

APPLICATION DATASHEET

Standard Designation For

WROUGHT ALLOYS

Last Update: June 25, 2006

Coppers
C10100 - C12000

Composition, percent maximum, unless shown as a range or a minimum

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Copper No.	Designation	Description	Cu(incl Ag)	Ag(%)	Ag(Troy oz)	As	Sb	P	Te	Other Named Elements
C10100 ⁽¹⁾	OFE	Oxygen-Free-Electronic	99.99min ⁽³⁾	--	--	.0005	.0004	.0003	.0002	.0005 Oxygen (2)
C10200 ⁽¹⁾	OF	Oxygen-Free	99.95min	--	--	--	--	--	--	.0010 Oxygen
C10300	OFXLP	Oxygen-Free Copper	99.95min ⁽⁴⁾	--	--	--	--	.001-.005	--	--
C10400 ⁽¹⁾	OFS	Oxygen-Free with Ag	99.95min	.027	8	--	--	--	--	.0010 Oxygen
C10500 ⁽¹⁾	OFS	Oxygen-Free with Ag	99.95min	.034	10	--	--	--	--	.0010 Oxygen
C10700 ⁽¹⁾	OFS	Oxygen-Free with Ag	99.95min	.085	25	--	--	--	--	.0010 Oxygen
C10800	OFLP	--	99.95min ⁽⁴⁾	--	--	--	--	.005-.012	--	--
C10910 ⁽¹⁾	--	--	99.95min	--	--	--	--	--	--	.005 Oxygen
C10920	--	--	99.90min	--	--	--	--	--	--	.02 Oxygen
C10930	--	--	99.90min	.044	13	--	--	--	--	.02 Oxygen
C10940	--	--	99.90min	.085	25	--	--	--	--	.02 Oxygen
C11000 ⁽¹⁾	ETP	Electrolytic Tough Pitch	99.90min	--	--	--	--	--	--	(5)
C11010 ⁽¹⁾	RHC	Remelted High Conductivity	99.90min	--	--	--	--	--	--	(5)
C11020 ⁽¹⁾	FRHC	Fire-Refined High Conductivity	99.90min	--	--	--	--	--	--	(5)
C11030 ⁽¹⁾	CRTP	Chemically Refined Tough Pitch	99.90min	--	--	--	--	--	--	(5)
C11040 ⁽¹⁾	--	--	99.90min	--	--	.0005	.0004	--	.0002	(6)
C11045	ETP	ETP	99.90min	--	--	.0005	.0004	--	.0002	(7)
C11100 ⁽¹⁾	ETP	Electronic	99.90min	--	--	--	--	--	--	(8)

Copper No.	Designation	Description	Cu(incl Ag)	Ag(%)	Ag(Troy oz)	As	Sb	P	Te	Other Named Elements
		Tough Pitch, Anneal Resistant								
C11300 ⁽¹⁾	STP	Tough Pitch with Ag	99.90min	.027	8	--	--	--	--	(5)
C11400 ⁽¹⁾	STP	Tough Pitch with Ag	99.90min	.034	10	--	--	--	--	(5)
C11500 ⁽¹⁾	STP	Tough Pitch with Ag	99.90min	.054	16	--	--	--	--	(5)
C11600 ⁽¹⁾	STP	Tough Pitch with Ag	99.90min	.085	25	--	--	--	--	(5)
C11700	--	--	99.9min ⁽⁹⁾	--	--	--	--	.04	--	.004-.02B
C12000	DLP	Phosphorus-Deoxidized, Low Residual P	99.90min	--	--	--	--	.004-.012	--	--

- (1) : This is a high conductivity copper which has, in the annealed condition a minimum conductivity of 100% IACS except for Alloy C10100 which has a minimum conductivity of 101% IACS.
- (2) : The following additional impurity maximum limits shall apply: Bi, 1ppm (.0001%); Cd, 1ppm (.0001%); Fe, 10ppm (.0010%); Pb, 5ppm (.0005%); Mn, 0.5ppm (.00005%); Ni, 10ppm (.0010%); Se, 3ppm (.0003%); Ag, 25ppm(.0025%);S, 15ppm (.0015%); Sn, 2ppm (.0002%); Zn, 1ppm (.0001%).
- (3) : Cu is determined by the difference between the impurity total and 100%. The Cu value is exclusive of Ag.
- (4) : Includes P.
- (5) : Oxygen and trace elements may vary depending on the process.
- (6) : The following additional maximum limits shall apply: Se, 2ppm (.0002%); Bi, 1.0ppm (.00010%); Group Total, Te + Se +Bi, 3ppm(.0003%). Sn, 5ppm (.0005%); Pb, 5ppm (.0005%); Fe, 10ppm (.0010%); Ni, 10ppm (.0010%), S, 15ppm (.0015%); Ag, 25ppm (.0025%);Oxygen,100-650ppm (.010-.065%). The total maximum allowable of 65ppm(.0065%) does not include oxygen.
- (7) : These total maximum limits shall apply; Se 2ppm(.0002%); Bi .5ppm (.00005%); Sn 5 ppm (.0005%); Pb 5ppm (.0005); Fe 10 ppm (.0010%); Ni 10ppm (.0010%); S 15 ppm (.0015%); Ag 25 ppm (.0025%); Oxygen 125 - 600ppm.
- (8) : Small amounts of Cd or other elements may be added by agreement to improve the resistance to softening at elevated temperatures.
- (9) : Includes B + P.

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Coppers
C12100 - C14181

Composition, percent maximum, unless shown as a range or a minimum

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Copper No.	Designation	Description	Cu(incl Ag)	Ag(%)	Ag(Troy oz)	As	Sb	P	Te	Other Named Elements
C12100	DLPS	Phosphorus-Deoxidized, Low Residual P	99.90min	.014	4	--	--	.005-.012	--	--
C12200 ⁽¹⁾	DHP	Phosphorus-Deoxidized, High Residual P	99.9min	--	--	--	--	.015-.040	--	--
C12210	--	--	99.90min	--	--	--	--	.015-.025	--	--
C12220	--	--	99.9min	--	--	--	--	.040-.065	--	--
C12300	DHPS	Phosphorus-Deoxidized, High Residual P	99.90min	.014	4	--	--	.015-.040	--	--
C12500	F RTP	Fire-Refined Tough Pitch	99.88min	--	--	.012	.003	--	.025 ⁽²⁾	.003Bi .004Pb .050Ni
C12510	--	--	99.9min	--	--	--	.003	.03	.025 ⁽²⁾	.005Bi .05Fe .020Pb .050Ni .05Sn .080Zn
C12900	FRSTP	Fire-Refined Tough Pitch with Ag	99.88min	.054	16	.012	.003	--	.025 ⁽³⁾	.003Bi .004Pb .050Ni
C13100	--	--	99.8min	--	--	--	--	--	--	--
C13150	--	Copper	99.5min	--	--	--	--	--	--	--

Copper No.	Designation	Description	Cu(incl Ag)	Ag(%)	Ag(Troy oz)	As	Sb	P	Te	Other Named Elements
C14180	--	--	99.90min	--	--	--	--	.075	--	.01Al .02Pb
C14181	--	--	99.90min	--	--	--	--	.002	--	.002Cd .005C .002Pb .002Zn

(1) : This includes oxygen-free Cu which contains P in an amount agreed upon.

(2) : .025 Te + Se.

(3) : Includes Te + Se.

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Coppers
C14200 - C15500

Composition, percent maximum, unless shown as a range or a minimum

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Copper No.	Designation	Description	Cu(incl Ag)	Ag(%)	Ag(Troy oz)	As	Sb	P	Te	Other Named Elements
C14200	DPA	Phosphorus-Deoxidized, Arsenical	99.4min	--	--	.15-.50	--	.015-.040	--	--
C14300	--	Cadmium Copper, Deoxidized	99.90min ⁽¹⁾	--	--	--	--	--	--	.05-.15Cd
C14410	--	--	99.90min ⁽²⁾	--	--	--	--	.005-.020	--	.05Fe .05Pb .10-.20Sn
C14415	--	--	99.96min ⁽²⁾	--	--	--	--	--	--	.10-.15Sn
C14420	--	--	99.90min ⁽³⁾	--	--	--	--	--	.005-.05	.04-.15Sn
C14500 ⁽⁴⁾	PTE	Tellurium-Bearing	99.90min ⁽⁵⁾	--	--	--	--	.004-.012	.40-.7	--
C14510	--	Tellurium-Bearing	99.85min ⁽⁵⁾	--	--	--	--	.010-.030	.30-.7	.05Pb
C14520	DPTE	Phosphorus-Deoxidized, Tellurium-Bearing	99.90min ⁽⁵⁾	--	--	--	--	.004-.020	.40-.7	--
C14530	--	--	99.90min ⁽⁶⁾	--	--	--	--	.001-.010	.003-.023	.003-.023Sn
C14700 ⁽⁴⁾	--	Sulfur-Bearing	99.90min ⁽⁷⁾	--	--	--	--	.002-.005 ⁽⁷⁾	--	.20-.50S
C15000 ⁽⁸⁾	--	Zirconium Copper	99.80min	--	--	--	--	--	--	.10-.20Zr
C15100 ⁽⁸⁾	--	--	99.80min	--	--	--	--	--	--	.05-.15Zr
C15150	--	--	99.90min	--	--	--	--	--	--	.015-.030Zr
C15500	--	--	99.75min	.027-.10	8-30	--	--	.040-.080	--	.08-.13Mg

(1) : Includes Cd. Deoxidized with Li or other suitable elements as agreed upon.

(2) : Includes Cu + Ag + Sn.

(3) : Includes Te + Sn.

Copper No.	Designation	Description	Cu(incl Ag)	Ag(%)	Ag(Troy oz)	As	Sb	P	Te	Other Named Elements
(4)		Includes oxygen free or deoxidized grades with deoxidizers (such as phosphorus, boron, lithium or others) in an amount agreed upon.								
(5)		Includes Te.								
(6)		Includes Ag + Sn + Te + Se								
(7)		Includes Cu + S + P.								
(8)		Cu + Sum of Named Elements, 99.9% min.								

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Coppers

C15715 - C15999

Composition, percent maximum, unless shown as a range or a minimum

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Copper No.	Designation	Description	Cu(incl Ag)	Al	Fe	Pb	O	B	Other Named Elements
C15715	--	--	99.62min	.13-.17 ⁽¹⁾	.01	.01	.12-.19 ⁽¹⁾	--	--
C15720	--	--	99.52min	.18-.22 ⁽¹⁾	.01	.01	.16-.24 ⁽¹⁾	--	--
C15725	--	--	99.43min	.23-.27 ⁽¹⁾	.01	.01	.20-.28 ⁽¹⁾	--	--
C15760	--	--	98.77min	.58-.62 ⁽¹⁾	.01	.01	.52-.59 ⁽¹⁾	--	--
C15815	--	--	97.82min	.13-.17 ⁽¹⁾	.01	.01	.19 ⁽¹⁾	1.2-1.8	--

(1) : All aluminum present as Al₂O₃; .04% oxygen present as Cu₂O with a negligible amount in solid solution with copper.

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High Copper Alloys

C16000 - C18099

Composition, percent maximum, unless shown as a range or a minimum

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Copper Alloy No.	Previous Trade Name	Cu(incl Ag)	Fe	Sn	Ni	Co	Cr	Si	Be	Pb	Other Named Elements
C16200 ⁽¹⁾	Cadmium Copper	Rem.	.02	--	--	--	--	--	--	--	.7-1.2Cd
C16500 ⁽¹⁾	--	Rem.	.02	.50-.7	--	--	--	--	--	--	.6-1.0Cd
C17000 ⁽¹⁾	Beryllium Copper	Rem.	--	--	--	.20min ⁽²⁾	--	.20	1.60-1.85	--	.20Al
C17200 ⁽¹⁾	Beryllium Copper	Rem.	--	--	--	.20min ⁽²⁾	--	.20	1.80-2.00	--	.20Al
C17300 ⁽¹⁾	Beryllium Copper	Rem.	--	--	--	.20min ⁽²⁾	--	.20	1.80-2.00	.20-.6	.20Al
C17410 ⁽¹⁾	Beryllium Copper	Rem.	.20	--	--	.35-.6	--	.20	.15-.50	--	.20Al
C17450 ⁽¹⁾	Beryllium Copper	Rem.	.20	.25	.50-1.0	--	--	.20	.15-.50	--	.20Al .50Zr
C17455 ⁽¹⁾	Beryllium Copper	Rem.	.20	.25	.50-1.0 ⁽³⁾	--	--	.20	.15-.50	.20-.6	.20Al .50Zr
C17460 ⁽¹⁾	Beryllium Copper	Rem.	.20	.25	1.0-1.4	--	--	.20	.15-.50	--	.20Al .50Zr
C17465 ⁽¹⁾	Beryllium Copper	Rem.	.20	.25	1.0-1.4 ⁽³⁾	--	--	.20	.15-.50	.20-.6	.20Al .50Zr
C17500 ⁽¹⁾	Beryllium Copper	Rem.	.10	--	--	2.4-2.7	--	.20	.4-.7	--	.20Al
C17510 ⁽¹⁾	Beryllium Copper	Rem.	.10	--	1.4-2.2	.3	--	.20	.2-.6	--	.20Al
C17530 ⁽¹⁾	Beryllium Copper	Rem.	.20	--	1.8-2.5 ⁽³⁾	--	--	.20	.20-.40	--	.6Al
C18000 ⁽¹⁾	--	Rem.	.15	--	1.8-3.0 ⁽⁴⁾	--	.10-.8	.40-.8	--	--	--
C18020 ⁽⁵⁾	--	Rem.	--	.05-.25	--	--	.10-.30	.05	--	--	.10-.30Zn

Copper Alloy No.	Previous Trade Name	Cu(incl Ag)	Fe	Sn	Ni	Co	Cr	Si	Be	Pb	Other Named Elements
C18030 ⁽⁵⁾	--	Rem.	--	.08-.12	--	--	.10-.20	--	--	--	.005-.015P
C18040 ⁽⁶⁾	--	Rem.	--	.20-.30	--	--	.25-.35	--	--	--	.005-.015P .05-.15Zn
C18045 ⁽⁵⁾	--	99.1min	--	.20-.30	--	--	.20-.35	.05	--	--	.15-.30Zn
C18050 ⁽⁷⁾	--	Rem.	--	--	--	--	.05-.15	--	--	--	.005-.015Te
C18070 ⁽⁷⁾	--	99.0min	--	--	--	--	.15-.40	.02-.07	--	--	.01-.40Ti
C18080 ⁽⁷⁾	--	Rem.	.02-.20	--	--	--	.20-.7	.01-.10	--	--	.01-.30Ag .01-.15Ti
C18090 ⁽⁸⁾	--	96.0min	--	.50-1.2	.30-1.2	--	.20-1.0	--	--	--	.15-.8Ti

(1) : Cu + Sum of Named Elements, 99.5% min.

