

## Extruded or cast and drawn product chemical composition

Copper alloy UNS no.	ASTM spec	AMS spec	Product description	Cu (%)	Pb (%)	Sn (%)	Zn (%)	Fe (%)	P (%)	Ni (%)	Al (%)	Co (%)	Cr (%)	Mn (%)	Si (%)	As (%)	Te (%)
C14500*	B301		Tellurium copper	99.90 min <sup>3</sup>					0.004-0.012								0.40-0.70
C23000	B927		Red brass 85%	84.00-86.00	0.05		Rem.	0.05									
C24000	B927		Low brass 80%	78.50-81.50	0.05		Rem.	0.05									
C26000	B927		Cartridge brass 70%	68.50-71.50	0.07		Rem.	0.05									
C31400*	B140		Leaded commercial bronze	87.50-90.50	1.30-2.50		Rem.	0.10		0.70							
C31600	B140		Leaded commercial bronze (nickel-bearing)	87.50-90.50	1.30-2.50		Rem.	0.10	0.04-0.10	0.70-1.20							
C46400	B21		Naval brass, uninhibited	59.00-62.00	0.20	0.50-1.00	Rem.	0.10									
C51000*	B139	4625	Phosphor bronze 5% A	Rem.	0.05	4.20-5.80	0.30	0.10	0.03-0.35								
C52100	B139		Phosphor bronze 8% A	Rem.	0.05	7.00-9.00	0.20	0.10	0.03-0.35								
C53400	B139		Phosphor bronze B-1	Rem.	0.08-1.20	3.50-5.80	0.30	0.10	0.03-0.35								
C54400*	B139		Phosphor bronze B-2	Rem.	3.00-4.00	3.50-4.50	1.50-4.50	0.10	0.01-0.50								
C62400	B150		Aluminum bronze 11%	Rem.		0.20		2.00-4.50			10.00-11.50			0.30	0.25		
C63000*	B150	4640	Nickel-aluminum bronze	Rem.		0.20	0.30	2.00-4.00		4.00-5.50 <sup>2</sup>	9.00-11.00			1.50	0.25		
C63020*	B150	4590	Nickel-aluminum bronze	Rem.	0.03	0.25	0.30	4.00-5.50		4.20-6.00	10.00-11.00	0.20	0.05	1.50	0.15		
C64200*	B150	4634	Aluminum bronze	Rem.	0.05	0.20	0.50	0.30		0.25 <sup>2</sup>	6.30-7.60			0.10	1.50-2.20	0.09	

\*Standard-stocked alloy. <sup>1</sup>Cu value includes Ag. <sup>2</sup>Ni value includes Co. <sup>3</sup>Includes tellurium and phosphorus  
 Note: Unless otherwise noted, single values represent maximums.

## Extruded or cast and drawn chemical composition continued

Copper alloy UNS no.	ASTM spec	AMS spec	Product description	Cu (%)	Pb (%)	Sn (%)	Zn (%)	Fe (%)	P (%)	Ni (%) <sup>2</sup>	Al (%)	Co (%)	Cr (%)	Mn (%)	Si (%)	As (%)	Te (%)
C64210	B150		Aluminum silicon bronze	Rem. <sup>1</sup>	0.05	0.20	0.50	0.30		0.25 <sup>2</sup>	6.30-7.60			0.10	1.50-2.00	0.09	
C65100	B98		Low-silicon bronze B	Rem. <sup>1</sup>	0.05		1.50	0.80						0.70	0.80-2.00		
C67300* <sup>1</sup>			Manganese bronze	58.00-63.00 <sup>1</sup>	0.40-3.00	0.30	Rem.	0.50		0.25 <sup>2</sup>	0.25			2.00-3.50	0.50-1.50		
C67400 <sup>1</sup>			Manganese bronze	57.00-60.00	0.50	0.30	Rem.	0.35		0.25 <sup>2</sup>	0.50-2.00			2.00-3.50	0.50-1.50		
C67410			Manganese bronze	55.00-59.00 <sup>1</sup>	0.80	0.50	Rem.	1.00		2.00	1.30-2.30			1.00-2.40	0.70-1.30		
C67600	B138		Manganese bronze	57.00-60.00 <sup>1</sup>	0.50-1.00	0.50-1.50	Rem.	0.40-1.30						0.05-0.50			
C69300	B371		Lead-free brass	73.00-77.00 <sup>1</sup>	0.02 <sup>A</sup> -0.09	0.20	Rem.	0.10	0.04-0.15	0.10				0.10	2.70-3.40		
C69400	B371		Silicon red bronze	80.00-83.00 <sup>1</sup>	0.30		Rem.	0.20							3.50-4.50		
C69430	B371		Silicon red bronze	80.00-83.00 <sup>1</sup>	0.30		Rem.	0.20							3.50-4.50	0.03-0.06	
C72900* <sup>B</sup>		4596	Copper nickel-tin bronze	Rem.	0.02	7.50-8.50	0.50	0.50		14.50-15.50 <sup>2</sup>				0.30			
C72900* <sup>B</sup>		4597	Copper nickel-tin bronze	Rem.	0.02	7.50-8.50	0.50	0.50		14.50-15.50 <sup>2</sup>				0.30			
C72900* <sup>B</sup>		4598	Copper nickel-tin bronze	Rem.	0.02	7.50-8.50	0.50	0.50		14.50-15.50 <sup>2</sup>				0.30			

\*Standard-stocked alloy. <sup>1</sup>SAE J463 specification. <sup>1</sup>Cu value includes Ag. <sup>2</sup>Ni value includes Co. <sup>A</sup>Pb content is greater than 0.02%. <sup>B</sup>Chemical requirements for other elements: Cb 0.10%, max and Mg 0.15%, max.  
 Note: Single values represent maximums.