Copper Development Association Inc.

Application Datasheet

Standard Designation for Wrought Copper Alloys

- C50000-C52999: Copper-Tin-Phosporus Alloys *(Phosphor Bronzes)*
- C53000-C54999: Copper-Tin-Lead-Phosphorus Alloys *(Leaded Phosphor Bronzes)*
- C55000-C55299: Copper-Phosphorus and Copper-Silver-Phosphorus Alloys *(Brazing Alloys)*
- C55300-C60799: Copper-Silver-Zinc-Alloys
- C60800-C64699: Copper-Aluminum Alloys *(Aluminum Bronzes)*
- C64700-C66199: Copper-Silicon Alloys *(Silicon Bronzes and Silicon Brasses)*
- C66200-C69999: Other Copper-Zinc Alloys

Revision Date: November 20, 2025

Bronzes (C50000 - C69999)

* = are alloys registered with the U.S. EPA as Antimicrobial.

UNS #	Cu		Pb		Sn		Zn		Fe		P		Ni		Al		Ag		Mn		Si		Other Named Elements		Status
	Min%	Max%	Min%	Max%	Min%	Max%	Min%	Max%	Min%	Max%	Min%	Max%	Min%	Max%	Min%	Max%	Min%	Max%	Min%	Max%	Min%	Max%	Min%	Max%	
C50100*		Rem[1]		0.05	0.50	0.8				0.05	0.01	0.05													active
C50150* Copper Tin Phos Zirconium	99.0[2]				0.50	0.8					0.004	0.015											0.04 Zr	0.08 Zr	active
C50200*		Rem[1]		0.05	1.0	1.5				0.10		0.04													active
C50500* Phosphor Bronze, 1.25% E		Rem[1]		0.05	1.0	1.7		0.30		0.10	0.03	0.35													active
C50510*		Rem[3]			1.0	1.5	0.10	0.25			0.02	0.07	0.15	0.40											active
C50580*		Rem[1]		0.05	1.0	1.7		0.30	0.05	0.20	0.01	0.35	0.05	0.20											active
C50590*	97.0[1]			0.02	0.50	1.5		0.50	0.05	0.40	0.02	0.15													active
C50700*		Rem[1]		0.05	1.5	2.0				0.10		0.30													active
C50705*	96.5[1]			0.02	1.5	2.0		0.50	0.10	0.40	0.04	0.15													active
C50710* MF202		Rem[1]			1.7	2.3						0.15	0.10	0.40											active
C50715*		Rem[4]		0.02	1.7	2.3[4]			0.05	0.15[4]	0.025[4]	0.04													active

UNS #	Cu		Pb		Sn		Zn		Fe		P		Ni		Al		Ag		Mn		Si		Other Named Elements		Status
	Min%	Max%	Min%	Max%	Min%	Max%	Min%	Max%	Min%	Max%	Min%	Max%	Min%	Max%	Min%	Max%	Min%	Max%	Min%	Max%	Min%	Max%	Min%	Max%	
C50725*	94.0[1]			0.02	1.5	2.5	1.5	3.0	0.05	0.20	0.02	0.06													active
C50780*		Rem[1]		0.05	1.7	2.3		0.30	0.05	0.20	0.01	0.35	0.05	0.20											active
C50800* Tin Brass		Rem		0.05	2.6	3.4				0.10	0.01	0.07													inactive 03/92
C50900*		Rem[1]		0.05	2.5	3.8		0.30		0.10	0.03	0.30													active
C50990		Rem[1]		0.09	3.0	5.0					0.03	0.35	0.6	1.2									0.10 S	0.50 S	active
C51000* Phosphor Bronze, 5% A		Rem[1]		0.05	4.2	5.8		0.30		0.10	0.03	0.35													active
C51080*		Rem[1]		0.05	4.8	5.8		0.30	0.05	0.20	0.01	0.35	0.05	0.20											active
C51100*		Rem[1]		0.05	3.5	4.9		0.30		0.10	0.03	0.35													active
C51180*		Rem[1]		0.05	3.5	4.9		0.30	0.05	0.20	0.01	0.35	0.05	0.20											active
C51190*		Rem[1]		0.02	3.0	6.5			0.05	0.15	0.025	0.045												0.15 Co	active
C51800* Phosphor Bronze		Rem[1]		0.02	4.0	6.0					0.10	0.35				0.01									active
C51900*		Rem[1]		0.05	5.0	7.0		0.30		0.10	0.03	0.35													active
C51980*		Rem[1]		0.05	5.5	7.0		0.30	0.05	0.20	0.01	0.35	0.05	0.20											active
C52100* Phospher Bronze, 8% C		Rem[1]		0.05	7.0	9.0		0.20		0.10	0.03	0.35													active
C52180*		Rem[1]		0.05	7.0	9.0		0.30	0.05	0.20	0.01	0.35	0.05	0.20											active
C52400* Phospher Bronze 10% D		Rem[1]		0.05	9.0	11.0		0.20		0.10	0.03	0.35													active
C52480*		Rem[1]		0.05	9.0	11.0		0.30	0.05	0.20	0.01	0.35	0.05	0.20											active
C52600* Copper Tin Phosphorus Alloy		Rem		0.05	2.2	3.3		0.20		0.10	0.03	0.35							1.0	2.0					inactive 07/74
C52850		Rem[1]			5.0	6.0										0.01			0.10	0.50	0.10	0.50			active
C52900* Copper Tin Phosphorus Alloy		Rem		0.05	7.0	9.0		0.20		0.10	0.03	0.35							1.0	2.0					inactive 07/74
C53200 Tin Brass		Rem	2.5	4.0	4.0	5.5		0.20		0.10	0.03	0.35													inactive 03/92
C53400 Phosphor Bronze B-1		Rem[1]	0.8	1.2	3.5	5.8		0.30		0.10	0.03	0.35													active
C53800		Rem[2][5]	0.40	0.6	13.1	13.9		0.12		0.030				0.03[6]						0.06					active
C54400 Phosphor Bronze B-2		Rem[1]	3.0	4.0	3.5	4.5	1.5	4.5		0.10	0.01	0.50													active

