.026	(0.001)	0.46	0.086	0.068	(0.0019)
1	33X RB1A	5.02	2.137	7.95	83.25	0.0048	0.0030	0.0029	0.0558	0.928	0.0167	0.0539	0.020	0.432	0.063
1	31X B20N	4.43	0.0244	37.03	58.53	0.0025	0.0028	0.0025	.	0.024	0.0005	0.021	0.0230	0.0039	(0.0051)
1	SRM 1124	3.363	0.3112	35.19	(62.5)	.	.	(0.0202)	(0.0014)	0.2068	(0.0009)	0.0801	(0.0224)	0.02325	.
1	31X 7835-8B	3.22	0.451	21.55	72.7	0.219	0.151	0.101	0.313	0.0446	0.0102	0.157	0.154	0.110	.
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	31X CZ121A	3.01	0.1940	38.57	57.84	0.0034	0.0299	0.0046	.	0.167	0.0052	0.1028	0.0028	0.0050	(0.0030)
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	IARM 73C	2.97	0.256	35.1	61.3	(0.001)	(0.005)	0.011	(0.002)	0.199	(0.003)	0.095	(0.003)	0.008	(0.003)
1	BAM 375	2.90	0.2090	38.02	58.32	0.0270	0.0231	0.00686	0.01964	0.207	0.0222	0.1053	(0.00086)	0.0122	0.0211
1	<b>BS 360B</b>	2.77	0.15	35.7	(61.2)	(0.001)	0.002	.	(0.002)	0.117	0.0094	0.040	(0.002)	0.017	0.002
1	31X 7835-1T	2.72	0.349	33.49	63.09	0.0083	0.0059	0.0075	0.0021	0.157	.	0.1224	0.0112	(0.008)	(0.008)
1	31X B19R	2.49	0.0320	37.78	59.33	0.087	0.0129	0.0207	.	0.0296	0.0109	0.0218	0.0630	0.0105	0.0392
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 7835-2K	2.07	0.152	32.94	64.49	0.060	0.0280	0.0099	0.0290	0.0309	.	0.0462	0.0226	0.0358	0.0193
1	31X CZ132A * 2.1	2.1	0.15	40.5	Rem	0.001	0.01	.	.	0.16	.	0.05	.	0.005	0.005
2	HRT CU2015	2.00	0.19	.	57.57	.	.	.	.	0.14	.	0.04	0.004	.	.
1	31X CZ122A * 2.0	2.0	0.09	36.5	Rem	<0.001	0.15	.	.	0.06	0.001	0.03	.	0.01	0.005
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 7835-5A	1.64	0.116	6.23	91.25	0.078	0.104	.	.	0.126	.	0.249	0.114	.	.
1	31X 7835-3J	1.501	0.1032	35.57	61.81	0.1419	0.1023	0.0282	0.0046	0.2462	.	0.2938	0.0307	0.0916	(0.009)
1	31X 7835-6C	1.422	0.548	36.60	60.70	0.573	0.0152	0.0043	0.0048	0.0211	.	0.021	0.0253	.	0.0214
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 7835-4J	1.049	0.070	30.36	67.13	0.525	0.142	0.0169	0.0027	0.0350	.	0.477	0.121	0.068	.
1	31X 7835-9A	1.024	1.48	14.34	78.48	0.092	0.107	0.81	0.0813	0.408	0.0009	0.100	0.0390	0.445	0.0232
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
<b>BS 836A-3</b>	0.023	.	.	(0.02)	.	.	.	.	0.041	.	.	cont. cast 40 mm Ø x 15 mm
<b>BS 836A-4</b>	0.023	.	.	(0.002)	.	.	.	.	0.041	.	.	cont. cast 40 mm Ø x 15 mm
33X RB1A	0.0174	.	.	.	.	0.0013	0.0153	.	0.0044	.	.	chill cast 42 mm Ø x 17 mm
31X B20N	.	.	.	.	.	.	.	.	(0.004)	.	.	chill cast ~40 mm Ø x ~15 mm
SRM 1124	0.0131	.	.	.	0.00651	0.0155	.	.	(0.0031)	.	.	cont. cast 39 mm Ø x 19 mm
31X 7835-8B	0.549	.	.	.	0.0944	.	.	(0.2)	.	.	0.101	chill cast ~40 mm Ø x ~15 mm
CURM H30.24	.	.	.	.	.	.	.	.	.	.	.	50 mm Ø x 10 - 12 mm
31X CZ121A	0.0060	.	.	.	.	(0.0002)	.	.	.	.	.	wrought ~41 mm Ø x ~15 mm
33X RB2B	0.105	.	.	.	.	(0.0013)	.	.	0.069	.	0.0078	chill cast ~42 mm Ø x ~17 mm
IARM 73C	(0.006)	(0.0004)	.	(0.003)	0.0014	0.001	(0.001)	(0.0003)	(0.002)	.	.	31 mm Ø x 2 or 18 mm
BAM 375	0.0166	.	.	.	0.00859	.	.	.	.	.	0.00538	wrought 40 mm Ø x 30 mm
<b>BS 360B</b>	0.006	(0.0001)	(0.002)	.	.	(0.0001)	.	0.0007	(0.0005)	.	(0.002)	38 mm Ø x ~7 or 19+ mm
31X 7835-1T	0.0056	.	.	.	0.0020	.	.	.	.	.	0.0056	chill cast ~40 mm Ø x ~15 mm
31X B19R	.	.	.	.	0.0048	.	.	.	0.0019	.	(0.002)	~40 mm Ø x ~15 mm
31X 7835-7A	.	.	.	.	0.0047	.	.	.	0.0075	.	.	chill cast 40 mm Ø x ~15 mm
31X 7835-2K	0.0102	0.0023	.	.	0.0020	.	.	.	.	.	.	chill cast ~40 mm Ø x ~15 mm
31X CZ132A *	0.005	.	.	.	0.001	*	Provisional Analysis	.	.	.	.	wrought ~40 mm Ø x ~15 mm
HRT CU2015	.	.	.	.	.	.	.	.	.	.	.	40 mm Ø x 20 mm
31X CZ122A *	0.005	.	.	.	0.001	*	Provisional Analysis	.	.	.	.	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 7835-5A	.	.	.	.	.	.	.	.	.	.	.	chill cast 42 mm Ø x 18 mm
31X 7835-3J	0.0159	.	.	.	0.0031	.	.	.	.	.	(0.004)	chill cast ~40 mm Ø x ~15 mm last
31X 7835-6C	0.0044	0.0045	.	.	0.0017	.	.	.	(0.0016)	0.0010	(0.0010)	chill cast ~40 mm Ø x ~15 mm
31X CZ114A	.	.	.	.	.	.	.	.	.	.	.	wrought ~38 mm Ø x ~15 mm
BS 857B-1	(0.002)	.	.	.	.	.	.	.	.	.	.	cont. cast 38 mm Ø x 12 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 7835-4J	.	0.0021	.	.	0.0088	.	.	.	.	.	.	chill cast ~40 mm Ø x ~15 mm
31X 7835-9A	2.12	.	.	.	0.0673	.	.	.	0.0161	0.34	.	chill cast ~40 mm Ø x ~15 mm
31X CZ112A	0.0043	.	.	.	.	.	.	.	.	.	.	wrought ~41 mm Ø x ~15 mm

**CRM LEADED BRASS SET**

available in SET/5 only

40 mm Ø x 30 mm

Number	Al	Bi	Cu	Fe	Mn	Ni	P	Pb	Sb	Si	Sn	Zn
IMN WG1	0.096	0.0013	60.99	0.0084	0.16	0.20	0.029	0.71	(0.062)	(0.0046)	0.29	Rem
IMN WG2	(0.00095)	0.016	56.99	0.42	(0.0024)	0.0051	.	2.66	(0.0024)	(0.021)	(0.0025)	Rem
IMN WG3	0.041	0.0057	58.20	0.31	0.037	0.029	0.013	2.29	0.018	(0.014)	0.091	Rem
IMN WG4	0.073	0.014	60.05	0.10	0.12	0.16	0.020	1.41	(0.042)	(0.016)	0.21	Rem # 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
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

**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 MNB12B	18.37	21.76	56.03	0.70	0.313	0.497	1.96	0.0487	0.194	0.0077	0.0040	0.0521	0.0072	.	204	14	13 C:0.0125
31X MNB4F	2.97	25.59	64.62	3.91	1.728	0.347	0.221	0.103	0.547	0.0125	0.0312	0.0274	0.018	131	.	.	.
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 MNB2D	2.08	31.30	63.75	0.272	0.548	0.118	0.983	0.579	0.289	0.0201	0.0086	0.0246	0.0177	410	.	.	.
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 MNB5R	0.175	37.11	55.14	3.24	0.898	1.32	0.157	0.528	1.228	0.0021	0.066	0.0399	(0.006)	195	.	.	116