(2) : Ni + Co, .20% min.: Ni + Fe + Co, .6% max.
Ni +

(3) : Ni value includes Co.

(4) : Includes Co.

(5) : Cu + Sum of Named Elements, 99.9% min.

(6) : Includes oxygen-free or deoxidized grades with deoxidizers (such as phosphorus, boron, lithium or others) in an amount agreed upon.

(7) : Cu + Sum of Named Elements, 99.8% min.

(8) : Cu + Sum of Named Elements, 99.85% min.

APPLICATION DATASHEET

Standard Designation For

WROUGHT ALLOYS

Last Update: June 25, 2006

High Copper Alloys

C18100 - C18835

Composition, percent maximum, unless shown as a range or a minimum

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Copper Alloy No.	Previous Trade Name	Cu(incl Ag)	Fe	Sn	Ni	Co	Cr	Si	Be	Pb	Other Named Elements
C18100 ⁽¹⁾	--	98.7min	--	--	--	--	.40-1.2	--	--	--	.03-.06Mg .08-.20Zr
C18135 ⁽¹⁾	--	Rem.	--	--	--	--	.20-.6	--	--	--	.20-.6Cd
C18140 ⁽¹⁾	--	Rem.	--	--	--	--	.15-.45	.005-.05	--	--	.05-.25Zr
C18145 ⁽¹⁾	--	Rem.	--	--	--	--	.10-.30	--	--	--	.10-.30Zn .05-.15Zr
C18150 ⁽²⁾	--	Rem.	--	--	--	--	.50-1.5	--	--	--	.05-.25Zr
C18200 ⁽¹⁾	Chromium Copper	Rem.	.10	--	--	--	.6-1.2	.10	--	.05	--
C18400 ⁽¹⁾	Chromium Copper	Rem.	.15	--	--	--	.40-1.2	.10	--	--	.005As .005Ca .05Li .05P .7Zn
C18600 ⁽¹⁾	--	Rem.	.25-.8	--	.25	.10	.10-1.0	--	--	--	.05-.50Ti .05-.40Zr
C18610 ⁽¹⁾	--	Rem.	.10	--	.25	.25-.8	.10-1.0	--	--	--	.05-.50Ti .05-.40Zr
C18661 ⁽¹⁾	--	Rem.	.10	.20	--	--	--	--	--	--	.10-.7Mg .001-.02P
C18665	--	99.0min	--	--	--	--	--	--	--	--	.40-.9Mn .002-.04P
C18700	Free-Machining Cu	99.5min ⁽³⁾	--	--	--	--	--	--	--	.8-1.5	--
C18835	--	99.0min ⁽¹⁾	.10	.15-.55	--	--	--	--	--	.05	.01P .30Zn

Copper Alloy No.	Previous Trade Name	Cu(incl Ag)	Fe	Sn	Ni	Co	Cr	Si	Be	Pb	Other Named Elements
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- (1) : Cu + Sum of Named Elements, 99.5% min.
(2) : Cu + Sum of Named Elements, 99.7% min.
(3) : Includes Pb.

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WROUGHT ALLOYS

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High Copper Alloys

C18900 - C19160

Composition, percent maximum, unless shown as a range or a minimum

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Copper Alloy No.	Previous Trade Name	Cu(incl Ag)	Fe	Sn	Ni	Co	Cr	Si	Be	Pb	Other Named Elements
C18900 ⁽¹⁾	--	Rem.	--	.6-.9	--	--	--	.15-.40	--	.02	.01Al .10-.30Mn .05P .10Zn
C18980 ⁽¹⁾	--	98.0min	--	1.0	--	--	--	.50	--	.02	.50Mn .15P
C18990 ⁽²⁾	--	Rem.	--	1.8-2.2	--	--	.10-.20	--	--	--	.005-.015P
C19000 ⁽¹⁾	--	Rem.	.10	--	.9-1.3	--	--	--	--	.05	.15-.35P .8Zn
C19002 ⁽¹⁾	--	Rem.	.10	.02-.30	1.4-1.7 ⁽³⁾	--	--	.20-.35	--	.05	.01Mg .05P .02-.50Ag .04-.35Zn .005-.05Zr
C19010 ⁽¹⁾	--	Rem.	--	--	.8-1.8	--	--	.15-.35	--	--	.01-.05P
C19015 ⁽⁴⁾	--	Rem.	--	--	.50-2.4	--	--	.10-.40	--	--	.02-.15Mn .02-.20P
C19020 ⁽⁴⁾	--	Rem.	--	.30-.9	.50-3.0	--	--	--	--	--	.01-.20P
C19025 ⁽⁵⁾	--	Rem.	.10	.7-1.1	.8-1.2	--	--	--	--	--	.03-.07P .20Zn
C19030 ⁽⁵⁾	--	Rem.	.10	1.0-1.5	1.5-2.0	--	--	--	--	.02	.01-.03P
C19100 ⁽¹⁾	--	Rem.	.20	--	.9-1.3	--	--	--	--	.10	.15-.35P .35-.6Te .50Zn
C19140 ⁽¹⁾	--	Rem.	.05	.05	.8-1.2	--	--	--	--	.40-.8	.15-.35P .50Zn
C19150 ⁽¹⁾	--	Rem.	.05	.05	.8-1.2	--	--	--	--	.50-1.0	.15-.35P

Copper Alloy No.	Previous Trade Name	Cu(incl Ag)	Fe	Sn	Ni	Co	Cr	Si	Be	Pb	Other Named Elements
C19160 ⁽¹⁾	--	Rem.	.05	.05	.8-1.2	--	--	--	--	.8-1.2	.15-.35P .50Zn

(1) : Cu + Sum of Named Elements, 99.5% min.

(2) : Cu + Sum of Named Elements, 99.9% min.

(3) : Ni value includes Co

(4) : Cu + Sum of Named Elements, 99.8% min.

(5) : Cu + Sum of Named Elements, 99.7% min.

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WROUGHT ALLOYS

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High Copper Alloys

C19200 - C19999

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Copper Alloy No.	Previous Trade Name	Cu	Fe	Sn	Zn	Al	Pb	P	Other Named Elements
C19200 ⁽¹⁾	--	98.5min	.8-1.2	--	.20	--	--	.01-.04	--
C19210 ⁽¹⁾	--	Rem.	.05-.15	--	--	--	--	.025-.04	--
C19215 ⁽¹⁾	--	Rem.	.05-.20	--	1.1-3.5	--	--	.025-.050	--
C19220 ⁽¹⁾	--	Rem.	.10-.30	.05-.10	--	--	--	.03-.07	.005-.015B .10-.25Ni
C19260 ⁽²⁾	--	98.5min	.40-.8	--	--	--	--	--	.02-.15Mg .20-.40Ti
C19280 ⁽¹⁾	--	Rem.	.50-1.5	.30-.7	.30-.7	--	--	.005-.015	--
C19400	--	97.0min	2.1-2.6	--	.05-.20	--	.03	.015-.15	--
C19410 ⁽¹⁾	--	Rem.	1.8-2.3	.6-.9	.10-.20	--	--	.015-.050	--
C19450 ⁽¹⁾	--	Rem.	1.5-3.0	.8-2.5	--	--	--	.005-.05	--
C19500 ⁽¹⁾	--	96.0min	1.0-2.0	.10-1.0	.20	.02	.02	.01-.35	.30-1.3Co
C19520 ⁽¹⁾	--	96.6min	.50-1.5	--	--	--	.01-3.5	--	--
C19700 ⁽¹⁾	--	Rem.	.30-1.2	.20	.20	--	.05	.10-.40	.05Co .01-.20Mg .05Mn .05Ni
C19710 ⁽³⁾	--	Rem.	.05-.40	.20	.20	--	.05	.07-.15	.03-.06Mg .05Mn .10Ni ⁽⁴⁾
C19720 ⁽³⁾	--	Rem.	.05-.50	.20	.20	--	.05	.05-.15	.06-.20Mg .05Mn .10Ni ⁽⁴⁾
C19750 ⁽¹⁾	--	Rem.	.35-1.2	.05-.40	.20	--	.05	.10-.40	.05Co .01-.20Mg .05Mn .05Ni

Copper Alloy No.	Previous Trade Name	Cu	Fe	Sn	Zn	Al	Pb	P	Other Named Elements
C19800 ⁽¹⁾	--	Rem.	.02-.50	.10-1.0	.30-1.5	--	--	.01-.10	.10-1.0Mg
C19810 ⁽¹⁾	--	Rem.	1.5-3.0	--	1.0-5.0	--	--	.10	.10Cr .10Mg .10Ti .10Zr
C19900 ⁽³⁾	--	Rem.	--	--	--	--	--	--	2.9-3.4Ti

(1) : Cu + Sum of Named Elements, 99.8% min.

(2) : Cu + Sum of Named Elements, 99.9% min.

(3) : Cu + Sum of Named Elements, 99.5% min.

(4) : Ni value includes Co.

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WROUGHT ALLOYS
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Copper-Zinc Alloys (Yellow Brasses)
C21000 - C28999

Composition, percent maximum, unless shown as a range or a minimum

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Copper Alloy No.	Previous Trade Name	Cu	Pb	Fe	Zn	Other Named Elements
C21000 ⁽¹⁾	Gilding, 95%	94.0-96.0	.05	.05	Rem.	--
C22000 ⁽¹⁾	Commercial Bronze, 90%	89.0-91.0	.05	.05	Rem.	--
C22600 ⁽¹⁾	Jewelry Bronze, 87-1/2%	86.0-89.0	.05	.05	Rem.	--
C23000 ⁽¹⁾	Red Brass, 85%	84.0-86.0	.05	.05	Rem.	--
C23030 ⁽¹⁾	--	83.5-85.5	.05	.05	Rem.	.20-.40Si
C23400 ⁽¹⁾	--	81.0-84.0	.05	.05	Rem.	--
C24000 ⁽¹⁾	Low Brass, 80%	78.5-81.5	.05	.05	Rem.	--
C24080 ⁽¹⁾	--	78.0-82.0	.20	--	Rem.	.10Al
C25600 ⁽²⁾	--	71.0-73.0	.05	.05	Rem.	--
C26000 ⁽²⁾	Cartridge Brass, 70%	68.5-71.5	.07	.05	Rem.	--
C26130 ⁽²⁾	--	68.5-71.5	.05	.05	Rem.	.02-.08As
C26200 ⁽²⁾	--	67.0-70.0	.07	.05	Rem.	--
C26800 ⁽²⁾	Yellow Brass, 66%	64.0-68.5	.15	.05	Rem.	--
C27000 ⁽²⁾	Yellow Brass, 65%	63.0-68.5	.10	.07	Rem.	--
C27200 ⁽²⁾	--	62.0-65.0	.07	.07	Rem.	--
C27400 ⁽²⁾	Yellow Brass, 63%	61.0-64.0	.10	.05	Rem.	--
C28000 ⁽²⁾	Muntz Metal, 60%	59.0-63.0	.30	.07	Rem.	--

(1) : Cu + Sum of Named Elements, 99.8% min.

(2) : Cu + Sum of Named Elements, 99.7% min.