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	Min%	Max%	Min%	Max%	Min%	Max%	Min%	Max%	Min%	Max%	Min%	Max%	Min%	Max%	Min%	Max%	Min%	Max%	Min%	Max%	Min%	Max%	Min%	Max%	
C54600 Copper Tin Phosphorus Alloy		Rem	3.5	4.6	3.5	4.5	1.5	4.5				0.50													inactive 07/74
C54800 Tin Brass		Rem	4.0	6.0	4.0	6.0		0.30		0.10	0.03	0.35													inactive 03/92
C55180*		Rem[7]									4.8	5.2													active
C55181*		Rem[7]									7.0	7.5													active
C55185																									inactive 08/04
C55280*		Rem[7]									6.8	7.2					1.8	2.2							active
C55281*		Rem[7]									5.8	6.2					4.8	5.2							active
C55282*		Rem[7]									6.5	7.0					4.8	5.2							active
C55283*		Rem[7]									7.0	7.5					5.8	6.2							active
C55284*		Rem[7]									4.8	5.2					14.5	15.5							active
C55285* Copper-Silver Phosphorus Alloy Brazing Alloy		Rem[1]									6.0	6.7					17.2	18.0							active
C55385*		Rem[7]			6.0	7.0					6.0	7.0									0.01	0.40			active
C55386* Other Copper Brazing Alloy		Rem[7]			5.5	6.5					6.8	7.2	3.0	5.0											active
C56000		Rem[1]					30.0	34.0									29.0	31.0							active
C60600* Aluminum Bronze		Rem								0.50					4.0	7.0									inactive 03/92
C60700* Copper-Aluminum Alloy Aluminum Bronze		Rem		0.01	1.7	2.0									2.3	2.9									inactive 03/92
C60800		Rem[1][5]		0.10						0.10					5.0	6.5							0.02 As	0.35 As	active
C61000*		Rem[5][1]		0.02				0.20		0.50					6.0	8.5						0.10			active
C61200* Copper Alumnum Alloy Aluminum Bronze		Rem								0.05					7.0	9.0									inactive 05/71
C61300*		Rem[5][2]		0.01	0.20	0.50		0.10[8]	2.0	3.0		0.015		0.15[6]	6.0	7.5				0.20		0.10			active
C61400*		Rem[5][1]		0.01				0.20	1.5	3.5		0.015			6.0	8.0				1.0					active
C61470 Aluminum Bronze Welding Electrode		Rem		0.02					0.50	5.0					8.5	11.0						2.0			inactive 05/71

