

Sand Casting Alloys and Mechanical Properties

Nominal % of elements

Copper

CDA Number	Name	ASTM	Copper (Cu)	Tin (Sn)	Zinc (Zn)	Nickel (Ni)	Iron (Fe)	Aluminum (Al)	Other	Tensile Strength PSI Min.	Yield Strength PSI Min.	Elong.% 2 in. Min	Hardness Brinell Typical* (F Rockwell)
C80410	Copper		99.9 min.						0.1	20,000	7,000	20%	30 (F Scale)
C83400	Red Brass		90		10					35,000	10,000	30%	50 (F scale)
C86200	Managanese Bronze	B584, B763	63	-	25	-	3	4	Mn 3.7	90,000	45,000	18%	180
C86300	Manganese Bronze	B22, B584, B763	63	-	25	-	3	6.2	Mn 3.7	110,000	60,000	12%	225
C86500	Managanese Bronze	B584, B763	58	0.5	39		1.2	1	Mn 0.8	65,000	25,000	20%	130
C87500	Silicon Bronze	B584, B763	82	-	14	-	-	-	Si 4.0	60,000	24,000	16%	134
C90300	Navy G	B584, B763	87.5	8.3	4	-	-	-	-	40,000	18,000	20%	70 (500kg.)
C90500	Gun Metal	B22, B584, B763	87.5	10.1	2	-	-	-	-	40,000	18,000	20%	75 (500kg.)
C90700	Gear Bronze	B427	89	11	-	-	-	-	-	35,000	17,000	10%	80 (500kg.)
C95200	Aluminum Bronze	B148, B763	87.7	-	-	-	3.3	9	-	65,000	25,000	20%	110
C95300	Aluminum Bronze	B148, B763	89	-	-	-	1	10	-	65,000	25,000	20%	140
C95400	Aluminum Bronze	B148, B763	83.2	-	-	-	4	10.8	-	75,000	30,000	12%	170
C95500	Aluminum Bronze	B148, B763	80	-	-	4.3	4	11	-	90,000	40,000	6%	195
C95800	Aluminum Bronze	B148, B763	81	-	-	4.5	4	9	Mn 1.0	85,000	35,000	15%	159

Eballoy® Glass Mould Alloy

690	Container Mould Alloy		81	-	-	4	4	10.5	-	96,000	47,000	5%	190 - 220
700	Minox XX		67	-	8.5	15	-	9.5	-	88,000	44,000	4%	180 - 210
C99300	Incramet 800		Remainder	-	-	15	0.7	11.5	Co 1.5	95,000	55,000	2%	187 - 248

Aluminum Alloy

	ASTM	Copper (Cu)	Tin (Sn)	Magnesium (Mg)	Nickel (Ni)	Silicon (Si)	Aluminum (Al)	Tensile (Ultimate)	Yield	Elong. %	Hardness Brinell Typical*
443	B-26	-	-	-	-	5.25	Remainder	17,000	7,000	3%	25 - 55 (500kg.)
850	B-26	1	6.25	-	1	-	Remainder	16,000	-	5%	30 - 60 (500kg.)
852	B-26	2	6.25	0.75	1.2	-	Remainder	24,000	18,000	-	45 - 75 (500kg.)

*@ 3000 Kg load unless otherwise noted. Hardness data for information only.



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