**CRM MANGANESE BRASS DISC AND ROD SETS**

available in SETS ONLY, as grouped

IMN MA: 10 mm Ø x 100 mm

IMN WF: 44 mm Ø x 30 mm

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

**NAVAL BRASS**

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

31X NB: 42 mm Ø x ~15 mm

BS: 38 mm Ø x see below

CURM: 50 mm Ø x 10-12 mm

IARM 74: 31 mm Ø x 18 mm

#	Number	Sn	Pb	Zn	Cu	Al	As	Bi	Fe	Mn	Ni	P	S	Sb	Si	Ag	B	Co
2	CURM 42.25	2.72	0.0023	39.20	57.78	0.021	0.118	<0.001	0.003	0.169	<0.001	0.050	0.005	<0.001	<0.001	.	.	.
2	CURM 42.24	2.25	0.91	33.75	62.45	0.067	0.065	0.054	0.066	0.065	0.025	0.226	0.012	0.060	0.093	.	.	.
2	C42.25	2.2	<0.01	rem	58.5	0.02	0.10	<0.002	<0.005	0.13	<0.005	0.06	0.001	<0.005	<0.002	.	.	.
1	31X NB 4J	2.01	0.067	32.57	63.71	0.178	0.062	0.104	0.235	0.0053	0.230	0.230	(0.0032)	0.450	0.203	.	0.0009	.
1	31X NB 3H	1.67	0.197	24.64	72.45	0.094	0.074	0.093	0.113	0.0166	0.0299	0.150	(0.006)	0.265	0.145	.	0.0026	.
2	CURM 42.23	1.63	0.575	22.13	74.36	0.008	0.168	0.034	0.354	0.019	0.168	0.128	0.045	0.356	0.015	.	.	.
2	CURM 42.22	1.10	1.10	26.32	70.46	0.042	0.217	0.046	0.23	0.122	0.061	0.177	<0.001	0.173	0.042	.	.	.
1	31X NB 2H	1.009	0.239	35.47	62.21	0.168	0.0970	0.100	0.112	0.151	0.0578	0.139	0.0019	0.099	0.107	.	.	.
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	IARM 74B	0.70	0.017	38.9	60.4	0.003	<0.01	.	0.011	<0.01	0.006	(0.008)	(0.003)	0.003	0.003	.	.	.
1	<b>BS 464B</b>	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	0: 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)
1	IARM 74A	0.50	0.02	38.14	.	<0.01	.	.	0.01	<0.01	0.01	0.006	0.001	<0.01	.	.	.	.

**BS 464B** is **17025****CRM NAVAL BRASS SET**

available in SET/5 only

40 mm Ø x 25 mm

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

## CRM NICKEL AND PHOSPHOR BRASS

analysis listed in mass %

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

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

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

## SILICON BRASS

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

\* Provisional Analysis

Number	Si	Zn	Cu	Al	Fe	Mn	Ni	P	Pb	Sb	Sn
2 CTIF LS2	4.91	11.60	79.60	0.156	1.022	0.220	1.110	0.064	0.886	0.0103	0.338
1 31X WSB6E	3.60	0.450	94.47	0.0311	0.088	0.900	0.1114	0.0206	0.225	0.0022	0.071
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 151B	3.11	12.94	84.0	0.002	0.024	0.002	0.011	0.003	0.013	.	0.009
1 IARM 313A	3.09	21.3	75.4	(0.001)	0.011	(0.001)	(0.002)	0.09	0.042	0.014	0.006

Number	Ag	As	B	C	Cd	Co	Cr	S	Zr	Units
CTIF LS2	.	.	.	.	.	.	.	.	.	60 mm Ø x 5 mm
31X WSB6E	.	0.0048	.	.	0.0004	0.0079	.	.	.	-40 mm Ø x ~15 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 151B	.	.	.	.	.	.	(0.003)	<0.001	.	31 mm Ø x 2 or 18 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 or 18 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
31X HT38A	58.77	36.66	0.960	0.0530	2.60	0.869	0.0008	0.003	0.0242	0.0024	0.051	(0.001)	(0.0006)	0.039	50 mm Ø x 18 mm

**RM BRONZE MUSHROOMS**

chill cast typical analysis 60 mm Ø x 5 mm

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

Number	Sn	Zn	Cu	Al	As	Fe	Mn	Ni	P	Pb	S	Sb	Si
--------	----	----	----	----	----	----	----	----	---	----	---	----	----

**CRM BRONZE SETS**

AVAILABLE IN SETS ONLY, as grouped

IMN: 40 mm Ø x ~30 mm

VS: 40 mm x 40 mm x 25 mm

Number	Al	Be	Bi	Cu	Fe	Ni	P	Pb	S	Sb	Se	Si	Sn	Zn
IMN BM1	0.596	.	0.538	Rem	1.08	0.518	0.00443	0.0241	0.0630	0.00431	0.0125	1.40	0.00551	0.351
IMN BM2	0.188	.	0.201	Rem	0.507	1.27	0.00973	0.0163	0.191	0.549	0.0956	0.985	0.0162	0.0565
IMN BM3	0.109	.	0.104	Rem	0.00679	2.18	0.0941	0.00784	0.480	0.110	0.454	0.565	0.104	0.0198
IMN BM4	0.00840	.	0.0110	Rem	0.102	2.93	0.213	0.00231	0.0201	0.200	0.200	0.398	0.196	0.119
IMN BM5	0.00276	.	0.00658	Rem	0.0107	3.67	0.578	0.00134	0.0104	0.0152	(0.00554)	0.105	0.539	0.281
VS 3152-85	(0.19)	1.71	.	(97.5)	0.036	0.092	.	0.0028	.	.	.	0.086	0.18	(0.035)
VS 3153a-85	(0.14)	1.54	.	(97.3)	0.23	0.25	.	0.0035	.	.	.	0.14	.	.
VS 3154-85	(0.064)	2.44	.	(96.7)	0.28	0.23	.	0.0023	.	.	.	0.12	0.033	0.041
VS 3155-85	(0.027)	2.64	.	(96.2)	0.079	0.35	.	0.0060	.	.	.	0.23	0.083	0.13
VS 3156-85	(0.054)	3.2	.	(95.4)	0.14	(0.081)	.	0.011	.	.	.	0.30	0.061	0.23

**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**

available in SETS only, as grouped analysis listed in mass % except \* which is mg/kg

40 mm Ø x ~25-30 mm

Number	Al	As	Bi	Cd	Co	Cr*	Fe	Mg*	Mn	Ni	P	Pb	S	Sb	Si	Sn	Zn
IMN BF1	10.90	0.061	0.00042	.	.	.	(6.2)	.	0.0059	2.49	(0.012)	0.23	.	(0.002)	0.26	0.011	0.57
IMN BF2	9.96	0.050	0.0025	.	.	.	(5.4)	.	0.12	3.54	0.053	0.15	.	(0.013)	0.25	0.081	0.40
IMN BF3	9.58	0.038	0.0039	.	.	.	4.50	.	0.28	4.43	0.098	0.111	.	0.028	0.20	0.17	0.27
IMN BF4	9.12	0.022	0.0057	.	.	.	3.25	.	0.39	5.24	0.13	0.059	.	0.037	0.097	0.25	0.10
IMN BF5	8.35	0.0039	0.010	.	.	.	2.44	.	0.50	6.03	0.16	0.014	.	0.048	0.028	0.35	0.18
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
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
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
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
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
IMN BO1	3.16	0.00033	0.00030	0.00035	.	32.7	0.0158	.	0.0167	0.00517	(0.0004)	0.00384	.	0.00035	(0.00471)	2.54	7.10
IMN BO2	4.03	0.00199	0.00197	0.00182	.	3.7	0.00569	.	0.00102	0.00204	0.00227	(0.00214)	.	0.00226	0.00979	1.83	6.26
IMN BO3	4.67	0.00662	0.00660	0.00570	.	54.8	0.0752	.	0.00884	0.0683	0.00550	0.0537	.	0.00568	0.0552	1.17	5.07
IMN BO4	6.15	0.0115	0.0107	0.00881	.	91	0.137	.	0.00612	0.111	0.0100	0.102	.	0.0104	0.0951	0.704	4.28
IMN BO5	7.02	0.0161	0.0152	0.0134	.	145	0.218	.	0.0772	0.0355	0.0155	0.0299	.	0.0152	0.0135	0.117	3.08
IMN BJ1	2.88	0.011	0.013	0.016	0.027	.	0.011	58	0.60	6.97	0.0022	0.0025	0.021	0.0012	(0.11)	(0.11)	0.020
IMN BJ2	2.46	0.0089	0.0095	0.011	0.020	.	0.038	98	0.42	6.47	0.011	0.0043	0.014	0.0030	(0.091)	(0.080)	0.038
IMN BJ3	1.97	0.0072	0.0071	0.0076	0.014	.	0.12	65	0.21	5.87	0.014	0.0081	0.0082	0.0056	(0.047)	(0.049)	0.22
IMN BJ4	1.50	0.0031	0.0042	0.0048	0.0076	.	0.20	35	0.013	5.49	0.013	0.010	0.0049	0.0088	(0.015)	(0.014)	0.36
IMN BJ5	1.09	0.0018	0.0013	0.00075	0.0024	.	0.28	17	0.0030	5.00	0.019	0.017	0.0023	0.010	(0.0071)	(0.0034)	0.51