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	Min%	Max%	Min%	Max%	Min%	Max%	Min%	Max%	Min%	Max%	Min%	Max%	Min%	Max%	Min%	Max%	Min%	Max%	Min%	Max%	Min%	Max%	Min%	Max%	
C61500*		Rem[(1)(5)]		0.015									1.8	2.2[(6)]	7.7	8.3									active
C61550*		Rem[(5)(1)]		0.05		0.05				0.20			1.5	2.5[(6)]	5.5	6.5				1.0					active
C61600* Copper Aluminum Alloy Aluminum Bronze		Rem				0.6		1.0		4.0				1.0	6.5	11.0				1.5		0.25			inactive 05/71
C61700* Copper Aluminum Alloy Aluminum Bronze		Rem				2.0		1.0		1.5				2.0	7.0					2.0				10.0 Sb	inactive 05/71
C61800*		Rem[(1)(5)]		0.02				0.02	0.50	1.5					8.5	11.0						0.10			active
C61810* Aluminum Bronze		Rem		0.02				0.02	0.50	1.5					8.5	11.0						0.10			inactive 02/85
C61900*		Rem[(5)(1)]		0.02		0.6		0.8	3.0	4.5					8.5	10.0									active
C62000* Copper Aluminum Alloy Aluminum Bronze		Rem							3.2	3.7					9.8	10.5									inactive 05/71
C62200*		Rem[(1)(5)]		0.02				0.02	3.0	4.2					11.0	12.0						0.10			active
C62300* Aluminum Bronze, 9%		Rem[(5)(1)]				0.6			2.0	4.0				1.0[(6)]	8.5	10.0				0.50		0.25			active
C62400* Aluminum Bronze,11%		Rem[(5)(1)]				0.20			2.0	4.5					10.0	11.5				0.30		0.25			active
C62500*		Rem[(1)(5)]							3.5	5.5					12.5	13.5				2.0					active
C62580*		Rem[(1)(5)]		0.02				0.02	3.0	5.0					12.0	13.0						0.04			active
C62581*		Rem[(1)(5)]		0.02				0.02	3.0	5.0					13.0	14.0						0.04			active
C62582*		Rem[(5)(1)]		0.02				0.20	3.0	5.0					14.0	15.0						0.04			active
C62600* Copper Aluminum Alloy Aluminum Bronze		Rem							2.0	4.5					9.7	10.7				1.5	3.0	4.5			inactive 05/71
C62700 Copper Aluminum Alloy		Rem																							inactive 05/71
C62730* Aluminum Bronze		Rem		0.05		0.10		0.40	4.0	6.0			4.0	6.0	8.5	11.0				0.05		0.10		0.05 Mg	inactive 09/92

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	Min%	Max%	Min%	Max%	Min%	Max%	Min%	Max%	Min%	Max%	Min%	Max%	Min%	Max%	Min%	Max%	Min%	Max%	Min%	Max%	Min%	Max%	Min%	Max%	
C62800* Copper Aluminum Alloy Aluminum Bronze		Rem							1.5	3.5			4.0	7.0	8.0	11.0			0.50	2.01.2					inactive 05/71
C63000* Aluminum Bronze		Rem[1][5]				0.20		0.30	2.0	4.0			4.0[6]	5.5	9.0	11.0				1.5		0.25			active
C63010*	78.0[5][2]					0.20		0.30	2.0	3.5			4.5[6]	5.5	9.7	10.9				1.5					active
C63020*	74.5[1][5]			0.03		0.25		0.30	4.0	5.5			4.2	6.0[6]	10.0	11.0				1.5				0.20 Co 0.05 Cr	active
C63200* Aluminum Bronze		Rem[5][1]		0.02					3.5	4.3[9]			4.0	4.8[6][9]	8.7	9.5			1.2	2.0		0.10			active
C63230* Aluminum Bronze	75.9	84.4		0.02					3.0	5.0			4.0	5.5	8.5	9.5				3.5		0.10			inactive 03/92
C63280*		Rem[1][5]		0.02					3.0	5.0			4.0[6]	5.5	8.5	9.5			0.6	3.5					active
C63300* Aluminum Bronze		Rem		0.02					2.0	6.0			1.0	2.5	5.0	7.5			11.0	13.0		1.5			inactive 03/92
C63380*		Rem[5][1]		0.02				0.15	2.0	4.0			1.5[6]	3.0	7.0	8.5			11.0	14.0		0.10			active
C63400* Aluminum Bronze		Rem[1][5]		0.05		0.20		0.50		0.15				0.15[6]	2.6	3.2					0.25	0.45		0.09 As	active
C63500 Plus Bright Gold Copper Aluminum Zinc Alloy		Rem[5][1]			0.50	2.0	4.5	7.0	0.15	0.50					4.5	7.0									active
C63600		Rem[5][1]		0.05		0.20		0.50		0.15				0.15[6]	3.0	4.0					0.7	1.3		0.15 As	active
C63700* Copper Aluminum Alloy Aluminum Bronze		Rem[5]		0.05		0.6		1.0		0.30				0.25	6.5	8.5					1.2	2.2			inactive 05/71
C63800*		Rem[1][5]		0.05				0.8		0.20				0.20[10]	2.5	3.1				0.10	1.5	2.1	0.25 Co	0.55 Co	active
C63900* Copper Aluminum Alloy Aluminum Bronze		Rem[5]		0.05						1.0					6.5	8.0					1.5	3.0			inactive 05/71
C64100 Copper Aluminum Alloy		Rem[5]																							inactive 05/71
C64110 Aluminum Bronze		Rem[5]	1.0	2.0											8.0	11.0				0.50					inactive 03/92
C64200* Aluminum Bronze		Rem[5][1]		0.05		0.20		0.50		0.30				0.25[6]	6.3	7.6				0.10	1.5	2.2		0.09 As	active