APPLICATION DATASHEET

Standard Designation For

WROUGHT ALLOYS

Last Update: June 25, 2006

Copper-Zinc-Lead Alloys (Leaded Brasses)
C30000 - C39999

Composition, percent maximum, unless shown as a range or a minimum

Page 1 of 2

Copper Alloy No.	Previous Trade Name	Cu	Pb	Fe	Zn	Other Named Elements
C31200 ⁽¹⁾	--	87.5-90.5	.7-1.2	.10	Rem.	.25Ni
C31400 ⁽¹⁾	Leaded Commercial Bronze	87.5-90.5	1.3-2.5	.10	Rem.	.7Ni
C31600 ⁽¹⁾	Leaded Commercial Bronze (Nickel-Beari	87.5-90.5	1.3-2.5	.10	Rem.	.7-1.2Ni .04-.10P
C32000 ⁽¹⁾	Leaded Red Brass	83.5-86.5	1.5-2.2	.10	Rem.	.25Ni
C33000 ⁽¹⁾	Low Leaded Brass (Tube)	65.0-68.0	.25-.7	.07	Rem.	--
C33200 ⁽¹⁾	High Leaded Brass (Tube)	65.0-68.0	1.5-2.5	.07	Rem.	--
C33500 ⁽¹⁾	Low-Leaded Brass	62.0-65.0	.25-.7	.15 ⁽²⁾	Rem.	--
C34000 ⁽¹⁾	Medium Leaded Brass, 64-1/2%	62.0-65.0	.8-1.5	.15 ⁽²⁾	Rem.	--
C34200 ⁽¹⁾	High Leaded Brass, 64-1/2%	62.0-65.0	1.5-2.5	.15 ⁽²⁾	Rem.	--
C34500 ⁽¹⁾	--	62.0-65.0	1.5-2.5	.15	Rem.	--
C35000 ⁽¹⁾	Medium Leaded Brass, 62%	60.0-63.0 ⁽³⁾	.8-2.0	.15 ⁽²⁾	Rem.	--
C35300 ⁽⁴⁾	High Leaded Brass, 62%	60.0-63.0 ⁽³⁾	1.5-2.5	.15 ⁽²⁾	Rem.	--
C35330 ⁽⁴⁾	--	59.5-64.0	1.5-3.5 ⁽⁵⁾	--	Rem.	.02-.25As
C35600 ⁽⁴⁾	Extra High Leaded Brass	60.0-63.0	2.0-3.0	.15 ⁽²⁾	Rem.	--

Copper Alloy No.	Previous Trade Name	Cu	Pb	Fe	Zn	Other Named Elements
C36000 ⁽⁴⁾	Free-Cutting Brass	60.0-63.0	2.5-3.7	.35	Rem.	--
C36500 ⁽¹⁾	Leaded Muntz Metal, Uninhibited	58.0-61.0	.25-.7	.15	Rem.	.25Sn
C37000 ⁽¹⁾	Free-Cutting Muntz Metal	59.0-62.0	.8-1.5	.15	Rem.	--
C37100 ⁽¹⁾	--	58.0-62.0	.6-1.2	.15	Rem.	--
C37700 ⁽⁴⁾	Forging Brass	58.0-61.0	1.5-2.5	.30	Rem.	--
C37710 ⁽⁴⁾	--	56.5-60.0	1.0-3.0	.30	Rem.	--
C38000 ⁽⁴⁾	Architectural Bronze, Low Leaded	55.0-60.0	1.5-2.5	.35	Rem.	.50Al
C38500 ⁽⁴⁾	Architectural Bronze	55.0-59.0	2.5-3.5	.35	Rem.	.30Sn

- (1) : Cu + Sum of Named Elements, 99.6% min.
(2) : For flat products, the iron shall be .10% max.
(3) : Cu, 61.0% min. for rod.
(4) : Cu + Sum of Named Elements, 99.5% min.
(5) : Pb may be reduced to 1.0% by agreement.

APPLICATION DATASHEET
Standard Designation For
WROUGHT ALLOYS
Last Update: June 22, 2006

Copper-Zinc-Tin Alloys (Tin Brasses)
C40000 - C49999

Composition, percent maximum, unless shown as a range or a minimum

Page 1 of 2

Copper Alloy No.	Previous Trade Name	Cu	Pb	Fe	Sn	Zn	P	Other Named Elements
C40400 ⁽¹⁾	--	Rem.	--	--	.35-7	2.0-3.0	--	--
C40500 ⁽¹⁾	Penny Bronze	94.0-96.0	.05	.05	.7-1.3	Rem.	--	--
C40810 ⁽¹⁾	--	94.5-96.5	.05	.08-.12	1.8-2.2	Rem.	.028-.04	.11-.20Ni
C40820 ⁽²⁾	--	94.0min	.02	--	1.0-2.5	.20-2.5	.05	.10-.50Ni
C40850 ⁽¹⁾	--	94.5-96.5	.05	.05-.20	2.6-4.0	Rem.	.01-.20	.05-.20Ni
C40860 ⁽¹⁾	--	94.0-96.0	.05	.01-.05	1.7-2.3	Rem.	.02-.04	.05-.20Ni
C41000 ⁽¹⁾	--	91.0-93.0	.05	.05	2.0-2.8	Rem.	--	--
C41100 ⁽¹⁾	--	89.0-92.0	.10	.05	.30-.7	Rem.	--	--
C41120 ⁽¹⁾	--	89.0-92.0	.05	.05-.20	.30-.7	Rem.	.01-.35	.05-.20Ni
C41300 ⁽¹⁾	--	89.0-93.0	.10	.05	.7-1.3	Rem.	--	--
C41500 ⁽¹⁾	--	89.0-93.0	.10	.05	1.5-2.2	Rem.	--	--
C42000 ⁽¹⁾	--	88.0-91.0	--	--	1.5-2.0	Rem.	.25	--
C42200 ⁽¹⁾	--	86.0-89.0	.05	.05	.8-1.4	Rem.	.35	--
C42220 ⁽¹⁾	--	88.0-91.0	.05	.05-.20	.7-1.4	Rem.	.02-.05	.05-.20Ni
C42500 ⁽¹⁾	--	87.0-90.0	.05	.05	1.5-3.0	Rem.	.35	--
C42520 ⁽¹⁾	--	88.0-91.0	.05	.05-.20	1.5-3.0	Rem.	.01-.20	.05-.20Ni
C42600 ⁽¹⁾	--	87.0-90.0	.05	.05-.20	2.5-4.0	Rem.	.01-.20	.05-.20Ni ⁽³⁾
C43000 ⁽¹⁾	--	84.0-87.0	.10	.05	1.7-2.7	Rem.	--	--
C43400 ⁽¹⁾	--	84.0-87.0	.05	.05	.40-1.0	Rem.	--	--
C43500 ⁽¹⁾	--	79.0-83.0	.10	.05	.6-1.2	Rem.	--	--
C43600 ⁽¹⁾	--	80.0-83.0	.05	.05	.20-.50	Rem.	--	--
C44250 ⁽⁴⁾	--	73.0-76.0	.07	.20	.50-1.5	Rem.	.10	.20Ni
C44300 ⁽⁴⁾	Admiralty, Arsenical	70.0-73.0	.07	.06	.8-1.2 ⁽⁵⁾	Rem.	--	.02-.06As
C44400 ⁽⁴⁾	Admiralty, Antimonial	70.0-73.0	.07	.06	.8-1.2 ⁽⁵⁾	Rem.	--	.02-.10Sb
C44500 ⁽⁴⁾	Admiralty,	70.0-73.0	.07	.06	.8-1.2 ⁽⁵⁾	Rem.	.02-.10	--

Copper Alloy No.	Previous Trade Name	Cu	Pb	Fe	Sn	Zn	P	Other Named Elements
	Phosphorized							
C46200 ⁽⁴⁾	Naval Brass, 63-1/2%	62.0-65.0	.20	.10	.50-1.0	Rem.	--	--
C46400 ⁽⁴⁾	Naval Brass, Uninhibited	59.0-62.0	.20	.10	.50-1.0	Rem.	--	--
C46500 ⁽⁴⁾	Naval Brass, Arsenical	59.0-62.0	.20	.10	.50-1.0	Rem.	--	.02-.06As
C47000 ⁽⁴⁾	Naval Brass Welding and Brazing Rod	57.0-61.0	.05	--	.25-1.0	Rem.	--	.01Al
C47940 ⁽⁴⁾	--	63.0-66.0	1.0-2.0	.10-1.0	1.2-2.0	Rem.	--	.10-.50Ni ⁽³⁾
C48200 ⁽⁴⁾	Naval Brass, Medium Leaded	59.0-62.0	.40-1.0	.10	.50-1.0	Rem.	--	--
C48500 ⁽⁴⁾	Naval Brass, High Leaded	59.0-62.0	1.3-2.2	.10	.50-1.0	Rem.	--	--
C48600 ⁽⁴⁾	--	59.0-62.0	1.0-2.5	--	.30-1.5	Rem.	--	.02-.25As

(1) : Cu + Sum of Named Elements, 99.7% min.

(2) : Cu + Sum of Named Elements, 99.5% min.

(3) : Ni value includes Co

(4) : Cu + Sum of Named Elements, 99.6% min.

(5) : For tubular products, the minimum Sn content may be .9%.

APPLICATION DATASHEET

Standard Designation For

WROUGHT ALLOYS

Last Update: June 25, 2006

Copper-Tin-Phosphorus Alloys (Phosphor Bronzes) C50000 - C52999

Composition, percent maximum, unless shown as a range or a minimum

Page 1 of 2

Copper Alloy No.	Previous Trade Name	Cu	Pb	Fe	Sn	Zn	P	Other Named Elements
C50100 ⁽¹⁾	--	Rem.	.05	.05	.50-.8	--	.01-.05	--
C50200 ⁽¹⁾	--	Rem.	.05	.10	1.0-1.5	--	.04	--
C50500 ⁽¹⁾	Phosphor Bronze, 1.25% E	Rem.	.05	.10	1.0-1.7	.30	.03-.35	--
C50510 ⁽²⁾	--	Rem.	--	--	1.0-1.5	.10-.25	.02-.07	.15-.40Ni
C50580 ⁽¹⁾	--	Rem.	.05	.05-.20	1.0-1.7	.30	.01-.35	.05-.20Ni
C50590 ⁽¹⁾	--	97.0min	.02	.05-.40	.50-1.5	.50	.02-.15	--
C50700 ⁽¹⁾	--	Rem.	.05	.10	1.5-2.0	--	.30	--
C50705 ⁽¹⁾	--	96.5min	.02	.10-.40	1.5-2.0	.50	.04-.15	--
C50710 ⁽¹⁾	--	Rem.	--	--	1.7-2.3	--	.15	.10-.40Ni
C50715 ⁽³⁾	--	Rem.	.02	.05-.15	1.7-2.3	--	.025-.04	--
C50725 ⁽¹⁾	--	94.0min	.02	.05-.20	1.5-2.5	1.5-3.0	.02-.06	--
C50780 ⁽¹⁾	--	Rem.	.05	.05-.20	1.7-2.3	.30	.01-.35	.05-.20Ni
C50900 ⁽¹⁾	--	Rem.	.05	.10	2.5-3.8	.30	.03-.30	--
C51000 ⁽¹⁾	Phosphor Bronze, 5% A	Rem.	.05	.10	4.2-5.8	.30	.03-.35	--
C51080 ⁽¹⁾	--	Rem.	.05	.05-.20	4.8-5.8	.30	.01-.35	.05-.20Ni
C51100 ⁽¹⁾	--	Rem.	.05	.10	3.5-4.9	.30	.03-.35	--
C51180 ⁽¹⁾	--	Rem.	.05	.05-.20	3.5-4.9	.30	.01-.35	.05-.20Ni
C51190 ⁽¹⁾	--	Rem.	.02	.05-.15	3.0-6.5	--	.025-.045	.15Co
C51800 ⁽¹⁾	Phosphor Bronze	Rem.	.02	--	4.0-6.0	--	.10-.35	.01Al
C51900 ⁽¹⁾	--	Rem.	.05	.10	5.0-7.0	.30	.03-.35	--
C51980 ⁽¹⁾	--	Rem.	.05	.05-.20	5.5-7.0	.30	.01-.35	.05-.20Ni
C52100 ⁽¹⁾	Phosphor Bronze, 8% C	Rem.	.05	.10	7.0-9.0	.20	.03-.35	--
C52180 ⁽¹⁾	--	Rem.	.05	.05-.20	7.0-9.0	.30	.01-.35	.05-.20Ni

Copper Alloy No.	Previous Trade Name	Cu	Pb	Fe	Sn	Zn	P	Other Named Elements
C52400 ⁽¹⁾	Phospher Bronze 10% D	Rem.	.05	.10	9.0-11.0	.20	.03-.35	--
C52480 ⁽¹⁾	--	Rem.	.05	.05-.20	9.0-11.0	.30	.01-.35	.05-.20Ni

(1) : Cu + Sum of Named Elements, 99.5% min.

(2) : Cu + Sum of Named Elements, 99.7% min.

(3) : Cu + Sn + Fe + P, 99.5% min

APPLICATION DATASHEET

Standard Designation For

WROUGHT ALLOYS

Last Update: June 25, 2006

**Copper-Tin-Lead-Phosphorus Alloys (Leaded Phosphor B
C53000 - C54999**

Composition, percent maximum, unless shown as a range or a minimum

Page 1 of 1

Copper Alloy No.	Previous Trade Name	Cu	Pb	Fe	Sn	Zn	P	Other Named Elements
C53400 ⁽¹⁾	Phosphor Bronze B-1	Rem.	.8-1.2	.10	3.5-5.8	.30	.03-.35	--
C53800 ⁽²⁾	--	Rem.	.40-.6	.030	13.1-13.9	.12	--	.06Mn .03Ni ⁽³⁾
C54400 ⁽¹⁾	Phosphor Bronze B-2	Rem.	3.5-4.5	.10	3.5-4.5	1.5-4.5	.01-.50	--

(1) : Cu + Sum of Named Elements, 99.5% min.

(2) : Cu + Sum of Named Elements, 99.8% min.

(3) : Ni value includes Co.

APPLICATION DATASHEET

Standard Designation For

WROUGHT ALLOYS

Last Update: June 25, 2006

**Copper-Phosphorus and Copper-Silver-Phosphorus Alloy
C55000 - C55299**

Composition, percent maximum, unless shown as a range or a minimum

Page 1 of 1

Copper Alloy No.	Previous Trade Name	Cu	Ag	P	Other Named Elements
C55180 ⁽¹⁾	--	Rem.	--	4.8-5.2	--
C55181 ⁽¹⁾	--	Rem.	--	7.0-7.5	--
C55280 ⁽¹⁾	--	Rem.	1.8-2.2	6.8-7.2	--
C55281 ⁽¹⁾	--	Rem.	4.8-5.2	5.8-6.2	--
C55282 ⁽¹⁾	--	Rem.	4.8-5.2	6.5-7.0	--
C55283 ⁽¹⁾	--	Rem.	5.8-6.2	7.0-7.5	--
C55284 ⁽¹⁾	--	Rem.	14.5-15.5	4.8-5.2	--

(1) : Cu + Sum of Named Elements, 99.85% min.

APPLICATION DATASHEET

Standard Designation For

WROUGHT ALLOYS

Last Update: June 25, 2006

Copper-Silver-Zinc-Alloys

C55300 - C60799

Composition, percent maximum, unless shown as a range or a minimum

Page 1 of 1

Copper Alloy No.	Previous Trade Name	Cu	Ag	Zn	Other Named Elements
C55385 ⁽¹⁾	--	Rem.	--	--	6.0-7.0P .01-.40Si 6.0-7.0Sn
C56000 ⁽²⁾	--	Rem.	29.0-31.0	30.0-34.0	--

(1) : Cu + Sum of Named Elements, 99.85% min.