**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	32X ALB9C	13.52	81.64	0.0163	0.0206	3.12	0.090	0.159	0.628	0.096	0.267	0.235	0.0601	0.142
2	BS 954A	10.17	85.64	(0.006)	.	3.50	.	0.10	0.20	0.012	0.016	0.029	0.033	0.30
1	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
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	0.0032	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	IARM 81B	6.70	91.2	0.058	0.002	0.047	.	0.012	0.003	0.004	0.006	1.84	0.008	0.176
2	CURM 51.12	6.36	88.29	0.111	.	2.87	.	1.33	0.112	<0.001	0.219	0.005	0.196	0.45
1	32X 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
32X ALB9C	0.0417	.	.	0.0027	.	.	.	.	Te:0.0058	~40 mm Ø x ~15 mm
BS 954A	.	.	0.004	.	.	.	<0.0001	0.001	.	38 mm Ø x 12 mm last
32X CA 7A	0.0009	.	0.0028	0.0003	.	.	.	.	.	42 mm Ø x 18 mm
BS 623	.	.	(0.002)	.	.	.	(0.001)	<0.01	.	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
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 <b>17025</b>
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 <b>17025</b>
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)	.	(0.0003)	(0.001)	(0.0001)	38 mm Ø x ~7 or 19+ mm <b>17025</b>
IARM 81B	(0.004)	.	0.002	.	.	.	<0.001	0.003	.	31 mm Ø x 2 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 ALB10B	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
1	IARM 94B	10.8	80.6	<0.01	0.017	3.99	.	0.071	4.31	0.011	0.004	0.028	(0.003)	0.14
2	CURM 52.52	10.69	79.26	.	0.004	6.02	0.007	0.145	3.56	.	0.074	0.011	0.044	0.094
2	BS 955C	10.68	80.6	(<0.002)	.	4.04	.	0.06	4.31	0.012	0.003	0.025	0.003	0.15
1	IARM 204A	10.55	83.3	(<0.01)	0.008	3.87	.	0.052	1.95	0.007	0.004	0.034	0.005	0.22
1	32X ALB2L	10.48	78.50	0.0062	0.052	4.628	0.0088	0.401	4.515	0.031	0.0685	0.198	0.0806	0.671
1	32X ALB3S	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 955B	10.30	81.5	(0.002)	.	3.79	.	0.12	4.11	0.017	0.051	0.05	0.024	0.052
2	BS 954C	10.21	83.9	(0.006)	.	3.9	.	0.29	1.38	0.011	0.050	0.07	0.08	0.09
2	BS 954B	10.20	83.9	(0.005)	.	3.90	.	0.27	1.38	0.012	0.047	0.07	0.07	0.10
2	BS 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	<b>BS 630C</b>	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	32X CA 1A	9.79	80.03	.	0.0049	4.63	0.0003	0.296	4.94	0.003	0.007	0.090	0.0180	0.162
1	<b>BS 630B</b>	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
2	C52.55	9.3	Rem	.	0.05	4.9	0.13	1.1	4.6	.	0.14	0.03	0.03	0.10
2	BS CC954	9.28	84.0	0.003	.	3.61	.	0.353	1.12	0.013	0.13	0.092	0.061	1.30
1	32X CA23A	9.19	81.05	.	0.0018	3.63	0.0003	1.298	4.71	0.0011	(0.0026)	0.026	0.0164	0.031
1	32X CA31A	8.95	82.24	.	0.0026	4.06	0.0008	0.336	4.28	(0.003)	(0.0024)	0.036	0.0037	0.041
2	C52.56	8.9	Rem	.	0.14	4.6	0.09	0.74	5.6	.	0.17	0.15	0.11	0.28
1	IARM 235A	8.9	81.2	<0.005	0.01	4.07	.	1.17	4.44	0.012	0.012	0.061	0.018	0.083
1	32X ALB 11B	8.85	80.38	.	.	3.99	0.072	1.290	4.44	0.0249	0.0316	0.015	0.0062	0.508
1	32X ALB 11A	8.80	80.58	.	.	3.81	0.075	1.13	4.33	0.045	0.118	0.069	0.0289	0.576
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
1	32X ALB 4H	7.87	79.61	0.0130	0.022	3.55	0.153	1.028	7.03	0.036	0.120	0.252	0.085	0.264
2	CURM 52.54	7.85	81.59	.	<0.005	3.31	<0.005	1.20	5.40	.	0.086	0.022	0.135	0.39
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 5J	6.91	84.61	0.064	0.0056	2.22	0.0176	1.21	4.14	0.048	0.093	0.086	0.062	0.487
1	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

#	Number	Al	Cu	As	Cr	Fe	Mg	Mn	Ni	P	Pb	Si	Sn	Zn
	<b>BS 630C</b>													
	32X CA 1A													
	<b>BS 630B</b>													
	IARM 334A													
	IARM 80D													
	32X ALB 6K													
	C52.55													
	BS CC954													
	32X CA23A													
	32X CA31A													
	C52.56													
	IARM 235A													
	32X ALB 11B													
	32X ALB 11A													
	32X ALB 12A													
	32X ALB 4H													
	CURM 52.54													
	32X ALB 13A													
	32X ALB 5J													
	32X ALB 8E													
Number	Ag	Be	Bi	C	Co	S	Sb	Se	Units					
32X ALB10B	0.0144	.	.	.	0.0984	.	.	Te:0.0108	~40 mm Ø x ~15 mm					
IARM 94B	0.017	.	.	(0.006)	0.011	0.002	(0.011)	.	31 mm Ø x 2 or 18 mm					
CURM 52.52	.	.	.	.	.	.	.	.	50 mm Ø x 10 - 12 mm					
BS 955C	0.014	.	.	.	.	.	(<0.002)	.	38 mm Ø x ~7 or 19+ mm					
IARM 204A	0.009	.	.	0.006	0.008	(0.002)	(<0.01)	.	31 mm Ø x 2 or 18 mm					
32X ALB2L	0.018	.	.	.	0.198	.	.	Nb:0.070	~40 mm Ø x ~15 mm					
32X ALB3S	0.0272	.	.	.	0.0760	.	.	Nb:0.018	~40 mm Ø x ~15 mm					
BS 955B	(0.009)	.	.	.	.	0.002	(0.002)	.	38 mm Ø x 12 mm					
BS 954C	.	.	.	(0.004)	.	(<0.0005)	<0.003	.	38 mm Ø x ~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	last	38 mm Ø x 12 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)	0.005	(0.003)	0.0008	(0.004)	(0.004)	31 mm Ø x 2 or 18 mm					
<b>BS 630C</b>	.	<0.0005	.	0.0060	0.0019	<0.0005	0.0003	.	38 mm Ø x ~7 or 19 mm+	<b>17025</b>				
32X CA 1A	0.0012	.	.	(0.007)	.	.	.	.	42 mm Ø x 18 mm					
<b>BS 630B</b>	.	<0.0005	.	0.0067	0.0017	0.0013	<0.0005	.	38 mm Ø x ~7 or 19 mm+	<b>17025</b>				
IARM 334A	(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					
C52.55	.	.	.	.	.	.	.	.	50 mm Ø x 10 - 12 mm					
BS CC954	.	.	.	(0.007)	.	(0.002)	0.004	.	32 mm Ø x 17 mm					
32X CA23A	0.0008	.	.	(0.0050)	(0.0036)	.	.	.	50 mm Ø x 18 mm					
32X CA31A	0.0008	.	.	0.006	0.0029	.	.	.	42 mm Ø x 18 mm					
C52.56	.	.	.	.	.	.	.	.	50 mm Ø x 10 - 12 mm					
IARM 235A	<0.005	.	.	0.009	0.01	0.002	(0.004)	.	31 mm Ø x 2 or 18 mm					
32X ALB 11B	.	0.064	0.082	.	0.0180	.	0.203	0.007	40 mm Ø x 15 mm					
32X ALB 11A	.	0.0194	0.120	.	0.089	.	0.093	0.006	40 mm Ø x ~15 mm					
32X ALB 12A	0.044	.	.	.	0.0056	.	.	(0.0007)	~41 mm Ø x ~15 mm					
32X ALB 4H	.	.	.	.	.	.	.	.	42 mm Ø x ~10 mm					
CURM 52.54	.	.	.	.	.	.	.	.	50 mm Ø x 10 - 12 mm					
32X ALB 13A	.	.	.	.	0.0011	.	.	(0.0007)	~35 mm Ø x ~15 mm					
32X ALB 5J	.	.	.	.	0.0307	.	.	.	42 mm Ø x 18 mm	last of stock				
32X ALB 8E	0.0099	.	.	.	0.554	.	0.024	.	~40 mm Ø x ~15 mm					