UNS #	Cu		Pb		Sn		Zn		Fe		P		Ni		Al		Ag		Mn		Si		Other Named Elements		Status
	Min%	Max%	Min%	Max%	Min%	Max%	Min%	Max%	Min%	Max%	Min%	Max%	Min%	Max%	Min%	Max%	Min%	Max%	Min%	Max%	Min%	Max%	Min%	Max%	
C64210* Aluminum Silicon Bronze		Rem (1)(5)		0.05		0.20		0.50		0.30				0.25 (6)	6.3	7.0				0.10	1.5	2.0		0.09 As	active
C64250* Aluminum Bronze		Rem (5)								1.0					5.5	7.5				0.50		3.0			active
C64400* Aluminum Bronze		Rem (5)		0.03		0.10		0.20		0.05			4.2 (6)	5.0	3.5	4.5					0.8	1.3			inactive 03/92
C64700* Silicon Bronze		Rem (5)(1)		0.09				0.50		0.10			1.6	2.2 (6)							0.40	0.8			active
C64710*	95.0 (5)(1)						0.20	0.50					2.9	3.5 (6)						0.10	0.50	0.9			active
C64720* Silicon Bronze		Rem (5)					0.10	0.40					1.6	2.2							0.35	0.6	0.01 Mg	0.03 Mg	inactive 03/92
C64725* Copper Silicon Alloy	95.0 (1)(5)			0.01	0.20	0.8	0.50	1.5		0.25			1.3 (6)	2.7							0.20	0.8		0.01 Ca 0.09 Cr 0.20 Mg	active
C64727* Copper Silicon Alloy MAX375		Rem (1)(5)		0.01	0.20	0.8	0.20	1.0		0.25			2.5	3.0							0.50	0.8	0.002 Mg	0.01 Ca 0.01 Cr 0.20 Mg	active
C64728* Copper-Nickel-Zinc-Silicon Alloy		Rem (1)(5)		0.05	0.10	1.0	0.10	2.0		0.20			2.0	3.6							0.30	0.9			active
C64730*	93.5 (5)(1)				1.0	1.5	0.20	0.50					2.9 (6)	3.5						0.10	0.50	0.9			active
C64740*	95.0 (5)(1)			0.01	1.5	2.5	0.20	1.0		0.25			1.0	2.0 (6)							0.05	0.50		0.01 Ca 0.05 Mg	active
C64745* NKC164		Rem (1)(5)		0.05	0.20	0.80	0.20	0.8		0.20			0.7 (6)	2.5						0.10	0.10	0.7			active
C64750*		Rem (11)(5)			0.05	0.8		1.0		1.0		0.10	1.0	3.0 (6)							0.10	0.7		0.10 Mg 0.10 Zr	active
C64751		Rem (11)			0.10	0.40		0.10				0.02	2.5	3.1							0.50	0.9			active
C64752		Rem (11)			0.15	1.0					0.005	0.05	2.8	3.8							0.6	1.2			active
C64760*	93.5 (5)(1)			0.02		0.30	0.20	2.5					0.40	2.5 (6)							0.05	0.6		0.05 Mg	active
C64770*		Rem (5)(1)		0.05	0.05	0.50	0.30	0.8		0.10			1.5 (6)	3.0						0.10	0.40	0.8		0.30 Mg	active
C64775 Copper-nickel-silicon		Rem (5)(1)		0.05	0.05	1.0	0.30	0.8		0.10			1.5	3.5 (6)						0.10	0.40	0.9		0.50 Cr 0.30 Mg	active
C64780*	90.0 (1)(5)			0.02	0.10	2.0	0.20	2.5					1.0	3.5					0.01	1.0	0.20	0.9		0.01 Cr 0.01 Mg 0.01 Ti 0.01 Zr	active
C64785*		Rem (1)(5)		0.015	0.50	2.0	3.0	6.0		0.02		0.015	0.40	1.6 (10)	3.0	6.0			0.20	1.0		0.15			active
C64790		Rem (5)(1)		0.05	0.05	0.50	0.30	0.8		0.10			2.5 (6)	4.5						0.10	0.6	1.2	0.05 Cr 0.05 Mg	0.50 Cr 0.30 Mg	active
C64800* NKC4419		Rem (1)(5)		0.05		0.50		0.50		1.0		0.50		0.50							0.20	1.0	1.0 Co	3.0 Co 0.09 Cr	active