(2) : Cu + Sum of Named Elements, 99.5% min.

APPLICATION DATASHEET

Standard Designation For

WROUGHT ALLOYS

Last Update: June 25, 2006

Copper-Aluminum Alloys (Aluminum Bronzes) C60800 - C64699

Composition, percent maximum, unless shown as a range or a minimum

Page 1 of 2

Copper Alloy No.	Previous Trade Name	Cu(incl Ag)	Pb	Fe	Sn	Zn	Al	Mn	Si	Ni	Other Named Elements
C60800 ⁽¹⁾	--	Rem.	.10	.10	--	--	5.0-6.5	--	--	--	.02-.35As
C61000 ⁽¹⁾	--	Rem.	.02	.50	--	.20	6.0-8.5	--	.10	--	--
C61300 ⁽²⁾	--	Rem.	.01	2.0-3.0	.20-.50	.10 ⁽³⁾	6.0-7.5	.20	.10	.15 ⁽⁴⁾	.015P
											(3)
C61400 ⁽¹⁾	--	Rem.	.01	1.5-3.5	--	.20	6.0-8.0	1.0	--	--	.015P
C61500 ⁽¹⁾	--	Rem.	.015	--	--	--	7.7-8.3	--	--	1.8-2.2 ⁽⁴⁾	--
C61550 ⁽¹⁾	--	Rem.	.05	.20	.05	--	5.5-6.5	1.0	--	1.5-2.5 ⁽⁴⁾	--
C61800 ⁽¹⁾	--	Rem.	.02	.50-1.5	--	.02	8.5-11.0	--	.10	--	--
C61900 ⁽¹⁾	--	Rem.	.02	3.0-4.5	.6	.8	8.5-10.0	--	--	--	--
C62200 ⁽¹⁾	--	Rem.	.02	3.0-4.2	--	.02	11.0-12.0	--	.10	--	--
C62300 ⁽¹⁾	Aluminum Bronze, 9%	Rem.	--	2.0-4.0	.6	--	8.5-10.0	.50	.25	1.0 ⁽⁴⁾	--
C62400 ⁽¹⁾	Aluminum Bronze, 11%	Rem.	--	2.0-4.5	.20	--	10.0-11.5	.30	.25	--	--
C62500 ⁽¹⁾	--	Rem.	--	3.5-5.5	--	--	12.5-13.5	2.0	--	--	--
C62580 ⁽¹⁾	--	Rem.	.02	3.0-5.0	--	.02	12.0-13.0	--	.04	--	--
C62581 ⁽¹⁾	--	Rem.	.02	3.0-5.0	--	.02	13.0-14.0	--	.04	--	--
C62582 ⁽¹⁾	--	Rem.	.02	3.0-5.0	--	.20	14.0-15.0	--	.04	--	--
C63000 ⁽¹⁾	Aluminum Bronze	Rem.	--	2.0-4.0	.20	.30	9.0-11.0	1.5	.25	4.0-5.5 ⁽⁴⁾	--
C63010 ⁽²⁾	--	78.0min	--	2.0-3.5	.20	.30	9.7-10.9	1.5	--	4.5-5.5 ⁽⁴⁾	--
C63020 ⁽¹⁾	--	74.5min	.03	4.0-5.5	.25	.30	10.0-11.0	1.5	--	4.2-6.0 ⁽⁴⁾	.05Cr
											.20Co
C63200 ⁽¹⁾	Aluminum Bronze	Rem.	.02	3.5-4.3 ⁽⁵⁾	--	--	8.7-9.5	1.2-2.0	.10	4.0-4.8 ⁽⁴⁾	--
C63280 ⁽¹⁾	--	Rem.	.02	3.0-5.0	--	--	8.5-9.5	.6-3.5	--	4.0-5.5 ⁽⁴⁾	--
C63380 ⁽¹⁾	--	Rem.	.02	2.0-4.0	--	.15	7.0-8.5	11.0-14.0	.10	1.5-3.0 ⁽⁴⁾	--
C63400 ⁽¹⁾	--	Rem.	.05	.15	.20	.50	2.6-3.2	--	.25-.45	.15 ⁽⁴⁾	.15As

Copper Alloy No.	Previous Trade Name	Cu(incl Ag)	Pb	Fe	Sn	Zn	Al	Mn	Si	Ni	Other Named Elements
C63600 ⁽¹⁾	--	Rem.	.05	.15	.20	.50	3.0-4.0	--	.7-1.3	.15 ⁽⁴⁾	.15As
C63800 ⁽¹⁾	--	Rem.	.05	.20	--	.8	2.5-3.1	.10	1.5-2.1	.20 ⁽⁶⁾	.25-.55Co
C64200 ⁽¹⁾	--	Rem.	.05	.30	.20	.50	6.3-7.6	.10	1.5-2.2	.25 ⁽⁴⁾	.15As
C64210 ⁽¹⁾	--	Rem.	.05	.30	.20	.50	6.3-7.0	.10	1.5-2.0	.25 ⁽⁴⁾	.15As

(1) : Cu + Sum of Named Elements, 99.5% min.

(2) : Cu + Sum of Named Elements, 99.8% min.

(3) : When the product is for subsequent welding applications and is so specified by the purchaser, Cr, Cd, Zr, and Zn shall each be .05%max.

(4) : Ni value includes Co.

(5) : Fe content shall not exceed Ni content.

(6) : Not including Co.

APPLICATION DATASHEET

Standard Designation For

WROUGHT ALLOYS

Last Update: June 25, 2006

Copper-Silicon Alloys (Silicon Bronzes and Silicon Brass C64700 - C66199)

Composition, percent maximum, unless shown as a range or a minimum

Page 1 of 2

Copper Alloy No.	Previous Trade Name	Cu(incl Ag)	Pb	Fe	Sn	Zn	Mn	Si	Ni	Other Named Elements
C64700 ⁽¹⁾	--	Rem.	.10	.10	--	.50	--	.40-.8	1.6-2.2 ⁽²⁾	--
C64710 ⁽¹⁾	--	95.0min	--	--	--	.20-.50	.10	.50-.9	2.9-3.5 ⁽²⁾	--
C64725 ⁽¹⁾	--	95.0min	.01	.25	.20-.8	.50-1.5	--	.20-.8	1.3-2.7 ⁽²⁾	.01Ca .20Cr .20Mg
C64730 ⁽¹⁾	--	93.5min	--	--	1.0-1.5	.20-.50	.10	.50-.9	2.9-3.5 ⁽²⁾	--
C64740 ⁽¹⁾	--	95.0min	.01	.25	1.5-2.5	.20-1.0	--	.05-.50	1.0-2.0 ⁽²⁾	.01Ca .05Mg
C64745 ⁽¹⁾	NKC164	Rem.	.05	.2	.2-.8	.2-.8	.1	.1-.7	.7-2.5	--
C64750 ⁽³⁾	--	Rem.	--	1.0	.05-.8	1.0	--	.10-.7	1.0-3.0 ⁽²⁾	.10Mg .10P .10Zr
C64760 ⁽¹⁾	--	93.5min	.02	--	.30	.20-2.5	--	.05-.6	.40-2.5	.05Mg
C64770 ⁽¹⁾	--	Rem.	.05	.10	.05-.50	.30-.8	.10	.40-.8	1.5-3.0 ⁽²⁾	.30Mg
C64780 ⁽¹⁾	--	90.0min	.02	--	.10-2.0	.20-2.5	.01-1.0	.20-.9	1.0-3.5	.01Cr .01Mn .01Ti .01Zr
C64785 ⁽¹⁾	--	Rem.	.015	.02	.50-2.0	3.0-6.0	.20-1.0	.15	4.0-1.6 ⁽⁴⁾	3.0-6.0Al .015P
C64790 ⁽¹⁾	--	Rem.	.05	.10	.05-.50	.30-.8	.10	.6-1.2	2.5-4.5 ⁽²⁾	.05-.50Cr .05-.30Mg
C64900 ⁽¹⁾	--	Rem.	.05	.10	1.2-1.6	.20	--	.8-1.2	.10 ⁽²⁾	.10Al
C65100 ⁽¹⁾	Low-Silicon Bronze B	Rem.	.05	.8	--	1.5	.7	.8-2.0	--	--
C65400 ⁽¹⁾	--	Rem.	.05	--	1.2-1.9	.50	--	2.7-3.4	--	.01-.12Cr
C65500 ⁽¹⁾	High-Silicon	Rem.	.05	.8	--	1.5	.50-1.3	2.8-3.8	.6 ⁽²⁾	--

Copper Alloy No.	Previous Trade Name	Cu(incl Ag)	Pb	Fe	Sn	Zn	Mn	Si	Ni	Other Named Elements
Bronze A										
C65600 ⁽¹⁾	--	Rem.	.02	.50	1.5	1.5	1.5	2.8-4.0	--	.01Al
C66100 ⁽¹⁾	--	Rem.	.20-8	.25	--	1.5	1.5	2.8-3.5	--	--

(1) : Cu + Sum of Named Elements, 99.5% min.

(2) : Ni value includes Co.

(3) : Cu + Sum of Named Elements, 99.92% min.

(4) : Not including Co.

APPLICATION DATASHEET

Standard Designation For

WROUGHT ALLOYS

Last Update: June 25, 2006

Other Copper-Zinc Alloys
C66200 - C69999

Composition, percent maximum, unless shown as a range or a minimum

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Copper Alloy No.	Previous Trade Name	Cu(incl Ag)	Pb	Fe	Sn	Zn	Ni	Al	Mn	Si	Other Named Elements
C66200 ⁽¹⁾	--	86.6-91.0	.05	.05	.20-.7	Rem.	.30-1.0 ⁽²⁾	--	--	--	.05-.20P
C66300 ⁽¹⁾	--	84.5-87.5	.05	1.4-2.4 ⁽³⁾	1.5-3.0	Rem.	--	--	--	--	.20Co ⁽³⁾ .35P
C66400 ⁽¹⁾	--	Rem.	.015	1.3-1.7 ⁽⁴⁾	.05	11.0-12.0	--	--	--	--	.30-.7Co ⁽⁴⁾
C66410 ⁽¹⁾	--	Rem.	.015	1.8-2.3	.05	11.0-12.0	--	--	--	--	--
C66420 ⁽¹⁾	--	Rem.	--	.50-1.5	--	12.7-17.0	--	--	--	--	--
C66430 ⁽¹⁾	--	Rem.	.05	.6-.9	.6-.9	13.0-15.0	--	--	--	--	.10P
C66700 ⁽¹⁾	Manganese Brass	68.5-71.5	.07	.10	--	Rem.	--	--	.8-1.5	--	--
C66800 ⁽¹⁾	--	60.0-63.0	.50	.35	.30	Rem.	.25 ⁽²⁾	.25	2.0-3.5	.50-1.5	--
C66900 ⁽⁵⁾	--	62.5-64.5	.05	.25	--	Rem.	--	--	11.5-12.5	--	--
C66950 ⁽¹⁾	--	Rem.	.01	.50	--	14.0-15.0	--	1.0-1.5	14.0-15.0	--	--
C67000 ⁽¹⁾	Manganese Bronze B	63.0-68.0	.20	2.0-4.0	.50	Rem.	--	3.0-6.0	2.5-5.0	--	--
C67300 ⁽¹⁾	--	58.0-63.0	.40-3.0	.50	.30	Rem.	.25 ⁽²⁾	.25	2.0-3.5	.50-1.5	--
C67400 ⁽¹⁾	--	57.0-60.0	.50	.35	.30	Rem.	.25 ⁽²⁾	.50-2.0	2.0-3.5	.50-1.5	--
C67420 ⁽¹⁾	--	57.0-58.5	.25-.8	.15-.55	.35	Rem.	.25 ⁽²⁾	1.0-2.0	1.5-2.5	.25-.7	--
C67500 ⁽¹⁾	Manganese Bronze A	57.0-60.0	.20	.8-2.0	.50-1.5	Rem.	--	.25	.05-.50	--	--
C67600 ⁽¹⁾	--	57.0-60.0	.50-1.0	.40-1.3	.50-1.5	Rem.	--	--	.05-.50	--	--
C68000 ⁽¹⁾	Bronze, Low Fuming (Nickel)	56.0-60.0	.05	.25-1.25	.75-1.10	Rem.	.20-.8 ⁽²⁾	.01	.01-.50	.04-.15	--
C68100 ⁽¹⁾	Bronze, Low Fuming	56.0-60.0	.05	.25-1.25	.75-1.10	Rem.	--	.01	.01-.50	.04-.15	--
C68700 ⁽¹⁾	Aluminum Brass, Arsenical	76.0-79.0	.07	.06	--	Rem.	--	1.8-2.5	--	--	.02-.06As
C68800 ⁽¹⁾	--	Rem.	.05	.20	--	21.3-24.1 ⁽⁶⁾	--	3.0-3.8 ⁽⁶⁾	--	--	.25-.55Co
C69050 ⁽¹⁾	--	70.0-75.0	--	--	--	Rem.	.50-1.5 ⁽²⁾	3.0-4.0	--	.10-.6	.01-.20Zr

Copper Alloy No.	Previous Trade Name	Cu(incl Ag)	Pb	Fe	Sn	Zn	Ni	Al	Mn	Si	Other Named Elements
C69100 ⁽¹⁾	--	81.0-84.0	.05	.25	.10	Rem.	.8-1.4 ⁽²⁾	.7-1.2	.10	.8-1.3	--
C69300 ⁽¹⁾	--	73.0-77.0	.10	.10	.20	Rem.	.10 ⁽²⁾	--	.10	2.7-3.4	.04-.15P
C69400 ⁽¹⁾	Silicon Red Brass	80.0-83.0	.30	.20	--	Rem.	--	--	--	3.5-4.5	--
C69430 ⁽¹⁾	--	80.0-83.0	.30	.20	--	Rem.	--	--	--	3.5-4.5	.03-.06As
C69700 ⁽¹⁾	--	75.0-80.0	.50-1.5	.20	--	Rem.	--	--	.40	2.5-3.5	--
C69710 ⁽¹⁾	--	75.0-80.0	.50-1.5	.20	--	Rem.	--	--	.40	2.5-3.5	.03-.06As
C69750 ⁽¹⁾	--	78.0-83.0	.8-1.3	.05	.05	Rem.	.01 ⁽²⁾	--	.05	1.9-2.22	.02P

(1) : Cu + Sum of Named Elements, 99.5% min.