**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**

31 mm Ø x 2 mm

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

**MANGANESE BRONZE**

# = class, 1=CRM and 2=RM

BS 675B, 863B, 675A: 38 Ø x ~7 or 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	<b>BS 863B</b>	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	<b>BS 675B</b>	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 only

analysis listed in mass %

40 mm Ø x ~30 mm

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

PHOSPHOR BRONZE

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

#	Number	P	Sn	Zn	Cu	Mn	Ni	Pb	Al	As	Fe	Mg	S	Sb	Si
1	32X PB11G	0.946	3.306	1.71	90.44	0.132	0.898	0.995	0.081	0.198	0.399	0.0091	0.0148	0.584	0.123
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	32X PB20A	0.196	4.55	0.007	95.22	<0.005	0.0090	0.0045	<0.005	0.0011	0.0013	.	0.0030	0.0012	0.0046
1	IARM 78B	0.19	4.73	3.55	87.7	(0.002)	0.077	3.87	(0.002)	<0.003	0.02	.	0.010	0.01	<0.002
1	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 PB13F *	0.13	6.35	0.37	Rem	0.02	0.10	0.08	0.002	0.03	0.055	.	.	0.11	0.005
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 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	32X PB15A	0.0873	2.21	0.76	96.07	0.125	0.212	0.174	0.045	0.123	0.116	0.0275	.	0.026	0.043
1	32X PB12F	0.076	5.03	0.130	94.16	0.0014	0.205	0.0436	(0.0005)	0.0512	0.053	.	0.0108	0.1822	(0.002)
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)
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	0.29	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 PB10P	0.0030	12.37	0.256	87.14	(0.0004)	0.0130	0.0182	(0.0016)	0.0126	0.0043	.	0.0144	0.0134	(0.0006)
1	32X PB16A *	.	17.6	0.008	82	.	0.125	0.087	0.001	0.003	0.002	.	0.004	0.016	0.005

#	Number	P	Sn	Zn	Cu	Mn	Ni	Pb	Al	As	Fe	Mg	S	Sb	Si
---	--------	---	----	----	----	----	----	----	----	----	----	----	---	----	----

Number	Ag	Bi	C	Co	Cr	N	O	Se	Units
32X PB11G	.	0.0310	.	0.090	.	.	.	.	~40 mm Ø x ~15 mm
32X 51000A	0.0022	.	.	.	.	.	.	.	38 mm Ø x ~15 mm
33X 54400A	0.0124	.	.	0.0013	.	.	.	.	~38 mm Ø x ~15 mm
32X PB20A	.	.	.	.	.	.	.	.	38 mm Ø x 17 mm
IARM 78B	.	.	.	.	.	.	.	.	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 PB13F *	0.015	0.02	.	0.01	* Provisional Analysis	Te:0.02	.	.	~40 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 12 mm last of stock
CURM 54.02	.	.	.	.	.	.	.	.	50 mm Ø x 10-12 mm
32X PB13E	0.0205	0.0224	.	0.0088	.	.	.	.	~40 mm Ø x ~15 mm
32X PB15A	.	.	.	0.0509	.	.	.	.	40 mm Ø x ~15 mm
32X PB12F	0.0155	0.0647	.	0.0150	.	.	.	.	~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
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 PB10P	.	0.034	0.0062	.	.	.	.	0.0074	~40 mm Ø x ~15 mm
332X PB16A *	0.017	0.053	* Provisional Analysis	.	.	.	.	.	~40 mm Ø x ~15 mm

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

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
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

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 or 19 mm 17025
IARM 82B	.	.	.	<0.0005	(0.001)	0.003	<0.01	.	31 mm Ø x 2 or 18 mm
37X 65500A	0.0014	.	.	.	.	0.0010	.	.	~38 mm Ø x ~15 mm
BS 655A	.	.	.	.	.	(0.0006)	<0.002	.	38 mm Ø x 12 mm

CRM SILICON BRONZE SET

available in SET/6 ONLY, as grouped

40 mm Ø x 25 mm

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

LEADED, TIN, AND LEADED TIN BRONZE

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

Table with columns: #, Number, Sn, Pb, Zn, Cu, Al, Fe, Mn, Ni, P, S, Sb, Si. Lists various alloy compositions and their chemical percentages.

Table with columns: #, Number, Sn, Pb, Zn, Cu, Al, Fe, Mn, Ni, P, S, Sb, Si, Ag, As, Bi, C, Cd, Co, Cr, Mg, Se, Te, Units. Includes mechanical properties and unit specifications for various alloy classes.

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

available in SETS ONLY, as grouped

IMN BB: 10 mm Ø x 100 mm

IMN BL: 40 mm Ø x 27 mm

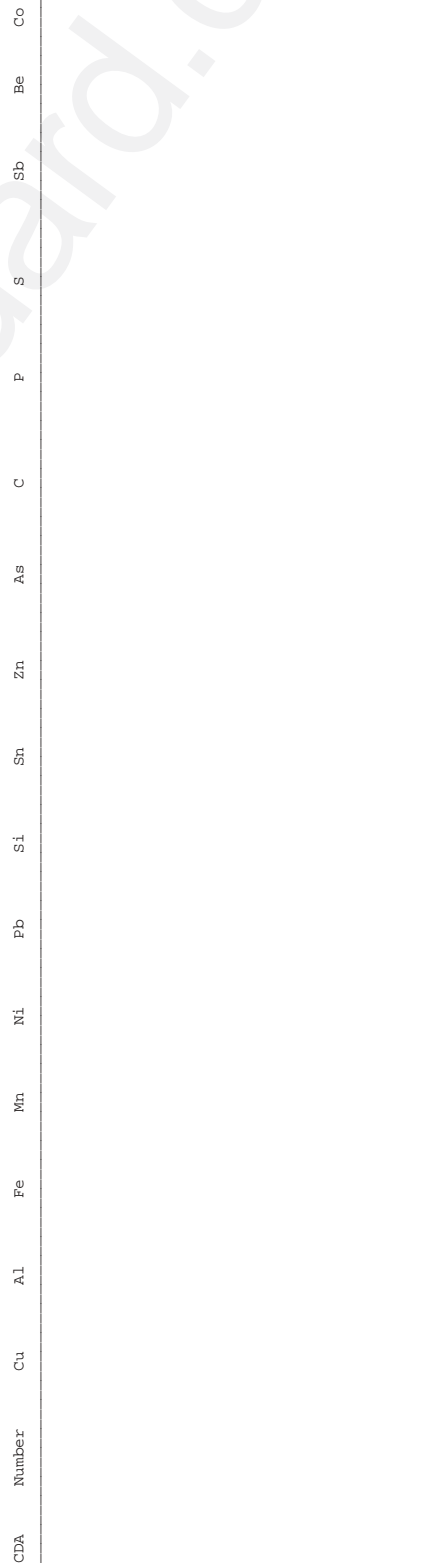
IMN BI, WL: 40 mm Ø x 25 mm

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	<b>BS 110B</b>	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
145	<b>BS 14500</b>	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)
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
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	<0.002	(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-3	88.4	(0.001)	0.008	(0.002)	0.61	1.33	(0.001)	5.8	.	0.001	.	0.026	.	0.002	.	Ag: (0.001)
929	<b>BS 929</b>	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
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



ALLOY	ISO?	NUMBER	ALLOY	ISO?	NUMBER	ALLOY	ISO?	NUMBER
110	17025	BS 110B	675		BS 675	945 MOD		CTIF B32
110		BS 110C	675		BS 675A	947		IARM 267A
110		IARM 70C	675	17025	BS 675B	952.2		CTIF 2152-S
122.2		CURM 09.03	675		IARM 83B	953		CTIF CA3
125		CURM 09.02	687		BAM 368	954		BS 954A
145	17025	BS 14500	693		IARM 313A	954		BS 954B
145	17025	BS 14500A	697		CTIF L3	954		BS 954C
145		IARM 278A	702.6		37X 218	954		BS CC954
172		BS 172Be-1	706		36X 70600A	954 MOD		IARM 204A
172		CTIF 4872	706		BS 706	955		BS 955B
173.0		36X CBC4	706		BS 706A	955		BS 955C
175	17025	BS 17500	706		BS 706B	955		IARM 94B
180		36X 274	706	17025	BS 706C	955 MOD		CTIF CA10
181.50	17025	BS 18150	706		CTIF CuNi 10	955.1		IARM 334A
181.50	17025	BS 18150A	706		IARM 84C	955.1		IARM 334B
181.55		36X CCR1	706		HRT CU2014	955.1 MOD		CTIF CA22
182		IARM 279A	710		36X CN3	956		32X CA12
240		C30.07	713		BAM 389	958		IARM 235A
260		C48.06	715		36X 71500	958.2		32X CA1
260		CURM 48.04	715		BS 715A	964		IARM 236A
261.3		C48.03	715		IARM 85C	976		IARM 298A
274		C38.06	715		SRM 1276a	997.5		31X MNB12
274		C38.06-1	762		34X NS2	Coinage Alloy		36X CN21
280		C30.03	767		C65.28	Coinage Alloy		36X CN23
280		C30.12	770		34X NS5	Cu IX		SRM C1252a
314		IARM 72B	798.3		34X 79830	Cu VIII		SRM C1251a
316		31X 7835-7	815		IARM 158B	Cu X		SRM C1253a
360	17025	BS 360B	815		IARM 158C	Envirobrass 2-1		IARM 226A
360		IARM 73C	836		33X GM5	Envirobrass 2-2		IARM 227A
360		SRM 1124	836	17025	BS 836A-3	Envirobrass 2-3		IARM 228A
370		31X B18	836	17025	BS 836A-4	Federalloy I-836		IARM 265A
371		C30.22	838		33X GM8	Federalloy I-844		IARM 264A
464		BS 464A	838.1		33X RB1	Federalloy I-848A		IARM 263A
464	17025	BS 464B	855		31X TB3	Federalloy III-932		IARM 266A
464		IARM 74A	855		C38.01	NARloy-A		IARM 159A
464		IARM 74B	855		C38.02	NARloy-Z		IARM 160A
482		BS 482A	855		C38.03	Purity		BAM EB385
482		IARM 75B	855		C38.04	Purity		BAM EB386
482		IARM 75C	855		C38.05	Spinodal Alloy		36X SP1
485		IARM 76D	857		BS 857B-1	Spinodal Alloy		36X SP2
510		32X PB20	857		BS 857B-2			
510		32X 51000	857		BS 857B-3			
510		BS 510A	857		BS 857B-4			
510	17025	BS 510B	862		CTIF LH7			
510		IARM 77B	863	17025	BS 863B			
512		32X 92100	863		IARM 88C			
521		32X 52100	873		31X WSB6			
521		HRT CU2016	875		IARM 151B			
524		C11.04	893.2, Magnolia B		IARM 211A			
544		33X 54400	902		BAM 377			
544	17025	BS 544B	903		BS 903B			
544		IARM 78B	903	17025	BS 903D			
610 MOD		31X B17	903	17025	BS 903E			
614		32X 61400	903		IARM 89C			
615.5		36X CN22	905		BS 905A-1			
622		CTIF 2154-V	905		BS 905A-2			
623		32X CA7	905		BS 905A-3			
623		BS 623	905		BS 905A-4			
623		BS 623A	905		BS CC905			
623		IARM 79B	907		IARM 310A			
623		IARM 79C	910 MOD		CTIF B1			
624		32X ALB3	922		BS 922B-1			
624		C52.51	922		BS 922B-2			
624		CTIF 3011-G	922		BS 922B-3			
624		CTIF CA21	922		BS 922B-4			
630		32X CA23	922		BS 922B-5			
630		BS 630A	927.1		32X SN1			
630	17025	BS 630B	929	17025	BS 929			
630	17025	BS 630C	931 MOD		C71.34			
630		IARM 80D	932	17025	BS 932F			
632		32X CA31	932	17025	BS 932G			
642	17025	BS 642B	932		BS 932H			
642	17025	BS 642C	932		IARM 91E			
642	17025	BS 642D	932 MOD		CTIF B23			
642		IARM 81B	936	17025	BS 936			
655		37X 65500	936		CTIF B31			
655		BS 655A	937		32X 93700			
655	17025	BS 655B	937	17025	BS 937C			
655	17025	BS 655C	937		CURM 50.02			
655		IARM 82B	937		IARM 92C			
673		31X HT37	938		BS 938-1			
674		31X HT38	941		IARM 184A			