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C64810 NKC4820		Rem[1]		0.05		0.50		0.50		1.0		0.50	0.10	1.0							0.20	1.0	0.50 Co	3.0 Co 0.09 Cr 0.20 Mg	active
C64850		Rem[12]							0.05	0.50	0.001	0.05		0.05						0.05	0.20	1.0	1.2 Co	2.5 Co 0.05 Mg	active
C64855		Rem[12]				0.50		0.50		0.50		0.50	0.01	0.10							0.20	1.0	0.09 Cr 1.0 Co	0.20 Cr 0.20 Ti 2.5 Co	active
C64900*		Rem[5][1]		0.05	1.2	1.6		0.20		0.10				0.10[6]		0.10					0.8	1.2			active
C65100* Low-Silicon Bronze B		Rem[5][1]		0.05				1.5		0.8										0.7	0.8	2.0			active
C65300* Silicon Bronze		Rem[5]		0.05						0.08											2.0	2.6			active
C65400		Rem[1][5]		0.05	1.2	1.9		0.50													2.7	3.4	0.01 Cr	0.12 Cr	active
C65500* High-Silicon Bronze A		Rem[1][5]		0.05				1.5		0.8				0.6[6]					0.50	1.3	2.8	3.8			active
C65600*		Rem[5][1]		0.02		1.5		1.5		0.50						0.01				1.5	2.8	4.0			active
C65620* Silicon Bronze	90.0[5]						1.5	4.0	1.0	2.0		0.10								1.0	2.4	4.0			inactive 03/92
C65680 Silicon Bronze	84.0[13]			0.09		0.30	7.0	11.0		0.30	0.05	0.15		0.10		0.30			0.01	0.09	2.5	4.5			active
C65800* Silicon Bronze		Rem[5]		0.05						0.25				0.6					0.50	1.3	2.5	3.8			inactive 03/92
C66100		Rem[1][5]	0.20	0.8				1.5		0.25										1.5	2.8	3.5			active
C66200*	86.6	91.0[1][5]		0.05	0.20	0.7		Rem		0.05	0.05	0.20	0.30[6]	1.0											active
C66300*	84.5[1][5]	87.5		0.05	1.5	3.0		Rem	1.4	2.4[14]		0.35												0.20 Co[14]	active
C66400*		Rem[1][5]		0.015		0.05	11.0	12.0	1.3[15]	1.7													0.30 Co[15]	0.7 Co	active
C66410*		Rem[5][1]		0.015		0.05	11.0	12.0	1.8	2.3															active
C66420*		Rem[1][5]					12.7	17.0	0.50	1.5															active
C66430*		Rem[1][5]		0.05	0.6	0.9	13.0	15.0	0.6	0.9		0.10													active
C66500* Copper Zinc Alloy	80.0	82.0[5]		0.05				Rem		0.10									0.7	1.5					inactive 02/72
C66700* Manganese Brass	68.5	71.5[1][5]		0.07				Rem		0.10									0.8	1.5					active
C66710	65.0[1]	70.0		0.05		0.05		Rem		0.05	0.10	0.30		0.05					1.0	3.0		0.05		0.05 Co	active
C66800	60.0[5][1]	63.0		0.50		0.30		Rem		0.35				0.25[6]		0.25			2.0	3.5	0.50	1.5			active
C66850* Copper Zinc Alloy	60.0[5][1]	64.0		0.09		0.6		Rem	0.50	1.5		0.05		0.50[6]	0.50	1.5			4.0	8.0					active
C66900* Manganese Brass	62.5[2][5]	64.5		0.05				Rem		0.25									11.5	12.5					active
C66907		Rem[16]		0.05		0.05	8.0	10.0		0.05	0.20	0.8		0.05					8.0	10.0		0.05		0.05 Co	active