(2) : Ni value includes Co.

(3) : Fe + Co, 1.4 - 2.4%

(4) : Fe + Co, 1.8 - 2.3%.

(5) : Cu + Sum of Named Elements, 99.8% min.

(6) : Al + Zn, 25.1 - 27.1%.

APPLICATION DATASHEET

Standard Designation For

WROUGHT ALLOYS

Last Update: June 25, 2006

Copper-Nickel Alloys
C70000 - C73499

Composition, percent maximum, unless shown as a range or a minimum

Page 1 of 4

Copper Alloy No.	Previous Trade Name	Cu(incl Ag)	Pb	Fe	Zn	Ni	Sn	Mn	Other Named Elements
C70100 ⁽¹⁾	--	Rem.	--	.05	.25	3.0-4.0 ⁽²⁾	--	.50	--
C70200 ⁽¹⁾	--	Rem.	.05	.10	--	2.0-3.0 ⁽²⁾	--	.40	--
C70230 ⁽¹⁾	--	Rem.	--	--	.50-2.0	2.2-3.2	.10-.50	--	.40-.8Si .10Ag (3)
C70240 ⁽¹⁾	--	Rem.	.05	.10	.30-.8	1.0-4.0 ⁽²⁾	--	.01-.20	.40-.8Si .01-.10Ag
C70250 ⁽¹⁾	--	Rem.	.05	.20	1.0	2.2-4.2 ⁽²⁾	--	.10	.05-.30Mg .25-1.2Si
C70260 ⁽¹⁾	--	Rem.	--	--	--	1.0-3.0 ⁽²⁾	--	--	.010P .20-.7Si
C70265 ⁽¹⁾	--	Rem.	.05	--	.30	1.0-3.0 ⁽²⁾	.05-.8	--	.01P .20-.7Si
C70270 ⁽¹⁾	--	Rem.	.05	.28-1.0	1.0	1.0-3.0 ⁽²⁾	.10-1.0	.15	.20-1.0Si
C70280 ⁽¹⁾	--	Rem.	.02	.015	.30	1.3-1.7 ⁽²⁾	1.0-1.5	--	.02-.04P .22-.30Si
C70290 ⁽¹⁾	--	Rem.	.02	.015	.30	1.3-1.7 ⁽²⁾	2.1-2.7	--	.02-.04P .22-.30Si
C70310 ⁽¹⁾	--	Rem.	.05	.10	2.0	1.0-4.0 ⁽²⁾	1.0	--	.01Mg .05P .08-1.0Si .02-.50Ag .005-.05Zr
C70350 ⁽¹⁾	--	Rem.	.05	.20	1.0	1.0-2.0	--	.20	1.0-2.0Co .04Mg .50-1.0Si
C70370 ⁽¹⁾	--	Rem.	.05	.20	1.0	1.0-2.0	--	.20	1.0-2.0Co

Copper Alloy No.	Previous Trade Name	Cu(incl Ag)	Pb	Fe	Zn	Ni	Sn	Mn	Other Named Elements
									.04Mg .50-1.0Si .20-.70Ag
C70400	⁽¹⁾ Copper-Nick el, 5%	Rem.	.05	1.3-1.7	1.0	4.8-6.2 ⁽²⁾	--	.30-.8	--
C70500	⁽¹⁾ Copper-Nick el, 7%	Rem.	.05	.10	.20	5.8-7.8 ⁽²⁾	--	.15	--
C70600	⁽¹⁾ Copper-Nick el, 10%	Rem.	.05	1.0-1.8	1.0	9.0-11.0 ⁽²⁾	--	1.0	--
C70610	⁽¹⁾ --	Rem.	.01	1.0-2.0	--	10.0-11.0 ⁽²⁾	--	.50-1.0	.05C .05S
C70620	⁽¹⁾ --	86.5min	.02	1.0-1.8	.50	9.0-11.0 ⁽²⁾	--	1.0	.05C .02P .02S
C70690	⁽¹⁾ --	Rem.	.001	.005	.001	9.0-11.0 ⁽²⁾	--	.001	(4)
C70700	⁽¹⁾ --	Rem.	--	.05	--	9.5-10.5 ⁽²⁾	--	.50	--
C70800	⁽¹⁾ Copper-Nick el, 11%	Rem.	.05	.10	.20	10.5-12.5 ⁽²⁾	--	.15	--
C71000	⁽¹⁾ Copper-Nick el, 20%	Rem.	.05	1.0	1.0	19.0-23.0 ⁽²⁾	--	1.0	--
C71100	⁽¹⁾ --	Rem.	.05	.10	.20	22.0-24.0 ⁽²⁾	--	.15	--
C71300	⁽¹⁾ --	Rem.	.05	.20	1.0	23.5-26.5 ⁽²⁾	--	1.0	--
C71500	⁽¹⁾ Copper-Nick el, 30%	Rem.	.05	.40-1.0	1.0	29.0-33.0 ⁽²⁾	--	1.0	--
C71520	⁽¹⁾ --	65.0min	.02	.40-1.0	.50	29.0-33.0 ⁽²⁾	--	1.0	.05C .02P .02S
C71580	⁽¹⁾ --	Rem.	.05	.50	.05	29.0-33.0 ⁽²⁾	--	.30	(5)
C71581	⁽¹⁾ --	Rem.	.02	.40-.7	--	29.0-32.0 ⁽²⁾	--	1.0	(6)
C71590	--	Rem.	.001	.15	.001	29.0-31.0 ⁽²⁾	.001	.50	(4)
C71640	⁽¹⁾ --	Rem.	.05 ⁽⁷⁾	1.7-2.3	1.0 ⁽⁷⁾	29.0-32.0 ⁽²⁾	--	1.5-2.5	.06C .03S (7)
C71700	⁽¹⁾ --	Rem.	--	.40-1.0	1.0	29.0-33.0 ⁽²⁾	--	1.0	.30-.7Be
C71900	⁽¹⁾ --	Rem.	.015	.50	.05	28.0-33.0 ⁽²⁾	--	.20-1.0	.04C

Copper Alloy No.	Previous Trade Name	Cu(incl Ag)	Pb	Fe	Zn	Ni	Sn	Mn	Other Named Elements
									2.2-3.0Cr .02P .25Si .015S .01-.20Ti .02-.35Zr
C72150 ⁽¹⁾	--	Rem.	.05	.10	.20	43.0-46.0 ⁽²⁾	--	.05	.10C .50Si
C72200 ⁽⁸⁾	--	Rem.	.05 ⁽⁷⁾	.50-1.0	1.0 ⁽⁷⁾	15.0-18.0 ⁽²⁾	--	1.0	.30-.7Cr .03Si .03Ti (7)
C72420 ⁽⁹⁾	--	Rem.	.02	.7-1.2	.20	13.5-16.5 ⁽²⁾	.10	3.5-5.5	1.0-2.0Al .05C .50Cr .05Mg .01P .15Si .15S
C72500 ⁽⁸⁾	--	Rem.	.05	.6	.50	8.5-10.5 ⁽²⁾	1.8-2.8	.20	--
C72650 ⁽⁹⁾	--	Rem.	.01	.10	.10	7.0-8.0 ⁽²⁾	4.5-5.5	.10	--
C72700 ⁽⁹⁾	--	Rem.	.02 ⁽¹⁰⁾	.50	.50	8.5-9.5 ⁽²⁾	5.5-6.5	.05-.30	.15Mg .10Nb
C72800 ⁽⁹⁾	--	Rem.	.005	.50	1.0	9.5-10.5 ⁽²⁾	7.5-8.5	.05-.30	.10Al .02Sb .001Bi .001B .005-.15Mg .10-.30Nb .005P .05Si .0025S .01Ti

Copper Alloy No.	Previous Trade Name	Cu(incl Ag)	Pb	Fe	Zn	Ni	Sn	Mn	Other Named Elements
C72900 ⁽⁹⁾	--	Rem.	.02 ⁽¹⁰⁾	.50	.50	14.5-15.5 ⁽²⁾	7.5-8.5	.30	.15Mg .10Nb
C72950 ⁽⁹⁾	--	Rem.	.05	.6	--	20.0-22.0 ⁽²⁾	4.5-5.7	.6	--

(1) : Cu + Sum of Named Elements, 99.5% min.

(2) : Ni value includes Co.

(3) : Ag Includes B

(4) : The following additional maximum limits shall apply: .02% C, .015% Si, .003% S, .002% Al, .001% P, .0005%Hg, .001% Ti, .001% Sb, .001% As, .001% Bi, .05% Co, .10% Mg and .005% Oxygen. For C70690, Co shall be .02% max.

(5) : The following additional maximum limits shall apply: .07% C, .15% Si, .024% S, .05% Al and .03% P.

(6) : .02% P, max.; .25% Si, max.; .01% S, max.; .02 - .50% Ti.

(7) : The following additional maximum limits shall apply: When the product is for subsequent welding applications and is so specified by the purchaser, .50% Zn, .02% P, .02% Pb, .02% S and .05% C.

(8) : Cu + Sum of Named Elements, 99.8% min.

(9) : Cu + Sum of Named Elements, 99.7% min.

(10) : .005% Pb, max., for hot rolling.

APPLICATION DATASHEET

Standard Designation For

WROUGHT ALLOYS

Last Update: June 25, 2006

Copper-Nickel-Zinc Alloys (Nickel Silvers) C73500 - C79999

Composition, percent maximum, unless shown as a range or a minimum

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Copper Alloy No.	Previous Trade Name	Cu (incl Ag)	Pb	Fe	Zn	Ni	Mn	Other Named Elements
C73500 ⁽¹⁾	--	70.5-73.5	.10	.25	Rem.	16.5-19.5 ⁽²⁾	.50	--
C74000 ⁽¹⁾	--	69.0-73.5	.10	.25	Rem.	9.0-11.0 ⁽²⁾	.50	--
C74300 ⁽¹⁾	--	63.0-66.0	.10	.25	Rem.	7.0-9.0 ⁽²⁾	.50	--
C74400 ⁽³⁾	--	62.0-66.0	.05	.05	Rem.	2.0-4.0 ⁽²⁾	--	--
C74500 ⁽¹⁾	Nickel Silver, 65-10	63.5-66.5	.10 ⁽⁴⁾	.25	Rem.	9.0-11.0 ⁽²⁾	.50	--
C75200 ⁽¹⁾	Nickel Silver, 65-18	63.0-66.5	.05	.25	Rem.	16.5-19.5 ⁽²⁾	.50	--
C75400 ⁽¹⁾	Nickel Silver, 65-15	63.5-66.5	.10	.25	Rem.	14.0-16.0 ⁽²⁾	.50	--
C75700 ⁽¹⁾	Nickel Silver, 65-12	63.5-66.5	.05	.25	Rem.	11.0-13.0 ⁽²⁾	.50	--
C76000 ⁽¹⁾	--	60.0-63.0	.10	.25	Rem.	7.0-9.0 ⁽²⁾	.50	--
C76200 ⁽¹⁾	--	57.0-61.0	.10	.25	Rem.	11.0-13.5 ⁽²⁾	.50	--
C76400 ⁽¹⁾	--	58.5-61.5	.05	.25	Rem.	16.5-19.5 ⁽²⁾	.50	--
C76700 ⁽¹⁾	Nickel Silver, 56.5-15	55.0-58.0	--	--	Rem.	14.0-16.0 ⁽²⁾	.50	--
C77000 ⁽¹⁾	Nickel Silver, 55-18	53.5-56.5	.05	.25	Rem.	16.5-19.5 ⁽²⁾	.50	--
C77300 ⁽¹⁾	--	46.0-50.0	.05	--	Rem.	9.0-11.0 ⁽²⁾	--	.01Al .25P .04-.25Si
C77400 ⁽¹⁾	--	43.0-47.0	.20	--	Rem.	9.0-11.0 ⁽²⁾	--	--
C77600 ⁽¹⁾	--	42.0-45.0	.25	.20	Rem.	12.0-14.0 ⁽²⁾	.25	.15Sn
C78200 ⁽¹⁾	--	63.0-67.0	1.5-2.5	.35	Rem.	7.0-9.0 ⁽²⁾	.50	--
C79000 ⁽¹⁾	--	63.0-67.0	1.5-2.2	.35	Rem.	11.0-13.0 ⁽²⁾	.50	--
C79200 ⁽¹⁾	--	59.0-66.5	.8-1.4	.25	Rem.	11.0-13.0 ⁽²⁾	.50	--
C79350 ⁽¹⁾	--	59.0-63.0	.8-1.1	.25	Rem.	23.0-26.0 ⁽²⁾	.50	.40-.6Sn
C79800 ⁽¹⁾	--	45.5-48.5	1.5-2.5	.25	Rem.	9.0-11.0 ⁽²⁾	1.5-2.5	--

Copper Alloy No.	Previous Trade Name	Cu(incl Ag)	Pb	Fe	Zn	Ni	Mn	Other Named Elements
C79830 ⁽¹⁾	--	45.5-47.0	1.0-2.5	.45	Rem.	9.0-10.5 ⁽²⁾	.15-.55	--
C79860 ⁽⁵⁾	--	42.3-43.7	1.3-1.8	.20	Rem.	11.8-12.7 ⁽²⁾	5.6-6.4	.005P .06Si .10Sn

(1) : Cu + Sum of Named Elements, 99.5% min.