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

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

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





Alloy	Notes	Cu	Ag	Al	Fe	Mn	Ni	P	Pb	S	Sb	Si	Sn	Zn	As	Be	Bi	Co	Cr	Mg	Ti	Zr	
197.1	Ni<0.10	rem			0.30-1.20	<0.05	<0.05	0.10-0.40	<0.05				<0.02	<0.20				<0.05		0.01-0.20			
197.2	Ni<0.10	rem			0.05-0.40	<0.05	<0.10	0.07-0.15	<0.05				<0.20	<0.20						0.02-0.06			
197.5		rem			0.35-1.20	<0.05	<0.05	0.05-0.40	<0.05				0.05-0.40	<0.20				<0.05		0.05-0.20			
198		rem			0.02-0.50	<0.05	<0.05	0.01-0.10	<0.05				0.10-0.20	<0.20						0.01-0.20			
198.1		rem			1.5-3.0			<0.10						1.0-5.0				<0.10		<0.10	<0.10	<0.10	
199	>99.50													rem							2.9-3.4		
205		97.0-98.0			<0.05				<0.02					rem									
210		94.0-96.0			<0.05				<0.03					rem									
220		89.0-91.0			<0.05				<0.05					rem									
226		86.0-89.0			<0.05				<0.05					rem									
230		84.0-86.0			<0.05				<0.05					rem									
230.3		81.5-85.5			<0.05				<0.05			0.20-0.40		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	<0.05				<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									
261.3		68.5-71.5			<0.05				<0.05					rem	0.02-0.08								
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					rem									
282		58.0-61.0		<0.005	<0.05			0.12-0.22	<0.03				<0.05	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		1.3-2.5					rem									
316		87.5-90.5			<0.10		0.7-1.2	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			<0.07				0.30-0.70					rem	0.02-0.06								
330		65.0-68.0			<0.06				0.25-0.70					rem									
331		65.0-68.0			<0.06				0.8-1.5					rem									
332		65.0-68.0			<0.07				1.5-2.5					rem									
335		62.0-65.0			<0.15				0.25-0.70					rem									
335.3		62.5-66.5			<0.10				0.30-0.80					rem	0.02-0.06								
340		62.0-65.0			<0.15				0.8-1.5					rem									
342		62.0-65.0			<0.15				1.5-2.5					rem									
344		62.0-66.0			<0.10				0.50-1.00					rem									
345		62.0-65.0			<0.15				1.5-2.5					rem									
347		62.5-64.5			<0.10				1.0-1.8					rem									
348		61.5-63.5			<0.10				0.40-0.80					rem									
349		61.0-64.0			<0.10				0.10-0.50					rem									
350		60.0-63.0			<0.15				0.8-2.0					rem									
353		60.0-63.0			<0.15				1.5-2.5					rem									
353.3		60.5-64.0			<0.15				1.5-3.5					rem	0.02-0.25								
353.4		60.0-63.0			0.10-0.30				1.5-2.5					rem									
356		60.0-63.0			<0.15				2.0-3.0					rem									
360		60.0-63.0			<0.35				2.5-3.7					rem									
362		60.0-63.0			<0.15				3.5-4.5					rem									
365		58.0-61.0			<0.15				0.25-0.70				<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			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				<0.25	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		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		56.0-60.0							2.5-4.5					rem									
385.9		56.5-60.0			<0.35				2.0-3.5					rem									
386		56.0-59.0			<0.35				2.5-3.5					rem									
404		94.0-96.0			<0.05				<0.05					0.35-0.70									
405		94.0-96.0			<0.05				<0.05					0.7-1.3									
408.1		94.0-96.0			<0.05				<0.05					1.8-2.2									
408.2		94.5-96.5			0.08-0.12				<0.05					1.8-2.2									
408.5		>94.00			0.10-0.12				0.02-0.04					1.0-2.5									
408.6		94.5-96.5			0.05-0.20				0.02-0.04					0.20-2.50									
408.6		94.0-96.0			0.01-0.05				0.02-0.04					rem									
409		92.0-94.0			<0.05				<0.05					0.50-0.80									
410		91.0-93.0			<0.05				<0.05					2.0-2.8									
411		89.0-92.0			<0.05				<0.10					0.30-0.70									
411.2		89.0-92.0			0.05-0.20				<0.05					0.30-0.70									
413		89.0-93.0			<0.05				<0.10					rem									
415		89.0-93.0			<0.05				<0.10					1.5-2.2									
419		89.0-92.0			<0.05				<0.10					4.8-5.5									
420		88.0-91.0			<0.05				<0.10					1.5-2.0									
421		87.5-89.0			<0.05	0.15-0.35			<0.25					1.5-3.0									
422		86.0-89.0			<0.05				<0.35					2.2-3.0									
422.2		88.0-91.0			0.05-0.20				<0.05					0.8-1.4									
425		87.0-90.0			<0.05				0.02-0.05					0.7-1.4									
425.2		88.0-91.0			0.05-0.20				<0.35					1.5-3.0									
426		87.0-90.0			0.05-0.20				0.02-0.04					1.5-3.0									
430	Ni = Ni+Co	84.0-87.0			<0.05				0.02-0.05					1.7-2.7									
432		85.0-88.0			<0.05				<0.05					0.40-0.60									
434		84.0-87.0			<0.05				<0.05					0.40-1.00									
435		78.0-83.0			<0.05				<0.10					0.6-1.2									
436		80.0-83.0			<0.05				<0.05					0.20-0.50									
438		79.0-82.0			<0.05				<0.05					1.0-1.5									
442.5		73.0-76.0			<0.20				<0.10					0.50-1.50									
443		70.0-73.0			<0.06				<0.07					0.8-1.2									
444		70.0-73.0			<0.06				<0.07					0.8-1.2									
445		70.0-73.0			<0.06				<0.07					0.8-1.2									
454.5		65.0-66.0		0.20-0.40					0.02-0.10					0.10-0.30									
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					0.50-1.00									
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	0.05-0.15			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					1.2-2.0									
485		59.0-62.0			<0.10				1.3-2.2					0.50-1.00									
485.1		59.0-62.0			<0.10				1.0-2.5					0.50-1.00									
486		59.0-62.0			<0.10				1.0-2.5					0.7-1.5									
486		59.0-62.0			<0.10				1.0-2.5					0.8-1.5									
490.8		49.0-52.0		<0.10	<0.05				<0.50					3.0-4.0									
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				<0.05					0.10-0.25									
505.8		rem			0.05-0.20				<0.05					1.0-1.7									
505.9		>97.00			0.05-0.40				<0.02					0.5-1.5									
507		rem			<0.10				<0.05					<0.50									
507.05		>96.50			0.10-0.40				<0.02					<0.50									
507.1		rem			<0.10				<0.05					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				<0.02					1.5-3.0									
508		rem			<0.10				<0.05					1.7-2.3									
509		rem			<0.10				<0.05					2.6-3.4									
509		rem			<0.10				<0.05					2.5-3.8									
510		rem			<0.10				<0.05					4.2-5.8									
510.8		rem			0.05-0.20				<0.05					4.8-5.8									
511		rem			<0.10				<0.05					3.5-4.9									
511.8		rem			0.05-0.20				<0.05					<0.30									
511.9		rem			0.05-0.15				<0.02					3.0-6.5									
511.9		rem			0.05-0.15				<0.02					<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	

