

CHART OF SPECIFICATIONS BRASS AND BRONZE STANDARD CASTING ALLOYS



MONMET

* Chemicals may be varied to yield mechanical properties
■ Brinell 3000 kg Load

● Mechanical properties & specifications will vary when centrifugal cast
◆ ksi indicates thousands pounds per square inch

SPECIFICATIONS										NOMINAL CHEMICAL COMPOSITIONS								MECHANICAL PROPERTIES										REPORTED USES			
FAMILY	1978 CDA	1981 ASTM	1981 SAE	SAE Superceded	ALLOY Identification	1973 FEDERAL	MILITARY Current	MILITARY Superceded	AMS	CU%	SN%	PB%	ZN%	NI%	FE%	AL%	OTH-ERS%	TENSILE STRENGTH ◆		YIELD STRENGTH		ELONGATION ◆		BRINELL HARDNESS 10MM-500 KG TYPICAL	COMPRESSION STRN P.S.I. -001* SET	IMPACT STRN. IZOD - Ft. Lbs.	WEIGHT Lbs. per Cu. In.		Machina-bility free cut YB-100		
																			Min.(ksi)	Typ.(ksi)	Min.(ksi)	Typ.(ksi)	Min.(%)	Typ.(%)							
RED BRASS	C83300				131					93	1 ½	1 ½	4						32	10		35	35			.318	35	Electical Hardware Parts			
	C83600	B584-836	C83600	40	115	QQ-C-390-A-836	C-22229 Gr2		4855B	85	5	5	5						30	37	14	17	20	30	50-65	14,000	9	.318	84	General Miscellaneous, Low-Pressure Valves & Fittings, Pumps	
	C83800	B584-838	C83800		120	QQ-C-390-A-838		B-16540 GrC		83	4	6	7						29	35	12	16	15	25	50-60	11,500		.312	90	General Free Machining Alloy, Low Pressure Fittings, Hardware	
SEMI RED BRASS	C84400	B584-844			123	QQ-C-390-A-844		B11553-11 B-18343		81	3	7	9						29	34	13	15	18	26	50-60		6-10	.314	90	Plumbing Fittings, Faucets, Hardware & Ornamental Castings	
	C84800	B584-848			130	QQ-C-390-A-848				76	3	6	15						25	36	12	14	15	30	50-60	12,800		.310	90	Plumbing fittings, Faucets, Stops & Wastes, Hardware	
YELLOW BRASS	C85200	B584-852	C85200		400	QQ-C-390-A-852		B-17668 Gr2		72	1	3	24						35	38	12	13	25	35	40-50	8,000		.305	80	Plumbing Fixtures & Fittings Andirons & Ornamental Castings	
	C85400	B584-854	C85400	41	403	QQ-C-390-A-854		B-17668 Gr1		67	1	3	29						30	34	11	12	20	35	40-60	9,000		.305	80	Plumbing Furniture, Hardware & Ornamental Castings	
	C85700	B584-857			405-2	QQ-C-390-A-857	C-15345 Gr3	B-17511A GrA		63	1	1	34.7			0.3			40	50	14	18	15	40	75			.304	80	Plumbers Flanges, Fittings, Ornamental, Hardware & Ship Trim	
MANGANESE BRONZE	C86200	B584-862	C86200	430A	423	QQ-C-390-A-862	C-22229 Gr9	B-16522 Gr2		64*			26 Rem		3	4			90	95	45	48	18	20	170 [■] 195 [■]	50,000		.288	30	Brackets, Shafts, Gears, & Structural Parts	
	C86300	B584-863	C86300	430B	424	QQ-C-390-A-863	C-22229 Gr8	B-16522 Gr1	4862B	63*			25 Rem		3	6			110	119	60	83	12	18	225 [■]	60,000	15	.283	8	Screw Down Nuts, Slow-speed Heavy Load Bearings, Gears, Gibs & Cams	
	C86500	B584-865	C86500	43	421	QQ-C-390-A-865	C-22229 Gr7	B-16443 Gr1	4860A	58	5		40		1	1	MN-.25		65	71	25	28	20	30	130 [■]	24,000	20-40	.301	26	Strength Appls., Propellers for Salt & Fresh Water, Machinery Parts substituting for Steel & Malleable Iron	
TIN BRONZE	C90300	B584-903	C90300	620	225	QQ-C-390-A-903	C-22229 Gr1	M-16576 GrA		88	8		4						40	45	18	21	20	30	60-75	13,000		.318	30	Bearings & Bushings Pump Impellers, Piston Rings, Pump Bodies, Valves, Steam Fittings, Gears	
	C90500	B584-905	C90500	62	210	QQ-C-390-A-905		B-11553B-16	4845D	88	10	.3 Max.	2						40	45	18	22	20	25	75	13,000	10-14	.315	30	Bearings & Bushings Pump Impellers, Pistonrings, Pump Bodies, Valves, Steam Fittings, Gears	
	C90700	B505-907	C90700	65	205					89	11	.5 Max.	.5 Max.						35	44	18	22	10	20	80	13,000	10-14	.317	20	Worm Wheels & Gears, Bearings for Heavy Loads & Relatively Low Speeds	