(2) : Ni value includes Co.

(3) : Cu + Sum of Named Elements, 99.7% min.

(4) : .05% Pb, max., for rod, wire, and tube.

(5) : Cu + Sum of Named Elements, 99.8% min.

APPLICATION DATASHEET

Standard Designation For

CAST ALLOYS

Last Update: June 25, 2006

Coppers
C80000 - C81399

Composition, percent maximum, unless shown as a range or a minimum

Page 1 of 1

Copper No.	Cu(incl Ag)	P	Other Named Elements
C80100	99.95min	--	--
C80410	99.9min	--	--
C81100	99.70min	--	--
C81200	99.9min	.045-.065	--
:			

APPLICATION DATASHEET

Standard Designation For

CAST ALLOYS

Last Update: June 25, 2006

High Copper Alloys

C81400 - C83299

Composition, percent maximum, unless shown as a range or a minimum

Page 1 of 1

Copper Alloy No.	Cu	Ag	Be	Co	Si	Ni	Fe	Al	Sn	Pb	Zn	Cr	Other Named Elements
C81400 ⁽¹⁾	Rem.	--	.02-.10	--	--	--	--	--	--	--	--	.6-1.0	--
C81500 ⁽¹⁾	Rem.	--	--	--	.15	--	.10	.10	.10	.02	.10	.40-1.5	--
C81540 ⁽¹⁾	95.1min ⁽²⁾	--	--	--	.40-.8	2.0-3.0 ⁽³⁾	.15	.10	.10	.02	.10	.10-.6	--
C82000 ⁽¹⁾	Rem.	--	.45-.8	2.40-2.70 ⁽⁴⁾	.15	.20 ⁽⁴⁾	.10	.10	.10	.02	.10	.10	--
C82200 ⁽¹⁾	Rem.	--	.35-.8	.30	.15	1.0-3.0	--	--	--	--	--	--	--
C82400 ⁽¹⁾	Rem.	--	1.60-1.85	.20-.65	--	.20	.20	.15	.10	.02	.10	.10	--
C82500 ⁽¹⁾	Rem.	--	1.90-2.25	.35-.70 ⁽⁴⁾	.20-.35	.20 ⁽⁴⁾	.25	.15	.10	.02	.10	.10	--
C82510 ⁽¹⁾	Rem.	--	1.90-2.15	1.0-1.2	.20-.35	.20	.25	.15	.10	.02	.10	.10	--
C82600 ⁽¹⁾	Rem.	--	2.25-2.55	.35-.65	.20-.35	.20	.25	.15	.10	.02	.10	.10	--
C82700 ⁽¹⁾	Rem.	--	2.35-2.55	--	.15	1.0-1.5	.25	.15	.10	.02	.10	.10	--
C82800 ⁽¹⁾	Rem.	--	2.50-2.85	.35-.70 ⁽⁴⁾	.20-.35	.20 ⁽⁴⁾	.25	.15	.10	.02	.10	.10	--

(1) : Cu + Sum of Named Elements, 99.5% min.

(2) : Includes Ag.

(3) : Ni value includes Co.

(4) : Ni + Co.

APPLICATION DATASHEET

Standard Designation For

CAST ALLOYS

Last Update: June 25, 2006

Copper-Tin-Zinc and Copper-Tin-Zinc-Lead Alloys (Red a
C83300 - C83999

Composition, percent maximum, unless shown as a range or a minimum

Page 1 of 1

Copper Alloy No.	Cu	Sn	Pb	Zn	Fe	Sb	As	Ni	S	P	Al	Si	Other Named Elements
C83300 ⁽¹⁾	92.0-94.0 ⁽²⁾	1.0-2.0	1.0-2.0	2.0-6.0	--	--	--	--	--	--	--	--	--
C83400 ⁽¹⁾	88.0-92.0 ⁽²⁾	.20	.50	8.0-12.0	.25	.25	--	1.0 ⁽³⁾	.08	.03 ⁽⁴⁾	.005	.005	--
C83450 ⁽¹⁾	87.0-89.0 ⁽²⁾	2.0-3.5	1.5-3.0	5.5-7.5	.30	.25	--	.8-2.0 ⁽³⁾	.08	.03 ⁽⁴⁾	.005	.005	--
C83500 ⁽¹⁾	86.0-88.0 ⁽²⁾	5.5-6.5	3.5-5.5	1.0-2.5	.25	.25	--	.50-1.0 ⁽³⁾	.08	.03 ⁽⁴⁾	.005	.005	--
C83600 ⁽¹⁾	84.0-86.0 ⁽²⁾	4.0-6.0	4.0-6.0	4.0-6.0	.30	.25	--	1.0 ⁽³⁾	.08	.05 ⁽⁴⁾	.005	.005	--
C83800 ⁽¹⁾	82.0-83.8 ⁽²⁾	3.3-4.2	5.0-7.0	5.0-8.0	.30	.25	--	1.0 ⁽³⁾	.08	.03 ⁽⁴⁾	.005	.005	--
C83810 ⁽¹⁾	Rem. ⁽²⁾	2.0-3.5	4.0-6.0	7.5-9.5	.50 ⁽⁵⁾	--	--	2.0 ⁽³⁾	--	--	.005	.10	--

(1) : Cu + Sum of Named Elements, 99.3% min

(2) : In determining Cu min., Cu may be calculated as Cu + Ni.

(3) : Ni value includes Co.

(4) : For continuous castings, P shall be 1.5%, max.

(5) : Fe + Sb + As shall be .50% max.

APPLICATION DATASHEET

Standard Designation For

CAST ALLOYS

Last Update: June 25, 2006

**Copper-Tin-Zinc and Copper-Tin-Zinc-Lead Alloys (Semi-
C84000 - C84999**

Composition, percent maximum, unless shown as a range or a minimum

Page 1 of 1

Copper Alloy No.	Cu	Sn	Pb	Zn	Fe	Sb	Ni	S	P	Al	Si	Bi	Other Named Elements
C84200 ⁽¹⁾	78.0-82.0 ⁽²⁾	4.0-6.0	2.0-3.0	10.0-16.0	.40	.25	.8 ⁽³⁾	.08	.05 ⁽⁴⁾	.005	.005	--	--
C84400 ⁽¹⁾	78.0-82.0 ⁽²⁾	2.3-3.5	6.0-8.0	7.0-10.0	.40	.25	1.0 ⁽³⁾	.08	.02 ⁽⁴⁾	.005	.005	--	--
C84410 ⁽¹⁾	Rem. ⁽²⁾	3.0-4.5	7.0-9.0	7.0-11.0	--	--	1.0 ⁽³⁾	--	--	.01	.2	.05	(5)
C84500 ⁽¹⁾	77.0-79.0 ⁽²⁾	2.0-4.0	6.0-7.5	10.0-14.0	.40	.25	1.0 ⁽³⁾	.08	.02 ⁽⁴⁾	.005	.005	--	--
C84800 ⁽¹⁾	75.0-77.0 ⁽²⁾	2.0-3.0	5.5-7.0	13.0-17.0	.40	.25	1.0 ⁽³⁾	.08	.02 ⁽⁴⁾	.005	.005	--	--

(1) : Cu + Sum of Named Elements, 99.3% min.

(2) : In determining Cu min., Cu may be calculated as Cu + Ni.

(3) : Ni value includes Co.

(4) : For continuous castings, P shall be 1.5%, max.

(5) : Fe + Sb + As shall be .8% max.

APPLICATION DATASHEET
Standard Designation For
CAST ALLOYS
Last Update: June 25, 2006

Copper-Zinc Alloys (Yellow Brasses)
C85000 - C85999

Composition, percent maximum, unless shown as a range or a minimum

Page 1 of 1

Copper Alloy No.	Cu	Sn	Pb	Zn	Fe	Sb	Ni	Mn	As	S	P	Al	Si	Other Named Elements
C85200 ⁽¹⁾	70.0-74.0 ⁽²⁾	.7-2.0	1.5-3.8	20.0-27.0	.6	.20	1.0 ⁽³⁾	--	--	.05	.02	.005	.05	--
C85400 ⁽⁴⁾	65.0-70.0 ⁽²⁾	.50-1.5	1.5-3.8	24.0-32.0	.7	--	1.0 ⁽³⁾	--	--	--	--	.35	.05	--
C85500 ⁽¹⁾	59.0-63.0 ⁽²⁾	.20	.20	Rem.	.20	--	.20 ⁽³⁾	.20	--	--	--	--	--	--
C85700 ⁽⁵⁾	58.0-64.0 ⁽²⁾	.50-1.5	.8-1.5	32.0-40.0	.7	--	1.0 ⁽³⁾	--	--	--	--	.8	.05	--
C85800 ⁽⁵⁾	57.0min ⁽²⁾	1.5	1.5	31.0-41.0	.50	.05	.50 ⁽³⁾	.25	.05	.05	.01	.55	.25	--

(1) : Cu + Sum of Named Elements, 99.1% min.

(2) : In determining Cu min., Cu may be calculated as Cu + Ni.

(3) : Ni value includes Co.

(4) : Cu + Sum of Named Elements, 98.9% min.

(5) : Cu + Sum of Named Elements, 98.7% min.

APPLICATION DATASHEET

Standard Designation For

CAST ALLOYS

Last Update: June 25, 2006

**Manganese Bronze and Leaded Manganese Bronze Alloy
C86000 - C86999**

Composition, percent maximum, unless shown as a range or a minimum

Page 1 of 1

Copper Alloy No.	Cu	Sn	Pb	Zn	Fe	Ni	Al	Mn	Si	Other Named Elements
C86100 ⁽¹⁾	66.0-68.0 ⁽²⁾	.20	.20	Rem.	2.0-4.0	--	4.5-5.5	2.5-5.0	--	--
C86200 ⁽¹⁾	60.0-66.0 ⁽²⁾	.20	.20	22.0-28.0	2.0-4.0	1.0 ⁽³⁾	3.0-4.9	2.5-5.0	--	--
C86300 ⁽¹⁾	60.0-66.0 ⁽²⁾	.20	.20	22.0-28.0	2.0-4.0	1.0 ⁽³⁾	5.0-7.5	2.5-5.0	--	--
C86400 ⁽¹⁾	56.0-62.0 ⁽²⁾	.50-1.5	.50-1.5	34.0-42.0	.40-2.0	1.0 ⁽³⁾	.50-1.5	.10-1.5	--	--
C86500 ⁽¹⁾	55.0-60.0 ⁽²⁾	1.0	.40	36.0-42.0	.40-2.0	1.0 ⁽³⁾	.50-1.5	.10-1.5	--	--
C86550 ⁽¹⁾	57.0min ⁽²⁾	1.0	.50	Rem.	.7-2.0	1.0 ⁽³⁾	.50-2.5	.10-3.0	.10	--
C86700 ⁽¹⁾	55.0-60.0 ⁽²⁾	1.5	.50-1.5	30.0-38.0	1.0-3.0	1.0 ⁽³⁾	1.0-3.0	.10-3.5	--	--
C86800 ⁽¹⁾	53.5-57.0 ⁽²⁾	1.0	.20	Rem.	1.0-2.5	2.5-4.0 ⁽³⁾	2.0	2.5-4.0	--	--

(1) : Cu + Sum of Named Elements, 99.0% min.

(2) : In determining Cu min., Cu may be calculated as Cu + Ni.

(3) : Ni value includes Co.

APPLICATION DATASHEET

Standard Designation For

CAST ALLOYS

Last Update: June 25, 2006

Copper-Silicon Alloys (Silicon Bronzes and Silicon Brass C87000 - C87999)

Composition, percent maximum, unless shown as a range or a minimum

Page 1 of 1

Copper Alloy No.	Cu	Sn	Pb	Zn	Fe	Al	Si	Mn	Mg	Ni	S	Other Named Elements
C87300 ⁽¹⁾	94.0min	--	.20	.25	.20	--	3.5-4.5	.8-1.5	--	--	--	--
C87400 ⁽²⁾	79.0min	--	1.0	12.0-16.0	--	.8	2.5-4.0	--	--	--	--	--
C87500 ⁽¹⁾	79.0min	--	.50	12.0-16.0	--	.50	3.0-5.0	--	--	--	--	--
C87600 ⁽¹⁾	88.0min	--	.50	4.0-7.0	.20	--	3.5-5.5	.25	--	--	--	--
C87610 ⁽¹⁾	90.0min	--	.20	3.0-5.0	.20	--	3.0-5.0	.25	--	--	--	--
C87800 ⁽¹⁾	80.0min	.25	.15	12.0-16.0	.15	.15	3.8-4.2	.15	.01	.20 ⁽³⁾	.05	.05Sb .05As .01P
C87850 ⁽¹⁾	74.0-78.0	.30	.10	Rem.	.10	--	2.7-3.4	.10	--	.20 ⁽³⁾	--	.10Sb .05-.20P

(1) : Cu + Sum of Named Elements, 99.5% min.

(2) : Cu + Sum of Named Elements, 99.2% min.

(3) : Ni value includes Co.