Alloy	Notes	Cu	Ag	Al	Fe	Mn	Ni	P	Pb	S	Sb	Si	Sn	Zn	As	Be	Bi	Co	Cr	Mg	Ti	Zr
518		rem		<0.01	<0.10			0.10-0.35	<0.02				4.0-6.0	<0.30								
519		rem			0.05-0.20			0.03-0.35	<0.05				5.0-7.0	<0.30								
521		rem			<0.10		0.05-0.20	0.03-0.35	<0.05				7.0-9.0	<0.20								
521.8		rem			0.05-0.20		0.05-0.20	0.02-0.10	<0.05				7.0-9.0	<0.30								
524		rem			<0.10			0.03-0.35	<0.05				9.0-11.0	<0.20								
524.8	Cu+Mn+P+Sn >99.5	rem			0.05-0.20		0.05-0.20	0.02-0.10	<0.05				9.0-11.0	<0.30								
526		rem			<0.10	1.0-2.0		0.03-0.35	<0.05				2.2-3.3	<0.20								
529		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								
548	Cu+P+Fe+Sn >99.5				<0.10			0.01-0.50	3.5-4.5				1.5-4.5	<0.30								
548	Cu+P+Fe+Sn >99.5				<0.10			0.03-0.35	4.0-6.0				4.0-6.0	<0.30								
551.8	Cu+P >99.85	rem						4.8-5.2														
551.81	Cu+P >99.85	rem						7.0-7.5														
552.8		rem	1.80-2.20					6.8-7.2														
552.81		rem	4.80-5.20					5.8-6.2														
552.82		rem	4.80-5.20					6.5-7.0														
552.83		rem	5.80-6.20					7.0-7.5														
552.84		rem	14.5-15.5					4.8-5.2														
552.85		rem	17.2-18.0					6.0-6.7														
566		rem	29-31		<0.50																	
606		rem		4.0-7.0																		
607		rem		2.3-2.9					<0.01				1.7-2.0									
608		rem		5.0-6.5	<0.10				<0.10					0.20-0.35								
610		rem		6.0-8.5	<0.50				<0.02					<0.10								
613		rem		6.0-7.5	2.0-3.0	<0.20	<0.15	<0.015	<0.01				0.20-0.50	<0.10								
614		rem		6.0-8.0	1.5-3.5	<1.00	1.8-2.2	<0.015	<0.01					<0.20								
615	Cu = Ag+Cu	rem		7.7-8.3					<0.015					<0.20								
615.5	Cu = Ag+Cu	rem		5.5-6.5	<0.20		1.5-2.5		<0.05					<0.80								
618	Cu = Ag+Cu	rem		8.5-11.0	0.50-1.50				<0.02					<0.10								
619	Cu = Ag+Cu	rem		8.5-11.0	3.0-4.5				<0.02					<0.80								
622	Cu = Ag+Cu	rem		11.0-32.0	2.0-4.2				<0.02					<0.10								
623	Cu = Ag+Cu	rem		8.5-10.0	2.0-4.0	<0.50	<1.0		<0.02					<0.25								
624	Cu = Ag+Cu	rem		10.0-11.5	2.0-4.5	<0.30								<0.25								
625	Cu = Ag+Cu	rem		12.5-13.5	3.5-5.0	<2.00			<0.02					<0.04								
625.8	Cu = Ag+Cu	rem		12.0-13.0	3.0-5.0				<0.02					<0.04								
625.81	Cu = Ag+Cu	rem		13.0-14.0	3.0-5.0				<0.02					<0.02								
625.82	Cu = Ag+Cu	rem		14.0-15.0	3.0-5.0				<0.02					<0.02								
627.3	Cu = Ag+Cu	rem		8.5-11.0	4.0-6.0	<0.50	4.0-6.0		<0.05					<0.40								<0.05
630	Cu = Ag+Cu	rem		9.0-11.0	2.0-4.0	<1.50	4.0-5.5							<0.20								
630.1	Cu = Ag+Cu	rem		9.7-10.9	2.0-3.5	<1.50	4.5-5.5							<0.30								
630.2	Cu = Ag+Cu	rem		10.5-11.5	4.0-5.5	<1.50	4.2-6.0		<0.03					<0.30								
632	Cu = Ag+Cu	rem		8.7-9.5	3.5-4.3	1.2-2.0	4.0-4.8		<0.02					<0.10								
632.3	Cu = Ag+Cu	75.9-84.5		8.5-9.5	3.0-5.0	<3.50	4.0-5.5		<0.02					<0.10								
632.8	Cu = Ag+Cu	rem		8.5-9.5	3.0-5.0	0.6-3.5	4.0-5.5		<0.02					<0.10								
633	Cu = Ag+Cu	rem		5.0-7.5	2.0-6.0	11.0-13.0	1.0-2.5		<0.02					<1.50								
633.8	Cu = Ag+Cu	rem		7.0-8.5	2.0-4.0	11.0-14.0	1.5-3.0		<0.02					<0.10								
634	Cu = Ag+Cu	rem		2.6-3.2	<0.15		<0.15		<0.05					0.25-0.45								
636	Cu = Ag+Cu	rem		3.0-4.0	<0.15		<0.15		<0.05					0.7-1.3								
638	Cu = Ag+Cu	rem		2.5-3.1	<0.20		<0.20		<0.05					1.5-2.1								
641.1	Cu = Ag+Cu	rem		8.0-11.0		<0.50			1.0-2.0													
642	Cu = Ag+Cu	rem		6.3-7.6	<0.30		<0.25		<0.05					1.5-2.2								
642.1	Cu = Ag+Cu	rem		6.3-7.0	<0.30		<0.25		<0.05					1.5-2.0								
642.5	Cu = Ag+Cu	rem		5.5-7.5	<1.00	<0.50			<0.05					1.5-3.0								
644	Cu = Ag+Cu	rem		3.5-4.5	<0.05		4.2-5.0		<0.03					0.8-1.3								
647	Cu = Ag+Cu	rem			<0.10		1.6-2.2		<0.10					0.40-0.80								
647.1	Cu = Ag+Cu	>95.00				<0.10	2.9-3.5							0.50-0.90								
647.2	Cu = Ag+Cu	rem					1.6-2.2							0.10-0.40								0.01-0.03
647.25	Cu = Ag+Cu	>95.00			<0.25		1.3-2.7		<0.01					0.20-0.80								<0.20
647.3	Cu = Ag+Cu	>93.50				<0.10	2.9-3.5		<0.05					1.0-1.5								<0.20
647.4	Cu = Ag+Cu	>95.00					1.0-2.0		<0.01					0.05-0.50								<0.05
647.5	Cu = Ag+Cu	rem			<1.00		1.0-3.0							0.10-0.70								<0.10
647.6	Cu = Ag+Cu	>93.50			0.10-0.40		0.40-2.50		<0.02					0.05-0.60								<0.10
647.8	Cu = Ag+Cu	>90.00				0.01-1.00	1.0-3.5		<0.02					0.20-0.90								<0.01
649	Cu = Ag+Cu	rem		<0.10	<0.10		<0.10		<0.05					0.8-1.2								<0.01
651	Cu = Ag+Cu	rem			<0.80				<0.05					1.2-1.6								<0.01
653	Cu = Ag+Cu	rem			<0.80				<0.05					0.8-2.0								<0.01
654	Cu = Ag+Cu	rem			<0.80				<0.05					2.0-2.6								<0.01
Alloy	Notes	Cu	Ag	Al	Fe	Mn	Ni	P	Pb	S	Sb	Si	Sn	Zn	As	Be	Bi	Co	Cr	Mg	Ti	Zr



