

CHART OF BRASS & BRONZE STANDARD CASTING ALLOYS

SPECIFICATIONS																						CHEMICAL COMPOSITION - PERCENT										TENSIL KSI MIN.	YIELD KSI MIN.	ELONGATION % MIN.	BRINELL HARDNESS 500KG ø3000 KG
FAMILY	ASTM	CDA	INGOT	FEDERAL	MILITARY	COMMON DESIGNATION	Cu%		Sn%		Pb%		Zn%		Ni%		Fe%		Al%		OTHERS %														
							MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX		MIN	MAX												
RED BRASS	B62-836	836	115	QQ-C-390B (836)		85-5-5-5	84.0	86.0	4.0	6.0	4.0	6.00	4.0	6.0		1.0		0.3		0.005		30	14	20	60										
MANGANESE BRONZE	B584-862	862	423	QQ-C-390B (862)		MANGANESE BRONZE	60.0	66.0		0.20		0.20	22.0	28.0		1.0	2.0	4.0	3.0	4.9	Mn 2.5-5	90	45	18	●180										
	B584-863	863	424	QQ-C-390B (863)		MANGANESE BRONZE	60.0	66.0		0.20		0.20	22.0	28.0		1.0	2.0	4.0	5.0	7.5	Mn 2.5-5	110	60	12	●225										
	B584-865	865	421	QQ-C-390B (865)		MANGANESE BRONZE	55.0	60.0		1.00		0.40	36.0	42.0		1.0	0.40	2.0	0.50	1.5	Mn .10-1.5	65	25	20	100, ●130										
COPPER SILICON	B584-873	873	500	QQ-C-390B (873)		SILICON BRONZE	94.0		0.20	1.0		0.09						0.20	Si 3.5-4.5	Mn 0.8-1.5	45	18	20	85											
	B584-875	875	500	QQ-C-390B (875)		SILICON BRASS	79.0			1.0		0.09	12.0	16.0				2.5	Si 3.0-5.0		60	24	16	115, ●134											
TIN BRONZE	B584-903	903	225	QQ-C-390B (903)		NAVY"G"	86.0	89.0	7.5	9.0		0.30	3.0	5.0		1.0		0.20		0.005		40	18	20	●70										
	B584-905	905	210	QQ-C-390B (905)		SAE-62	86.0	89.0	9.0	11.0		0.30	1.0	3.0		1.0		0.20		0.005		40	18	20	●75										
	B584-907	907	205	QQ-C-390B (907)		SAE-65	88.0	90.0	10.0	12.0		0.50		0.50		0.50		0.15		0.005		40	25	10	●80										
LEADED TIN BRONZE	B61	922	245	QQ-C-390B (922)	B16541	NAVY "M"	86.0	90.0	5.5	6.5	1.0	2.00	3.0	5.0		1.0		0.25		0.005		34	16	24	●65										
	B584-927	927	206	QQ-C-390B (927)		SAE-63	86.0	89.0	9.0	11.0	1.0	2.50		0.7		1.0		0.2		0.005		38	20	8	●77										
	B148-953	953	415B	QQ-C-390B (953)	B24480A	ALUMINUM BRONZE	86.0										0.8	1.5	9.0	11.0		65	25	20	●140										
	B148-954	954	415C	QQ-C-390B (954)		ALUMINUM BRONZE	83.0									1.5	3.0	5.0	10.0	11.5	Mn .50 MAX	75	30	12	●170										
	B148-955	955	415D	QQ-C-390B (955)		NICKEL ALUMINUM BRONZE	78.0								3.0	5.5	3.0	5.0	10.0	11.5	Mn 3.5 MAX	90	40	6	●195										
	B148-958	958	415D	QQ-C-390B (958)		NICKEL ALUMINUM BRONZE	79.0								4.0	5.0	3.5	4.5	8.5	9.5	Mn 0.8-1.5	85	35	15	●159										

CHART OF COPPER NICKEL & MONEL CASTING ALLOYS

SPECIFICATIONS																						CHEMICAL COMPOSITION - PERCENT										TENSIL KSI MIN.	YIELD KSI MIN.	ELONGATION % MIN.	HARDNESS 500KG ø3000 KG
FAMILY	ASTM	CDA	FEDERAL	MILITARY	COMMON DESIGNATION	Cu%		Ni%		Mn%		Fe%		LEAD		Si%		Cb%		C															
						MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX		MIN	MAX	MAX												
COPPER NICKEL	B369-96-962	962	QQ-C-390A (962)	MIL-C-20159C TY-II	90/10 COPPER NICKEL	REMAINDER		9.0	11.0			1.5	1.0	1.8		0.01		0.50		1.0	0.10	45	25	20	●140										
	B369-96-964	964	QQ-C-390A (964)	MIL-C-20159C TY-I	70/30 COPPER NICKEL	REMAINDER		28.0	32.0			1.5	0.25	1.5		0.01		0.50	0.50	1.5	0.15	60	32	20											
MONEL	A494	M30C	QQ-N-288 COMP E		WELDABLE GRADE	26.0	33.0	REMAINDER			1.50		3.50				1.0	2.0	1.0	3.0	0.30	65	32	25.0	●125-150										

CHART OF ALUMINUM CASTING ALLOYS

SPECIFICATIONS										CHEMICAL COMPOSITION - PERCENT															TEMPER	TENSIL KSI MIN.	YIELD KSI MIN.	ELONGATION % MIN.	BRINELL HARDNESS 500KG ø3000
AA NUMBER	ASTM B26-68	SAE	FEDERAL QQ-A-601D	Si%		Fe%		Cu%		Mn%		Mg%		Cr%		Ni%		Zn%		Ti%		OTHERS %							
				MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX								
319.0	ASTM B26-319.0	326	319	5.5	6.5		1.0	3.0	4.0		0.50		0.50				0.35		1.0		0.25	0.50	F	23.0	13.0	1.5	70		
A356.0	ASTM B26-356.0	336	A356	6.5	7.5		0.20		0.20		0.10	0.25	0.45					0.10		0.20	0.15	T6	34.0	24.0	3.5	80			
B443.0	ASTM B26-443.0	35	43	4.5	6.0		0.8		0.15		0.35		0.05					0.35		0.25	0.15	F	17.0	6.0	3.0	40			
712	ZG61A	310	712		0.30		0.50		0.25		0.10	0.50	0.65	0.40	0.6			5.0	6.5	0.15	0.25	0.20	F	34.0	25.0	4.0	75		