APPLICATION DATASHEET

Standard Designation For

CAST ALLOYS

Last Update: June 25, 2006

Copper-Bismuth and Copper-Bismuth-Selenium Alloys C88000 - C89999

Composition, percent maximum, unless shown as a range or a minimum

Page 1 of 1

Copper Alloy No.	Cu	Sn	Pb	Zn	Fe	Sb	Ni	S	P	Al	Si	Bi	Se	Other Named Elements
C89320 ⁽¹⁾	87.0-91.0	5.0-7.0	.09	1.0	.20	.35	1.0 ⁽²⁾	.08	.30	.005	.005	4.0-6.0	--	--
C89325 ⁽³⁾	84.0-88.0	9.0-11.0	.10	1.0	.15	.50	1.0 ⁽²⁾	.08	.10	.005	.005	2.7-3.7	--	(4)
C89510 ⁽¹⁾	86.0-88.0	4.0-6.0	.25	4.0-6.0	.20	.25	1.0 ⁽²⁾	.08	.05	.005	.005	.50-1.5 ⁽⁵⁾	.35-.75 ⁽⁵⁾	--
C89520 ⁽¹⁾	85.0-87.0	5.0-6.0	.25	4.0-6.0	.20	.25	1.0 ⁽²⁾	.08	.05	.005	.005	1.6-2.2 ⁽⁶⁾	.8-1.1 ⁽⁶⁾	--
C89530 ⁽¹⁾	84.0-89.0	3.5-6.0	.20	7.0-9.0	.30	.20	1.0 ⁽²⁾	--	.05	.01	.01	1.0-2.0	.10-.30	--
C89540 ⁽¹⁾	58.0-64.0	1.2	.10	32.0-38.0	.50	--	1.0 ⁽²⁾	--	--	.10-.60	--	.6-1.2	.10	--
C89550 ⁽¹⁾	58.0-64.0	1.2	.10	32.0-38.0	.50	.05	1.0 ⁽²⁾	.05	.01	.10-.6	.25	.6-1.2	.01-.10	--
C89831 ⁽³⁾	87.0-91.0	2.7-3.7	.10	2.0-4.0	.30	.25	1.0 ⁽²⁾	.08	.050	.005	.005	2.7-3.7	--	(4)
C89833 ⁽⁷⁾	87.0-91.0	4.0-6.0	.10	2.0-4.0	.30	.25	1.0 ⁽²⁾	.08	.050	.005	.005	1.7-2.7	--	--
C89835 ⁽³⁾	85.0-89.0	6.0-7.5	.10	2.0-4.0	.20	.35	1.0 ⁽²⁾	.08	.10	.005	.005	1.7-2.7	--	(4)
C89836 ⁽¹⁾	87.0-91.0	4.0-7.0	.25	2.0-4.0	.35	.25	.90 ⁽²⁾	.08	.06	.005	.005	1.5-3.5	--	--
C89837 ⁽³⁾	84.0-88.0	3.0-4.0	.10	6.0-10.0	.30	.25	1.0 ⁽²⁾	.08	.050	.005	.005	.7-1.2	--	(4)
C89844 ⁽⁷⁾	83.0-86.0	3.0-5.0	.20	7.0-10.0	.30	.25	1.0 ⁽²⁾	.08	.05	.005	.005	2.0-4.0	--	--
C89940 ⁽¹⁾	64.0-68.0	3.0-5.0	.01	3.0-5.0	.7-2.0	.10	20.0-23.0 ⁽²⁾	.05	.10-.15	.005	.15	4.0-5.5	--	.20Mn

(1) : Cu + Sum of Named Elements, 99.5% min.

(2) : Ni value includes Co.

(3) : Cu + Sum of Named Elements, 99.0% min.

(4) : .01 - 2.0% as any single or combination of Ce, La or other rare earth(x) elements, as agreed upon. (x)ASM International definition: one of the group of chemically similar metals with atomic numbers 57 through 71, commonly referred to as lanthanides

(5) : Experience favors Bi:Se >= 2:1

(6) : Bi:Se >= 2:1

(7) : Cu + Sum of Named Elements, 99.3% min.

APPLICATION DATASHEET

Standard Designation For

CAST ALLOYS

Last Update: June 25, 2006

Copper-Tin Alloys (Tin Bronzes)
C90000 - C91999

Composition, percent maximum, unless shown as a range or a minimum

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Copper Alloy No.	Cu	Sn	Pb	Zn	Fe	Sb	Ni	S	P	Al	Si	Mn	Other Named Elements
C90200 ⁽¹⁾	91.0-94.0 ⁽²⁾	6.0-8.0	.30	.50	.20	.20	.50 ⁽³⁾	.05	.05 ⁽⁴⁾	.005	.005	--	--
C90300 ⁽¹⁾	86.0-89.0 ⁽²⁾	7.5-9.0	.30	3.0-5.0	.20	.20	1.0 ⁽³⁾	.05	.05 ⁽⁴⁾	.005	.005	--	--
C90500 ⁽⁵⁾	86.0-89.0 ⁽²⁾	9.0-11.0	.30	1.0-3.0	.20	.20	1.0 ⁽³⁾	.05	.05 ⁽⁴⁾	.005	.005	--	--
C90700 ⁽¹⁾	88.0-90.0 ⁽²⁾	10.0-12.0	.50	.50	.15	.20	.50 ⁽³⁾	.05	.30 ⁽⁴⁾	.005	.005	--	--
C90710 ⁽¹⁾	Rem. ⁽²⁾	10.0-12.0	.25	.05	.10	.20	.10 ⁽³⁾	.05	.05-1.2 ⁽⁴⁾	.005	.005	--	--
C90800 ⁽¹⁾	85.0-89.0 ⁽²⁾	11.0-13.0	.25	.25	.15	.20	.50 ⁽³⁾	.05	.30 ⁽⁴⁾	.005	.005	--	--
C90810 ⁽¹⁾	Rem. ⁽²⁾	11.0-13.0	.25	.30	.15	.20	.50 ⁽³⁾	.05	.15-8 ⁽⁴⁾	.005	.005	--	--
C90900 ⁽¹⁾	86.0-89.0 ⁽²⁾	12.0-14.0	.25	.25	.15	.20	.50 ⁽³⁾	.05	.05 ⁽⁴⁾	.005	.005	--	--
C91000 ⁽¹⁾	84.0-86.0 ⁽²⁾	14.0-16.0	.20	1.5	.10	.20	.8 ⁽³⁾	.05	.05 ⁽⁴⁾	.005	.005	--	--
C91100 ⁽¹⁾	82.0-85.0 ⁽²⁾	15.0-17.0	.25	.25	.25	.20	.50 ⁽³⁾	.05	1.0 ⁽⁴⁾	.005	.005	--	--
C91300 ⁽¹⁾	79.0-82.0 ⁽²⁾	18.0-20.0	.25	.25	.25	.20	.50 ⁽³⁾	.05	1.0 ⁽⁴⁾	.005	.005	--	--
C91600 ⁽¹⁾	86.0-89.0 ⁽²⁾	9.7-10.8	.25	.25	.20	.20	1.2-2.0 ⁽³⁾	.05	.30 ⁽⁴⁾	.005	.005	--	--
C91700 ⁽¹⁾	84.0-87.0 ⁽²⁾	11.3-12.5	.25	.25	.20	.20	1.2-2.0 ⁽³⁾	.05	.30 ⁽⁴⁾	.005	.005	--	--

(1) : Cu + Sum of Named Elements, 99.4% min..

(2) : In determining Cu min., Cu may be calculated as Cu + Ni.

(3) : Ni value includes Co.

(4) : For continuous castings, P shall be 1.5%, max.

(5) : Cu + Sum of Named Elements, 99.7% min.

APPLICATION DATASHEET

Standard Designation For

CAST ALLOYS

Last Update: June 25, 2006

Copper-Tin-Lead Alloys (Leaded Tin Bronzes) C92000 - C92900

Composition, percent maximum, unless shown as a range or a minimum

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Copper Alloy No.	Cu	Sn	Pb	Zn	Fe	Sb	Ni	S	P	Al	Si	Mn	Other Named Elements
C92200 ⁽¹⁾	86.0-90.0 ⁽²⁾	5.5-6.5	1.0-2.0	3.0-5.0	.25	.25	1.0 ⁽³⁾	.05	.05 ⁽⁴⁾	.005	.005	--	--
C92210 ⁽¹⁾	86.0-89.0 ⁽²⁾	4.5-5.5	1.7-2.5	3.0-4.5	.25	.20	.7-1.0 ⁽³⁾	.05	.03 ⁽⁴⁾	.005	.005	--	--
C92220 ⁽¹⁾	86.0-88.0 ⁽²⁾	5.0-6.0	1.5-2.5	3.0-5.5	.25	--	.50-1.0 ⁽³⁾	--	.05 ⁽⁴⁾	--	--	--	--
C92300 ⁽¹⁾	85.0-89.0 ⁽²⁾	7.5-9.0	.30-1.0	2.5-5.0	.25	.25	1.0 ⁽³⁾	.05	.05 ⁽⁴⁾	.005	.005	--	--
C92310 ⁽¹⁾	Rem. ⁽²⁾	7.5-8.5	.30-1.5	3.5-4.5	--	--	1.0 ⁽³⁾	--	--	.005	.005	.03	--
C92400 ⁽¹⁾	86.0-89.0 ⁽²⁾	9.0-11.0	1.0-2.5	1.0-3.0	.25	.25	1.0 ⁽³⁾	.05	.05 ⁽⁴⁾	.005	.005	--	--
C92410 ⁽¹⁾	Rem. ⁽²⁾	6.0-8.0	2.5-3.5	1.5-3.0	.20	.25	.20 ⁽³⁾	--	--	.005	.005	.05	--
C92500 ⁽¹⁾	85.0-88.0 ⁽²⁾	10.0-12.0	1.0-1.5	.50	.30	.25	.8-1.5 ⁽³⁾	.05	.30 ⁽⁴⁾	.005	.005	--	--
C92600 ⁽¹⁾	86.0-88.5 ⁽²⁾	9.3-10.5	.8-1.5	1.3-2.5	.20	.25	.7 ⁽³⁾	.05	.03 ⁽⁴⁾	.005	.005	--	--
C92610 ⁽¹⁾	Rem. ⁽²⁾	9.5-10.5	.30-1.5	1.7-2.8	.15	--	1.0 ⁽³⁾	--	--	.005	.005	.03	--
C92700 ⁽¹⁾	86.0-89.0 ⁽²⁾	9.0-11.0	1.0-2.5	.7	.20	.25	1.0 ⁽³⁾	.05	.25 ⁽⁴⁾	.005	.005	--	--
C92710 ⁽¹⁾	Rem. ⁽²⁾	9.0-11.0	4.0-6.0	1.0	.20	.25	2.0 ⁽³⁾	.05	.10 ⁽⁴⁾	.005	.005	--	--
C92800 ⁽¹⁾	78.0-82.0 ⁽²⁾	15.0-17.0	4.0-6.0	.8	.20	.25	.8 ⁽³⁾	.05	.05 ⁽⁴⁾	.005	.005	--	--
C92810 ⁽¹⁾	78.0-82.0 ⁽²⁾	12.0-14.0	4.0-6.0	.50	.50	.25	.8-1.2 ⁽³⁾	.05	.05 ⁽⁴⁾	.005	.005	--	--
C92900 ⁽¹⁾	82.0-86.0 ⁽²⁾	9.0-11.0	2.0-3.2	.25	.20	.25	2.8-4.0 ⁽³⁾	.05	.50 ⁽⁴⁾	.005	.005	--	--

(1) : Cu + Sum of Named Elements, 99.3% min.

(2) : In determining Cu min., Cu may be calculated as Cu + Ni.

(3) : Ni value includes Co.

(4) : For continuous castings, P shall be 1.5%, max.

APPLICATION DATASHEET

Standard Designation For

CAST ALLOYS

Last Update: June 25, 2006

Copper-Tin-Lead Alloys (High-Leaded Tin Bronzes) C93000 - C94500

Composition, percent maximum, unless shown as a range or a minimum

Page 1 of 1

Copper Alloy No.	Cu	Sn	Pb	Zn	Fe	Sb	Ni	S	P	Al	Si	Other Named Elements
C93100 ⁽¹⁾	Rem. ⁽²⁾	6.5-8.5	2.0-5.0	2.0	.25	.25	1.0 ⁽³⁾	.05	.30 ⁽⁴⁾	.005	.005	--
C93200 ⁽¹⁾	81.0-85.0 ⁽²⁾	6.3-7.5	6.0-8.0	1.0-4.0	.20	.35	1.0 ⁽³⁾	.08	.15 ⁽⁴⁾	.005	.005	--
C93400 ⁽¹⁾	82.0-85.0 ⁽²⁾	7.0-9.0	7.0-9.0	.8	.20	.50	1.0 ⁽³⁾	.08	.50 ⁽⁴⁾	.005	.005	--
C93500 ⁽¹⁾	83.0-86.0 ⁽²⁾	4.3-6.0	8.0-10.0	2.0	.20	.30	1.0 ⁽³⁾	.08	.05 ⁽⁴⁾	.005	.005	--
C93600 ⁽⁵⁾	79.0-83.0	6.0-8.0	11.0-13.0	1.0	.20	.55	1.0 ⁽³⁾	.08	.15 ⁽⁴⁾	.005	.005	--
C93700 ⁽¹⁾	78.0-82.0	9.0-11.0	8.0-11.0	.8	.7 ⁽⁶⁾	.50	.50 ⁽³⁾	.08	.10 ⁽⁴⁾	.005	.005	--
C93720 ⁽¹⁾	83.0min	3.5-4.5	7.0-9.0	4.0	.7	.50	.50 ⁽³⁾	--	.10 ⁽⁴⁾	--	--	--
C93800 ⁽¹⁾	75.0-79.0	6.3-7.5	13.0-16.0	.8	.15	.8	1.0 ⁽³⁾	.08	.05 ⁽⁴⁾	.005	.005	--
C93900 ⁽⁷⁾	76.5-79.5	5.0-7.0	14.0-18.0	1.5	.40	.50	.8 ⁽³⁾	.08	1.5 ⁽⁴⁾	.005	.005	--
C94000 ⁽⁸⁾	69.0-72.0	12.0-14.0	14.0-16.0	.50	.25	.50	.50-1.0 ⁽³⁾	.08 ⁽⁹⁾	.05 ⁽⁴⁾	.005	.005	--
C94100 ⁽⁸⁾	72.0-79.0	4.5-6.5	18.0-22.0	1.0	.25	.8	1.0 ⁽³⁾	.08 ⁽⁹⁾	.50 ⁽⁴⁾	.005	.005	--
C94300 ⁽¹⁾	67.0-72.0	4.5-6.0	23.0-27.0	.8	.15	.8	1.0 ⁽³⁾	.08 ⁽⁹⁾	.08 ⁽⁴⁾	.005	.005	--
C94310 ⁽¹⁾	Rem.	1.5-3.0	27.0-34.0	.50	.50	.50	.25-1.0 ⁽³⁾	--	.05 ⁽⁴⁾	--	--	--
C94320 ⁽¹⁾	Rem.	4.0-7.0	24.0-32.0	--	.35	--	--	--	--	--	--	--
C94330 ⁽¹⁾	68.5-75.5	3.0-4.0	21.0-25.0	3.0	.7	.50	.50 ⁽³⁾	--	.10 ⁽⁴⁾	--	--	--
C94400 ⁽¹⁾	Rem.	7.0-9.0	9.0-12.0	.8	.15	.8	1.0 ⁽³⁾	.08	.50 ⁽⁴⁾	.005	.005	--
C94500 ⁽¹⁾	Rem.	6.0-8.0	16.0-22.0	1.2	.15	.8	1.0 ⁽³⁾	.08	.05 ⁽⁴⁾	.005	.005	--

(1) : Cu + Sum of Named Elements, 99.0% min.