Alloy	Notes	Cu	Ag	Al	Fe	Mn	Ni	P	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						<1.00							<0.05	
713	Cu = Ag+Cu	rem			0.40-1.00	<1.00	23.5-26.5						<1.00								
715	Cu = Ag+Cu	rem			0.40-1.00	<1.00	29.0-33.0	<0.02	<0.02				<1.50								
715.2	Cu = Ag+Cu	>65.00			0.40-1.00	<1.00	29.0-33.0	<0.03	<0.024				<0.05								
715.8	Cu = Ag+Cu, C <0.70	rem			<0.50	<0.30	29.0-33.0	<0.03	<0.024				<0.05								
715.81	Cu = Ag+Cu	rem			0.40-0.70	<1.00	29.0-32.0	<0.02	<0.003				<0.001	<0.001			<0.05		<0.10	0.20-0.50	
715.9	Cu = Ag+Cu, C<0.02, Hg<0.0005	rem			0.40-1.00	<1.00	29.0-31.0	<0.001	<0.003				<0.001	<0.001			<0.05			<0.001	
716.3	Cu = Ag+Cu, C<0.06	rem			0.40-1.00	0.50-1.50	30.0-32.0	<0.01	<0.08												
716.4	Cu = Ag+Cu, C<0.06	rem			1.7-2.3	1.5-2.5	29.0-32.0		<0.03												
717	Cu = Ag+Cu	rem			0.40-1.00		29.0-33.0		<0.03						0.30-0.70						
719	Cu = Ag+Cu, C<0.04	rem			<0.50	0.20-1.00	28.0-33.0	<0.02	<0.015				<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				<0.20								
723	Cu = Ag+Cu, C<0.03	rem			0.5-1.0	<1.00	15.0-18.0		<0.05				<1.00				0.30-0.70			<0.03	
724	Cu = Ag+Cu	rem			1.5-2.5	<1.00	11.0-15.0		<0.05				<0.05								
724.2	Cu = Ag+Cu, C<0.05	rem			1.0-2.0	3.5-5.5	13.5-16.5	<0.01	<0.15				<0.20				<0.50		0.05-0.40		
725	Cu = Ag+Cu	rem			<0.60	<0.20	8.5-10.5		<0.05				<0.50								
726	Cu = Ag+Cu	rem			<0.60	<0.20	3.5-4.5	<0.05	<0.05				<0.50								
729.5	Cu = Ag+Cu	91.0-93.0			<0.10	<0.10	7.0-8.0	<0.05	<0.05				<0.10								
729.5	Cu = Ag+Cu	rem			<0.50	0.05-0.30	8.5-9.50		<0.02				<0.05								
727	Cu = Ag+Cu, Nb <0.10	rem			<0.50	0.05-0.30	9.5-10.5	<0.005	<0.0025				<0.05			<0.001			0.005-0.15	<0.01	
728	Cu=Ag+Cu, Nb 0.1-0.3, B <0.001	rem			<0.10	0.05-0.30	9.5-10.5	<0.005	<0.0025				<0.05								
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		<0.05				<0.10								
732	Cu = Ag+Cu	rem			<0.25	<0.50	19.0-23.0		<0.05				<0.10								
733	Cu = Ag+Cu	rem			<0.06	<1.00	19.0-23.0		<0.05				<0.10								
735	Cu = Ag+Cu	70.5-73.5			<0.25	<0.50	16.5-19.5		<0.05				<0.10								
738	Cu = Ag+Cu	rem			<0.25	<0.50	11.0-13.0		<0.05				<0.10								
740	Cu = Ag+Cu	68.5-71.5			<0.25	<0.50	9.0-11.0		<0.05				<0.10								
743	Cu = Ag+Cu	69.0-73.5			<0.25	<0.50	14.0-16.0		<0.05				<0.10								
744	Cu = Ag+Cu	62.0-66.0			<0.25	<0.50	7.0-9.0		<0.05				<0.10								
744	Cu = Ag+Cu	62.0-66.0			<0.25	<0.50	7.0-9.0		<0.05				<0.10								
745	Cu = Ag+Cu	63.5-66.5			<0.25	<0.50	9.0-11.0		<0.05				<0.10								
752	Cu = Ag+Cu	63.5-66.5			<0.25	<0.50	16.5-19.5		<0.05				<0.10								
754	Cu = Ag+Cu	63.5-66.5			<0.25	<0.50	14.0-16.0		<0.05				<0.10								
757	Cu = Ag+Cu	63.5-66.5			<0.25	<0.50	11.0-13.0		<0.05				<0.10								
757.2	Cu = Ag+Cu	60.0-65.0			<0.25	0.05-0.30	11.0-13.0		<0.04				<0.10								
759	Cu = Ag+Cu, Ni = Ni+Co	60.0-65.0			<0.25	<0.50	17.0-19.0		<0.05				<0.10								
Alloy	Notes	Cu	Ag	Al	Fe	Mn	Ni	P	S	Sb	Si	Sn	Zn	As	Be	Bi	Co	Cr	Mg	Ti	Zr
760	Cu = Ag+Cu, Ni = Ni+Co	60.0-63.0			<0.25	<0.50	7.0-9.0		<0.10				rem								
761	Cu = Ag+Cu, Ni = Ni+Co	59.0-63.0			<0.25	<0.50	7.0-9.0		<0.10				rem								
762	Cu = Ag+Cu, Ni = Ni+Co	57.0-61.0			<0.25	<0.50	11.0-13.5		<0.10				rem								
763	Cu = Ag+Cu, Ni = Ni+Co	60.0-64.0			<0.50	<0.50	17.0-19.0	0.50-2.00					rem								
763.9	Cu = Ag+Cu, Ni = Ni+Co	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+Co	58.5-61.5			<0.25	<0.50	16.5-19.5		<0.05				rem								
766	Cu = Ag+Cu, Ni = Ni+Co	55.0-58.0			<0.25	<0.50	11.0-13.5		<0.10				rem								
767	Cu = Ag+Cu, Ni = Ni+Co	55.0-58.0			<0.25	<0.50	14.0-16.0		<0.10				rem								
770	Cu = Ag+Cu, Ni = Ni+Co	53.5-56.5			<0.25	<0.50	16.5-19.5		<0.05				rem								
770.1	Cu = Ag+Cu, Ni = Ni+Co	54.0-56.0			<0.30	0.05-0.35	17.0-19.0		<0.05				rem								
773	Cu = Ag+Cu, Ni = Ni+Co	46.0-50.0		<0.01	<0.30		9.0-11.0	<0.25					rem								
773.1	Cu = Ag+Cu, Ni = Ni+Co	46.0-56.0		<0.01		<0.50	9.0-11.0	<0.25					rem								
774	Cu = Ag+Cu, Ni = Ni+Co	43.0-47.0			<0.20	<0.25	12.0-14.0					<0.15	rem								
776	Cu = Ag+Cu, Ni = Ni+Co	42.0-45.0			<0.20	<0.25	12.0-14.0						rem								
782	Cu = Ag+Cu, Ni = Ni+Co	63.0-67.0			<0.35	<0.50	7.0-9.0		1.5-2.5				rem								
788	Cu = Ag+Cu, Ni = Ni+Co	63.0-67.0			<0.25	<0.50	9.0-11.0		1.5-2.0				rem								
790	Cu = Ag+Cu, Ni = Ni+Co	63.0-67.0			<0.35	<0.50	11.0-13.0		1.5-2.2				rem								
792	Cu = Ag+Cu, Ni = Ni+Co	59.5-66.5			<0.25	<0.50	11.0-13.0		0.8-1.4				rem								
793	Cu = Ag+Cu, Ni = Ni+Co	55.0-59.00			<0.50	<0.50	11.0-13.0		0.50-2.00				rem								
796	Cu = Ag+Cu, Ni = Ni+Co	43.5-46.5				1.5-2.5	9.0-11.0		0.8-1.2				rem								
796.2	Cu = Ag+Cu, Ni = Ni+Co	46.0-48.0				<0.50	8.0-11.0		0.50-2.00				rem								
798	Cu = Ag+Cu, Ni = Ni+Co	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+Co	46.0-48.0			<0.25	<0.50	8.0-11.0		2.0-3.5				rem								
798.2	Ni = Ni+Co	46.0-48.0			<0.50	<0.50	8.0-11.0		2.0-3.5				rem								
798.3	Cu=Ag+Cu, Ni=Ni+Co, B <0.02	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+Co	47.5-50.5			<0.25	<0.50	6.5-8.5		1.0-1.5				rem								
801	Cu = Ag+Cu, Ni = Ni+Co	>99.95											rem								
803	Cu = Ag+Cu, Ni = Ni+Co	>99.95											rem								
804.1	Cu = Ag+Cu, Ni = Ni+Co	>99.90	>0.034										rem								
805	Cu=Ag+Cu, Ni=Ni+Co, B <0.02	>99.75	>0.03																		