UNS #	Cu		Pb		Sn		Zn		Fe		P		Ni		Al		Ag		Mn		Si		Other Named Elements		Status
	Min%	Max%	Min%	Max%	Min%	Max%	Min%	Max%	Min%	Max%	Min%	Max%	Min%	Max%	Min%	Max%	Min%	Max%	Min%	Max%	Min%	Max%	Min%	Max%	
C66908* Copper-Zinc-Manganese		Rem[17][1]		0.05		0.50	6.0	9.0	0.01	2.0			0.01	3.5		0.25			4.0	7.0					active
C66910* Copper-Zinc-Manganese		Rem[17][1]		0.05		0.05	6.0	8.0	0.01	1.5			0.01	3.5		0.25			12.0	15.0				0.01 Co 0.15 Ti 0.15 Zr 0.05 Nb	active
C66913* Copper-Zinc-Manganese		Rem[17][1]		0.05		0.50	8.0	12.5	0.01	1.5			0.01	3.5		0.25			12.0	15.0				0.01 Co	active
C66915* Copper-Zinc-Manganese		Rem[1][17]		0.05		0.50	8.0	12.5	0.01	1.5			0.01	3.5		0.25			12.0	15.0			0.01 Co	0.50 Co	active
C66920* White Alloy	66.0[18][17]	70.0		.09			10.0	14.0		.6			3.0	6.0[6]					12.0	16.0		.05	.10 Sb	.10 C .25 S 1.0 Sb	active
C66925* Copper-Zinc-Manganese		Rem[17][1]		0.05		0.50	17.0	21.0		0.50			0.01	3.5		0.25			8.0	11.0				0.01 Co	active
C66930* Copper-Manganese Alloy		Rem[5][16]		0.02		0.05		0.05		0.05		0.02		0.02[6]					19.0	20.5					active
C66950*		Rem[1][5]		0.01			14.0	15.0		0.50					1.0	1.5			14.0	15.0					active
C67000 Manganese Bronze B	63.0[1][5]	68.0		0.20		0.50		Rem	2.0	4.0					3.0	6.0			2.5	5.0					active
C67100 Copper Zinc Alloy	59.0[5]	62.0	0.15	0.35	0.50	1.0		Rem	0.20	0.8									0.05	0.25					inactive 02/72
C67130 Copper Zinc	56.0	59.0[5]	0.50	1.5	0.50	1.5		Rem					0.50	1.5	0.10	1.0			0.50	1.5					inactive 03/92
C67200 Copper Zinc Alloy	57.5	61.0[5]		0.05				Rem		0.25			4.0	6.0					6.0	8.0					inactive 12/72
C67300	58.0[1][5]	63.0	0.40	3.0		0.30		Rem		0.50				0.25[6]		0.25			2.0	3.5	0.50	1.5			active
C67340	60.0[2][5]	63.5		0.10				Rem	0.20	0.7			0.20	0.6[6]	0.50	1.0			1.5	2.0	0.50	1.0			active
C67400	57.0	60.0[1][5]		0.50		0.30		Rem		0.35				0.25[6]	0.50	2.0			2.0	3.5	0.50	1.5			active
C67410 Copper Zinc	55.0	59.0[5]		0.8		0.50		Rem		1.0				2.0	1.3	2.3			1.0	2.4	0.7	1.3			active
C67420	57.0	58.5[1][5]	0.25	0.8		0.35		Rem	0.15	0.55				0.25[6]	1.0	2.0			1.5	2.5	0.25	0.7			active
C67500 Manganese Bronze A	57.0	60.0[5][1]		0.20	0.50	1.5		Rem	0.8	2.0						0.25			0.05	0.50					active
C67600	57.0	60.0[5][1]	0.50	1.0	0.50	1.5		Rem	0.40	1.3									0.05	0.50					active
C67610 Copper Zinc	56.0[5]	59.0	0.50	1.5	0.50	1.0		Rem					0.50	1.5	0.40	1.0			0.5	1.5					inactive 02/81