(2) : In determining Cu min., Cu may be calculated as Cu + Ni.

(3) : Ni value includes Co.

(4) : For continuous castings, P shall be 1.5%, max.

(5) : Cu + Sum of Named Elements, 99.3% min.

(6) : Fe shall be .35% max., when used for steel-backed

(7) : Cu + Sum of Named Elements, 98.9% min.

(8) : Cu + Sum of Named Elements, 98.7% min.

(9) : For continuous castings, S shall be .25% max.

APPLICATION DATASHEET

Standard Designation For

CAST ALLOYS

Last Update: June 25, 2006

Copper-Tin_Nickel Alloys (Nickel-Tin Bronzes)
C94600 - C94999

Composition, percent maximum, unless shown as a range or a minimum

Page 1 of 1

Copper Alloy No.	Cu	Sn	Pb	Zn	Fe	Sb	Ni	Mn	S	P	Al	Si	Other Named Elements
C94700 ⁽¹⁾	85.0-90.0	4.5-6.0	.10 ⁽²⁾	1.0-2.5	.25	.15	4.5-6.0 ⁽³⁾	.20	.05	.05	.005	.005	--
C94800 ⁽¹⁾	84.0-89.0	4.5-6.0	.30-1.0	1.0-2.5	.25	.15	4.5-6.0 ⁽³⁾	.20	.05	.05	.005	.005	--
C94900 ⁽⁴⁾	79.0-81.0	4.0-6.0	4.0-6.0	4.0-6.0	.30	.25	4.0-6.0 ⁽³⁾	.10	.08	.05	.005	.005	--

(1) : Cu + Sum of Named Elements, 98.7% min.

(2) : The mechanical properties of C94700 (heat treated) may not be attainable if the Pb content exceeds .01%.

(3) : Ni value includes Co.

(4) : Cu + Sum of Named Elements, 99.4% min.

APPLICATION DATASHEET

Standard Designation For

CAST ALLOYS

Last Update: June 25, 2006

Copper-Aluminum-Iron and Copper-Aluminum-Iron-Nickel C95000 - C95999

Composition, percent maximum, unless shown as a range or a minimum

Page 1 of 1

Copper Alloy No.	Cu	Pb	Fe	Ni	Al	Mn	Mg	Si	Zn	Sn	Other Named Elements
C95200 ⁽¹⁾	86.0min	--	2.5-4.0	--	8.5-9.5	--	--	--	--	--	--
C95210 ⁽¹⁾	86.0min	.05	2.5-4.0	1.0 ⁽²⁾	8.5-9.5	1.0	.05	.25	.50	.10	--
C95220 ⁽³⁾	Rem.	--	2.5-4.0	2.5 ⁽²⁾	9.5-10.5	.50	--	--	--	--	--
C95300 ⁽¹⁾	86.0min	--	.8-1.5	--	9.0-11.0	--	--	--	--	--	--
C95400 ⁽³⁾	83.0min	--	3.0-5.0	1.5 ⁽²⁾	10.0-11.5	.50	--	--	--	--	--
C95410 ⁽³⁾	83.0min	--	3.0-5.0	1.5-2.5 ⁽²⁾	10.0-11.5	.50	--	--	--	--	--
C95420 ⁽³⁾	83.5min	--	3.0-4.3	.50 ⁽²⁾	10.5-12.0	.50	--	--	--	--	--
C95500 ⁽³⁾	78.0min	--	3.0-5.0	3.0-5.5 ⁽²⁾	10.0-11.5	3.5	--	--	--	--	--
C95510 ⁽⁴⁾	78.0min	--	2.0-3.5	4.5-5.5 ⁽²⁾	9.7-10.9	1.5	--	--	.30	.20	--
C95520 ⁽³⁾	74.5min	.03	4.0-5.5	4.2-6.0 ⁽²⁾	10.5-11.5	1.5	--	.15	.30	.25	.05Cr .20Co
C95600 ⁽¹⁾	88.0min	--	--	.25 ⁽²⁾	6.0-8.0	--	--	1.8-3.2	--	--	--
C95700 ⁽³⁾	71.0min	--	2.0-4.0	1.5-3.0 ⁽²⁾	7.0-8.5	11.0-14.0	--	.10	--	--	--
C95710 ⁽³⁾	71.0min	.05	2.0-4.0	1.5-3.0 ⁽²⁾	7.0-8.5	11.0-14.0	--	.15	.50	1.0	.05P
C95720 ⁽³⁾	73.0min	.03	1.5-3.5	3.0-6.0 ⁽²⁾	6.0-8.0	12.0-15.0	--	.10	.10	.10	.20Cr
C95800 ⁽³⁾	79.0min	.03	3.5-4.5 ⁽⁵⁾	4.0-5.0 ⁽⁵⁾	8.5-9.5	.8-1.5	--	.10	--	--	--
C95810 ⁽³⁾	79.0min	.10	3.5-4.5 ⁽⁵⁾	4.0-5.0 ⁽⁵⁾	8.5-9.5	.8-1.5	.05	.10	.50	--	--
C95820 ⁽⁶⁾	77.5min	.02	4.0-5.0	4.5-5.8 ⁽²⁾	9.0-10.0	1.5	--	.10	.20	.20	--
C95900 ⁽³⁾	Rem.	--	3.0-5.0	.50 ⁽²⁾	12.0-13.5	1.5	--	--	--	--	--

(1) : Cu + Sum of Named Elements, 99.0% min.

(2) : Ni value includes Co.

(3) : Cu + Sum of Named Elements, 99.5% min.

(4) : Cu + Sum of Named Elements, 99.8% min.

(5) : Fe content shall not exceed Ni content.

(6) : Cu + Sum of Named Elements, 99.2% min.

APPLICATION DATASHEET

Standard Designation For

CAST ALLOYS

Last Update: June 25, 2006

Copper-Nickel-Iron Alloys (Copper-Nickels)
C96000 - C96999

Composition, percent maximum, unless shown as a range or a minimum

Page 1 of 1

Copper Alloy No.	Cu	Pb	Fe	Ni	Mn	Si	Nb	C	Be	Other Named Elements
C96200 ⁽¹⁾	Rem.	.01	1.0-1.8	9.0-11.0 ⁽²⁾	1.5	.50	1.0 ⁽³⁾	.10	--	.02P .02S
C96300 ⁽¹⁾	Rem.	.01	.50-1.5	18.0-22.0 ⁽²⁾	.25-1.5	.50	.50-1.5	.15	--	.02P .02S
C96400 ⁽¹⁾	Rem.	.01	.25-1.5	28.0-32.0 ⁽²⁾	1.5	.50	.50-1.5	.15	--	.02P .02S
C96600 ⁽¹⁾	Rem.	.01	.8-1.1	29.0-33.0 ⁽²⁾	1.0	.15	--	--	.40-.7	--
C96700 ⁽¹⁾	Rem.	.01	.40-1.0	29.0-33.0 ⁽²⁾	.40-1.0	.15	--	--	1.1-1.2	.15-.35Ti .15-.35Zr
C96800	Rem.	.005	.50	9.5-10.5 ⁽²⁾	.05-.30	.05	.10-.30	--	--	.005-.15Mg 7.5-8.5Sn 1.0Zn
C96900 ⁽¹⁾	Rem.	.02	.50	14.5-15.5 ⁽²⁾	.05-.30	--	.10	--	--	.15Mg 7.5-8.5Sn .50Zn
C96950 ⁽¹⁾	Rem.	.02	.05	11.0-15.5 ⁽²⁾	.05-.40	.30	.10	--	--	.15Ma 5.8-8.5Sn
C96970 ⁽¹⁾	Rem.	.02	.50	8.5-9.5 ⁽²⁾	.30	--	.10	--	--	.15Mg 5.5-6.5Sn .50Zn

(1) : Cu + Sum of Named Elements, 99.5% min.

(2) : Ni value includes Co.

(3) : When product or casting is intended for subsequent welding applications, and so specified by the purchaser, the Nb content shall be .40% max.

(4) : The following additional maximum impurity limits shall apply: .10% Al, .001% B, .001% Bi, .005% P, .0025% S, .02% Sb, .01%Ti.

APPLICATION DATASHEET

Standard Designation For

CAST ALLOYS

Last Update: June 25, 2006

Copper-Nickel-Zinc Alloys (Nickel Silvers)
C97000 - C97999

Composition, percent maximum, unless shown as a range or a minimum

Page 1 of 1

Copper Alloy No.	Cu	Sn	Pb	Zn	Fe	Sb	Ni	S	P	Al	Mn	Si	Other Named Elements
C97300 ⁽¹⁾	53.0-58.0	1.5-3.0	8.0-11.0	17.0-25.0	1.5	.35	11.0-14.0 ⁽²⁾	.08	.05	.005	.50	.15	--
C97400 ⁽¹⁾	58.0-61.0	2.5-3.5	4.5-5.5	Rem.	1.5	--	15.5-17.0 ⁽²⁾	--	--	--	.50	--	--
C97600 ⁽³⁾	63.0-67.0	3.5-4.5	3.0-5.0	3.0-9.0	1.5	.25	19.0-21.5 ⁽²⁾	.08	.05	.005	1.0	.15	--
C97800 ⁽⁴⁾	64.0-67.0	4.0-5.5	1.0-2.5	1.0-4.0	1.5	.20	24.0-27.0 ⁽²⁾	.08	.05	.005	1.0	.15	--

(1) : Cu + Sum of Named Elements, 99.0% min.

(2) : Ni value includes Co.

(3) : Cu + Sum of Named Elements, 99.7% min.

(4) : Cu + Sum of Named Elements, 99.6% min.

APPLICATION DATASHEET

Standard Designation For

CAST ALLOYS

Last Update: June 25, 2006

Copper-Lead Alloys

C98000 - C98999

Composition, percent maximum, unless shown as a range or a minimum

Page 1 of 1

Copper Alloy No.	Cu	Sn	Pb	Ag	Zn	P	Fe	Ni	Sb	Other Named Elements
C98200 ⁽¹⁾	Rem.	.6-2.0	21.0-27.0	--	.50	.10	.7	.50	.50	--
C98400 ⁽¹⁾	Rem.	.50	26.0-33.0	1.5	.50	.10	.7	.50	.50	--
C98600	60.0-70.0	.50	30.0-40.0	1.5	--	--	.35	--	--	--
C98800	56.5-62.5 ⁽²⁾	.25	37.5-42.5 ⁽³⁾	5.5 ⁽³⁾	.10	.02	.35	--	--	--
C98820	Rem.	1.0-5.0	40.0-44.0	--	--	--	.35	--	--	--
C98840	Rem.	1.0-5.0	44.0-58.0	--	--	--	.35	--	--	--

(1) : Cu + Sum of Named Elements, 99.5% min.

(2) : Includes Ag

(3) : Pb and Ag may be adjusted to modify alloy hardness.

APPLICATION DATASHEET

Standard Designation For

CAST ALLOYS

Last Update: June 25, 2006

Special Alloys
C99000 - C99999

Composition, percent maximum, unless shown as a range or a minimum

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Copper Alloy No.	Other Designation	Cu	Sn	Pb	Ni	Fe	Al	Co	Si	Mn	Other Named Elements
C99300 ⁽¹⁾	Incramet 800	Rem.	.05	.02	13.5-16.5	.40-1.0	10.7-11.5	1.0-2.0	.02	--	--
C99350 ⁽¹⁾	--	Rem.	--	.15	14.5-16.0 ⁽²⁾	1.0	9.5-10.5	--	--	.25	7.5-9.5Zn
C99400 ⁽¹⁾	--	Rem.	--	.25	1.0-3.5	1.0-3.0	.50-2.0	--	.50-2.0	.50	.50-5.0Zn
C99500 ⁽¹⁾	--	Rem.	--	.25	3.5-5.50	3.0-5.0	.50-2.0	--	.50-2.0	.50	.50-2.0Zn
C99600 ⁽¹⁾	Incramute 1	Rem.	.10	.02	.20	.20	1.0-2.8	.20	.10	39.0-45.0	.05C .20Zn
C99700 ⁽¹⁾	--	54.0min	1.0	2.0	4.0-6.0	1.0	.50-3.0	--	--	11.0-15.0	19.0-25.0Zn
C99750 ⁽¹⁾	--	55.0-61.0	--	.50-2.5	5.0	1.0	.25-3.0	--	--	17.0-23.0	17.0-23.0Zn

(1) : Cu + Sum of Named Elements, 99.7% min.

(2) : Ni value includes Co.