Alloy	Notes	Cu	Ag	Al	Fe	Mn	Ni	P	Pb	S	Sb	Si	Sn	Zn	As	Be	Bi	Co	Cr	Mg	Ti	Zr
815		>98.00		<0.10	<0.10				<0.02			<0.15	<0.10	<0.10					0.40-1.50			
815.4		>95.10		<0.10	<0.15		2.0-3.0		<0.02			0.40-0.80	<0.10	<0.10					0.40-1.50			
817		>94.20	0.80-1.20				0.25-1.50		<0.02										0.25-1.50			
818		>95.60	0.80-1.20																1.4-1.7			
820		>95.00		<0.10	<0.10		<0.20		<0.02			<0.15	<0.10	<0.10					2.4-2.7			
821		>95.50					0.25-1.50															
822		>96.50					1.0-2.0												0.25-1.50			
824		>96.40		<0.15	<0.20		<0.10		<0.02										0.20-0.40			
825		>95.50		<0.15	<0.25		<0.20		<0.02			0.20-0.35	<0.10	<0.10					0.35-0.70			
825.1		>95.50		<0.15	<0.25		<0.20		<0.02			0.20-0.35	<0.10	<0.10					1.0-2.0			
826		>95.20		<0.15	<0.25		1.0-1.5		<0.02			0.20-0.35	<0.10	<0.10					0.35-0.70			
827		>94.60		<0.15	<0.25		1.0-1.5		<0.02			0.20-0.35	<0.10	<0.10					0.35-0.70			
828		>94.80		<0.15	<0.25		<0.20		1.0-2.0										0.35-0.70			
833		92.0-94.0							1.0-2.0					2.0-6.0					0.35-0.70			
834		88.0-92.0							<0.50				<0.20	8.0-12.0					0.35-0.70			
834.1		88.0-91.0		<0.05	<0.05		<0.05		<0.50			<0.005	0.25-0.70	rem					0.35-0.80			
834.2		88.0-92.0		<0.05	<0.10		<0.10		<0.50			<0.005	0.25-0.70	rem					0.35-0.80			
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	5.5-7.5	5.5-7.5					1.65-1.75			
835		86.0-88.0		<0.008	<0.35		0.50-1.00	<0.03	3.5-5.5	<0.08	<0.25	<0.005	5.5-6.5	1.0-2.5					1.90-2.15			
835.2		rem			<0.30		<1.0		3.5-4.5		<0.25		3.5-4.5	1.5-4.0					1.90-2.15			
836		84.0-86.0		<0.005	<0.40		<1.0	<0.05	4.0-6.0	<0.08	<0.25	<0.005	4.0-6.0	4.0-6.0					2.25-2.45			
837		83.0-88.0		<0.005	<0.30		<0.30	<0.05	4.0-6.0	<0.08	<0.25	<0.005	4.0-6.0	4.0-6.0					2.25-2.45			
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					2.25-2.45			
838.1		83.8-88.0		<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					2.25-2.45			
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					2.25-2.45			
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					2.25-2.45			
844.1		78.0-82.0		<0.01	<0.40		<1.0	<0.20	7.0-9.0	<0.08	<0.25	<0.005	3.0-4.5	7.0-11.0					2.25-2.45			
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					2.25-2.45			
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					2.25-2.45			
852		70.0-74.0		<0.005	<0.60		<1.0	<0.02	1.5-3.8	<0.05	<0.20	<0.05	0.7-2.0	20.0-27.0					2.25-2.45			
852.1		70.0-75.0		<0.005	<0.80		<1.0		2.0-5.0			<0.005	1.0-3.0	rem	0.02-0.06				2.25-2.45			
853		68.0-72.0		<0.01	<0.80		<1.0		<0.50				<0.50	rem	0.02-0.06				2.25-2.45			
854		65.0-70.0		<0.35	<0.70		<1.0		1.5-3.8			<0.05	0.50-1.50	24.0-32.0					2.25-2.45			
855		59.0-63.0		<0.20	<0.20		<0.20		<0.20				<0.20	rem					2.25-2.45			
Alloy	Notes	Cu	Ag	Al	Fe	Mn	Ni	P	Pb	S	Sb	Si	Sn	Zn	As	Be	Bi	Co	Cr	Mg	Ti	Zr
856		59.0-63.0		<0.8	<0.20	<0.20	<0.20		<0.20				<0.20	rem								
857		58.0-64.0		0.20-0.80	<0.70	<0.50	<1.0		1.0-2.5			<0.05	0.50-1.50	32.0-40.0								
857.1		58.0-63.0		<0.50	<0.80	<0.50	<1.0		1.0-2.5			<0.05	0.50-1.50	32.0-40.0								
858		>57.00		4.5-5.5	<0.40	<0.25	<0.50	<0.01	<1.5	<0.05	<0.05	<1.50	<0.20	31.0-41.0	<0.05							
861		66.0-68.0			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		0.50-2.50	0.40-2.00	0.10-1.5	<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	rem								
867		53.0-60.0		1.0-3.0	1.0-3.0	1.0-3.5	<1.0		0.5-1.5				<1.50	30.0-38.0								
868		53.5-57.0		<2.0	1.0-2.5	2.5-4.0	2.5-4.0		<0.20				<1.00	rem								
872		>89.00		<1.5	<2.50	<1.50	<1.0		<0.50			1.0-5.0	<1.00	5.0								
873		>94.00		<0.8	<0.20	0.8-1.5			<0.20			3.5-4.5	<1.00	<0.25								
874		>79.00							<1.0			2.5-4.0		12.0-16.0								
874.1		>79.00		<0.8					<1.0			2.5-4.0		12.0-16.0								
874.2		>79.00		<0.8					<1.0		0.03-0.06	2.5-4.0		12.0-16.0								
874.3		>79.00		<0.8				0.03-0.06	<1.0			2.5-4.0		12.0-16.0								
875		>79.00		<0.5					<0.50			3.0-5.0		12.0-16.0								
875.1		>79.00		<0.50					<0.50			3.0-5.0		12.0-16.0								
875.2		>79.00		<0.50					<0.50			3.0-5.0		12.0-16.0								
875.3		>79.00		<0.50					<0.50			3.0-5.0		12.0-16.0								
876		>88.00			<0.20	<0.25			<0.50			3.5-4.5		4.0-7.0								
876.1		>90.00			<0.20	<0.25			<0.50			3.5-4.5		4.0-7.0								
878		>80.00		<0.15	<0.15	<0.15	<0.20	<0.01	<0.15	<0.05	<0.05	3.8-4.2	<0.25	12.0-16.0	<0.05							<0.01
879		>63.00		<0.15	<0.40	<0.15	<0.50	<0.01	<0.25	<0.05	<0.05	0.8-1.2	<0.25	30.0-36.0	<0.05							
893.2		87.0-91.0		<0.005	<0.20		<1.0	<0.30	<0.09	<0.08	<0.05	5.0-7.0	<1.00	4.0-6.0								
893.25		84.0-88.0		<0.005	<0.15		<1.0	<0.10	<0.10	<0.08	<0.50	<0.005	9.0-11.0	<1.00								
8																						





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 12.0-13.5	4.0-5.0 3.0-5.0	<1.50 <1.50	4.5-5.8 <0.50		<0.02			<0.10	<0.20	<0.20								
959		rem		1.0-1.8	0.7-1.0	0.7-1.0	9.0-11.0	<0.02	<0.01	<0.02		<0.50										
962	C <0.10, No <1.00	rem		0.50-1.50	0.25-1.50	0.25-1.50	18.0-22.0	<0.02	<0.01	<0.02		<0.50										
963	C <0.15, No 0.50-1.50	rem		0.25-1.50	0.25-1.50	0.25-1.50	28.0-32.0	<0.02	<0.03	<0.02		<0.50										
964	C <0.15, No 0.50-1.50	rem		0.8-1.1	0.8-1.1	0.8-1.1	29.0-33.0		<0.01			<0.15				0.40-0.70						
966		rem		<0.10	<0.50	0.05-0.30	9.5-10.5	<0.0025	<0.005	<0.0025	<0.02	<0.15				1.10-1.20					0.01-0.20	0.1-0.2
967	No 0.10-0.30, B <0.01	rem			<0.50	0.05-0.30	14.5-15.5		<0.02			<0.05					<0.001			0.005-0.15	<0.01	
969	No <0.10	rem			<0.50	0.05-0.40	11.0-15.5		<0.02			<0.30								<0.15		
969.5	No <0.10	rem			<0.50	0.05-0.40	11.0-15.5		<0.02			<0.30								<0.15		
973		53.0-56.0		<0.005	<1.50	<0.50	11.0-14.0	<0.05	8.0-11.0	<0.08	<0.35	<0.15	1.5-3.0	17.0-25.0								
974		58.0-61.0		<0.005	<1.50	<0.50	15.5-17.0		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	<0.20	<0.15	3.5-4.5	3.0-9.0								
978		64.0-67.0		<0.005	<1.50	<1.00	24.0-27.0	<0.10	1.0-2.5	<0.08	<0.50	<0.15	4.0-5.5	1.0-4.0								
982		73.0-79.0			<0.70		<0.50		21.0-27.0		<0.50		0.6-2.0	<0.50								
984		rem	<1.50		<0.70		<0.50	<0.10	26.0-33.0		<0.50		<0.50	<0.50								
986		60.0-70.0	<1.50		<0.35			<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									
988.4		rem			<0.35				40.0-44.0				1.0-5.0									
		rem			<0.35				44.0-56.0				1.0-5.0									
993	Incramet 800	rem		10.7-11.5	0.40-1.00		13.5-16.5		<0.02			<0.02	<0.05				1.0-2.0					
993.5		rem		9.5-10.5	<1.00	<0.25	14.5-16.0		<0.15					7.5-9.5								
994		rem		0.50-2.00	1.0-3.0	<0.50	1.0-3.5		<0.25			0.50-2.00		0.50-5.00								
995		rem		0.50-2.00	3.0-5.0	<0.50	3.5-5.5		<0.25			0.50-2.00		0.50-2.00								
996	C <0.05	rem		1.0-2.8	<0.20	39.0-45.0	<0.20		<0.02			<0.10	<0.10	<0.20				<0.20				
997	No 4.0-6.0	>54.00		0.50-3.00	<1.00	11.0-15.0	4.0-6.0		<2.0				<1.00	19.0-25.0								
997.5		55.0-61.0		0.25-3.00	<1.00	17.0-23.0	<5.0		0.50-2.50				0.50-2.50	17.0-23.0								

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