UNS #	Cu		Pb		Sn		Zn		Fe		P		Ni		Al		Ag		Mn		Si		Other Named Elements		Status
	Min%	Max%	Min%	Max%	Min%	Max%	Min%	Max%	Min%	Max%	Min%	Max%	Min%	Max%	Min%	Max%	Min%	Max%	Min%	Max%	Min%	Max%	Min%	Max%	
C67620 Copper Zinc	55.0	57.0 (5)	0.50	1.5				Rem	0.50	1.2									1.0	2.0					inactive 03/92
C67700 Copper Zinc	55.5	58.0 (5)	0.50	1.0				Rem	0.7	1.5			1.5	2.3					0.05	0.30			0.40 As	0.8 As	inactive 03/92
C67800 Copper Zinc	56.0	59.0 (5)		0.30		0.20		Rem	0.7	1.5					0.50	1.5			0.20	0.6					inactive 03/92
C67810 Copper Zinc	56.5	59.5 (5)		1.0		0.50	41.9	Rem		1.0				1.5	0.40	1.6			0.40	1.8		0.6			inactive 03/92
C67820 Copper Zinc	56.5	59.5 (5)		0.10	0.30	1.0		Rem	0.50	1.2					0.30	1.2			0.30	2.0					inactive 03/92
C67830 Copper Zinc	56.0	60.0 (5)	0.50	1.5	0.20	1.0		Rem	0.50	1.2					0.30	1.5			0.30	2.0					inactive 02/81
C67900 Copper Zinc Alloy	49.0	52.0 (5)		0.50				Rem	1.05	2.5			3.0	5.0					7.5	8.5					inactive 02/72
C68000 Bronze, Low Fuming (Nickel)	56.0	60.0 (5)(1)		0.05	0.75	1.10		Rem	0.25	1.25			0.20	0.8 (6)		0.01			0.01	0.50	0.04	0.15			active
C68100 Bronze, Low Fuming	56.0	60.0 (1)(5)		0.05	0.75	1.10		Rem	0.25	1.3						0.01			0.01	0.50	0.04	0.15			active
C68200 Copper Zinc	58.0	60.0 (5)						Rem											0.6	1.0	0.07	0.15			inactive 03/92
C68300* Copper-Znc Alloy Silicon Modified Brass	59.0 (1)(5)	63.0		0.09	0.05	0.20		Rem													0.30	1.0	0.30 Sb	0.01 Cd 1.0 Sb	active
C68320	59.0	65.0 (5)(1)		0.25		0.50		Rem		0.30		0.20		0.20 (6)		0.09					0.05	0.50	0.02 As	0.16 As	active
C68330	58.5 (2)	60.5		0.100		0.20		Rem		0.20	0.10	0.20		0.20		0.05				0.05	0.10	0.3			active
C68350* Low Silicon Brass	59.0	64.0 (1)(5)		0.09		0.6		Rem		0.15	0.05	0.40		0.20 (6)		0.30					0.30	1.0			active
C68370	60.5 (3)	65.0		0.10		0.30		Rem		0.20	0.01	0.10		0.20						0.20	0.7	1.3		0.05 Bi 0.0075 Cd 0.05 Se 0.10 Sb	active
C68400*	59.0	64.0 (5)(1)		.09		.50		Rem		1.0	.03	.30		.50 (6)		.50			.20	1.5	1.5	2.5	.001 B	.03 B	active
C68410*	59.0	64.0 (1)		.09		.50		Rem		1.0	.03	.30		.50 (6)		.50			.20	1.5	1.0	1.5	.001 B	.03 B	active
C68600 Copper Zinc	56.0	60.0 (5)	0.50	1.5	0.20	1.0		Rem	0.50	1.2					0.30	1.5			0.30	2.0					active
C68700* Aluminum Brass, Arsenical	76.0 (5)(1)	79.0		0.07				Rem		0.06					1.8	2.5							0.02 As	0.06 As	active
C68800*		Rem (5)(1)		0.05			21.3 (19)	24.1		0.20					3.0	3.8 (19)							0.25 Co	0.55 Co	active

