

CHART OF SPECIFICATIONS

BRASS AND BRONZE STANDARD CASTING ALLOYS

- ★ 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													
FAMILY	1978 CDA	1981 ASTM	1981 SAE	SAE Super-ceded	ALLOY Identifi-cation	1973 FEDERAL	MILITARY Current	MILITARY Superceded	AMS	CU%	SN%	PB%	ZN%	NI%	FE%	AL%	OTH-ERS%	TENSILE STRENGTH		YIELD STRENGTH		ELONGATION		BRINELL HARDNESS 10MM-500 KG TYPICAL	COMPRESSION STRN P.S.I. -001* SET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	REPORTED USES		
																		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 Fittings	
	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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