LEADED TIN BRONZE	C92200	B584-922	C92200	622	245	QQ-C-390-A-922	C-15345-9	B-16541		88	6	1.5	.45						34	40	16	20	22	30	60-72	12,000	11-18	.312	42	Medium-pressure Hydraulic & Steam to 550°F Marine & Ornamental Castings	
	C92300	B584-923	C92300	621	230	QQ-C-390-A-923	C-15345 Gr10	B-16545 Gr A or B		87	8	1 Max.	4						36	40	16	20	18	25	60-75	9,000	12	.317	42	High-pressure Hydraulic & Steam Equipment, Structural Castings	
	C92600				215				4846A	87	10		2						40	44	18	20	20	30	65-80	12,000	7	.315	40	Lead Screw Nuts, Heavy-Duty Bearings, Pump Pistons	
	C92700	B505-927	C92700	63	206					88	10	2	.7 Max.						35	42		21	10	20	77	12,000	7-10	.317	45	Lead Screw Nuts, Heavy-Duty Bearings, Pump Pistons	
TIN BRONZE	C93200	B584-932	C93200	660	315	QQ-C-390-A-932	C-15345 Gr12	B-16261 Gr VI		83	7	7	3						30	35	14	18	12	20	60-70		6	.322	70	General Purpose Bushings, Washers, Non-pressure Applications	
	C93400				310	QQ-C-390-A-934	C-22229 Gr3	B-16261 Gr II		84	8	8	.7 Max.						25	32		16	8	20	55-65		5	.320	70	Bearings & Bushings	
	C93500	B584-935	C93500	66	326	QQ-C-390-A-935		B-11553 (8)		85	5	9	1	.5 Max.					25	32	12	16	8	20	55-65	13,000		.320	70	High Speed, Light Load Bushings Mild Acid Applications	
	C93700	B584-937	C93700	64	305	QQ-C-390-A-937		B-11553(12)	4842A	80	10	10		.7 Max.					25	35	12	18	8	20	55-70	13,000	5	.320	80	High Speed, Heavy-pressure Bushings, Acid-resisting to Sulphite Fluids	
	C93800	B584-938	C93800	67	319	QQ-C-390-A-938		B-16261 Gr IV		78	7	15		.75 Max.					25	30	14	16	10	18	50-60	12,000	5	.334	80	Low Friction, Moderate Pressure Bushings, Railroad Applications, Acid Resisting	
C94300	B584-943	C94300		322	QQ-C-390-A-943		B-16261 Gr V	4840A	70	5	25		.7 Max.					21	27		13	7	10	42-55	11,000	5	.336	80	High Speed, Light to Medium Pressure Bushings, Railroad & Soft Metal Applications		
ALUMINUM BRONZE	C95200	B148-952	C95200	68A	415A	QQ-C-390-A-952	C-22229 Gr5	B-16033 Gr1		88					3	9			65	80	25	27	.20	35	110 [■] 140 [■]	27,000	35	.276	50	Gun Mountings & Slides, Landing Gear Parts, Pickling Tank & Mild Alkali Appls., Marine Engine & Propellers	
	C95300	B148-953	C95300	68B	415B	QQ-C-390-A-953	C-11886-22	B-16033 Gr2		89					1	10			65	75	25	27	20	25	140 [■]	20,000	20	.272	55	Gears, Cams, Stripper Nuts, Slippers, High Temperature Applications, Mining Machine Parts	
	C95400	B148-954	C95400		415C	QQ-C-390-A-954	C-15345 Gr13	B-16033 Gr3	4870B 4872B	85					4	11			75 [■]	85 [■]	30 [■]	35 [■]	12 [■]	18 [■]	140 [■] 170 [■]		14	.269	60	Spur & Low-speed, Heavily Loaded Worm Gears, Nuts, Pump & Landing Gear Parts	
	C95500	B148-955	C95500		415D	QQ-C-390-A-955	C-2229-6	B-16033 Gr4	4880	81					4	4	11			90 [■]	100 [■]	40 [■]	44	6 [■]	12 [■]	180 [■] 200 [■]		13	.272	50	
	C95800	B148-958			415D	QQ-C-390-A-958	B-21230 Gr1 B-24480	B-23921		81					5	4	9	MN-1		85	95	35	38	18	25	150 [■] 170 [■]		20	.276	50	Propeller Hub, Blades & Other Parts - Including Valves, in Contact with Sea Water
NICKEL SILVER	C97300	B584-973			410		C-15345 Gr7			56	2	10	20	12					30	35	15	17	8	20	50-60			.321	70	Hardware, Valves, Statuary & Ornamental Castings	
	C97600	B584-976			412			C-17112		64	4	4	8	20					30	40	17	24	8	20	75-90			.321	70	Marine Furniture, Hardware & Ornamental Castings	
	C97800	B584-978			413					66	5	2	2	25					45	55	22	30	15	16	120 [■] 50			.320	60	Dairy & Food Processing Fittings, White Ornamental & Hardware	

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