UNS #	Cu		Pb		Sn		Zn		Fe		P		Ni		Al		Ag		Mn		Si		Other Named Elements		Status
	Min%	Max%	Min%	Max%	Min%	Max%	Min%	Max%	Min%	Max%	Min%	Max%	Min%	Max%	Min%	Max%	Min%	Max%	Min%	Max%	Min%	Max%	Min%	Max%	
C68900* Copper Zinc Alloy	65.0	67.0 (5)		0.03				Rem	0.8	1.4		0.02			1.1	2.0									inactive 02/72
C69000* Copper Zinc	72.0	74.5 (1)(5)		0.025				Rem		0.05		0.025	0.50	0.8 (6)	3.3	3.5									inactive 03/92
C69050*	70.0	75.0 (1)(5)						Rem					0.50	1.5 (6)	3.0	4.0					0.10	0.6	0.01 Zr	0.20 Zr	active
C69100*	81.0	84.0 (1)		0.05		0.10		Rem		0.25			0.8	1.4	0.7	1.2				0.10	0.8	1.3			active
C69150* Copper Zinc Alloy Copper Zinc Alloy	82.5 (5)(20)	87.5		0.05		0.025		Rem		0.25				0.20 (6)	0.7	1.3			0.25	0.6		0.02			active
C69200* Copper Zinc Alloy	89.0	91.0 (5)		0.05				Rem		0.05									0.8	1.8					inactive 02/72
C69220* Copper Zinc Alloy	69.0 (5)(1)	71.0		0.08		0.30		Rem		0.10	0.05	0.20		0.20 (6)					0.8	1.8	1.8	2.6		0.10 Sb	active
C69230*	70.0	73.0 (5)(1)		.08		.20		Rem		.10		.20		.10 (6)					.10	.8	3.0	3.6		.15 Ca	active
C69240	71.0 (1)	72.5		0.25		0.30		Rem		0.20	0.06	0.12	0.10 (6)	0.50					0.6	1.2	1.8	2.2			active
C69250* Copper-Zinc-Manganese		Rem (1)(17)		0.05		0.20	7.5	8.5		0.20			2.0	3.0	1.0	2.0			5.0	6.0		0.10			active
C69300* ECO Brass	73.0 (5)(1)	77.0		0.09		0.20		Rem		0.10	0.04	0.15		0.10 (6)						0.10	2.7	3.4			active
C69305	74.0 (1)	78.0		0.09	0.15	0.30		Rem		0.10	0.05	0.10		0.10		0.05				0.05	2.5	2.9			active
C69310* SnEco	74.0 (1)(5)	79.0		.09	.30	.7		Rem		.10	.04	.15		.20 (6)						.10	2.6	3.4			active
C69350	73.0	77.0 (1)(5)		.20		.20		Rem	.10	.50	.04	.10		.10 (6)		.10				.10	3.0	3.4			active
C69400 Silicon Red Brass	80.0 (1)(5)	83.0		0.30				Rem		0.20											3.5	4.5			active
C69410	81 (1)			0.09			11.0	15.0		0.20											3.5	4.5			active
C69430	80.0	83.0 (5)(1)		0.30				Rem		0.20											3.5	4.5	0.03 As	0.06 As	active
C69440 Copper Zinc	80.0	83.0		0.09				Rem		0.20											3.5	4.5	0.03 Sb	0.06 Sb	active
C69450 Copper Zinc	80.0	83.0		0.09				Rem		0.20	0.03	0.06								0.40	3.5	4.5			active
C69700	75.0	80.0 (5)(1)	0.50	1.5				Rem		0.20										0.40	2.5	3.5			active
C69710	75.0 (1)(5)	80.0	0.50	1.5				Rem		0.20										0.40	2.5	3.5	0.03 As	0.06 As	active
C69720 Copper Zinc	75.0	80.0 (5)	0.50	1.5				Rem		0.20										0.40	2.5	3.5	0.03 Sb	0.06 Sb	inactive 03/92
C69730 Copper Zinc	75.0 (5)	80.0	0.50	1.5				Rem		0.20	0.03	0.06									2.5	3.5			inactive 03/92
C69750	78.0 (5)(1)	83.0	0.8	1.3		0.05		Rem		0.05		0.02		0.01 (6)						0.05	1.9	2.22			active

UNS #	Cu		Pb		Sn		Zn		Fe		P		Ni		Al		Ag		Mn		Si		Other Named Elements		Status
	Min%	Max%	Min%	Max%	Min%	Max%	Min%	Max%	Min%	Max%	Min%	Max%	Min%	Max%	Min%	Max%	Min%	Max%	Min%	Max%	Min%	Max%	Min%	Max%	
C69800 Copper Zinc	66.0 (5)	70.0		0.8				Rem		0.40				0.50							0.7	1.3			inactive 03/92
C69850	67.5	69.0 (1)		0.09		0.20		Rem		0.10	0.04	0.15		0.10						0.10	1.53	2.0			active
C69900 Copper Zinc		Rem (5)		0.02				0.14		0.10				0.10	1.4	2.3		0.10	40.0	48.0				0.01 As 0.05 C 0.05 Cd 0.20 Co	inactive 03/92
C69910 Copper Zinc		Rem (5)		0.01			3.0	5.0	1.0	1.4					0.25	0.8			28.0	32.0					inactive 03/92
C69950 Copper Zinc	51.0	54.0 (5)											8.5	10.5					36.0	40.0					inactive 03/92

* = are alloys registered with the U.S. EPA as Antimicrobial.

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

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

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

(4) = Cu + Sn + Fe + P 99.5% min

(5) = Cu value includes Ag.

(6) = Ni value includes Co.

(7) = Cu + Sum of Named Elements 99.85% min.

(8) = When the product is for subsequent welding applications and is so specified by the purchaser, Cr, Cd, Zr, and Zn shall each be 0.05%max.

(9) = Fe content shall not exceed Ni content.

(10) = Not including Co.

(11) = Cu + Sum of Named Elements, 99.92% min.

(12) = Cu + Sum of Named Elements, 99.95% min.

(13) = Cu + Sum of Named Elements 99.2% min.

(14) = Fe + Co, 1.4 - 2.4%

(15) = Fe + Co 1.8 - 2.3%.

(16) = Cu + Sum of Named Elements 99.9% min.

(17) = Not including Ag.

(18) = Cu + Sum of Named Elements 99.3% min.

(19) = Al + Zn 25.1 - 27.1%.

(20) = Cu + Sum of Named Elements 99.6% min.