

Alloy Guide

Brass and alloyed brass							Copper Tin alloys					High Performance alloys			
C230 Cu Zn15	C240 Cu Zn20	C260 Cu Zn30	C268 Cu Zn34	C280 Cu Zn40	C422 Cu Zn11.5 Sn1	C425 Cu Zn9.5 Sn2	C50715 Cu Sn2 Fe0.1 P0.03	C50725 Cu Sn2 Zn2.2 Fe0.1 P0.03	C510 Cu Sn5	C511 Cu Sn4	C6643 Cu Zn14 Fe0.8 Sn0.8	C19040 Cu Sn1.2 Ni0.8 P0.07	C6476 Cu Ni1.8 Si0.4 Zn1.1 Mg0.01	C7026 Cu Ni2 Si0.4	
B36 B694 B888	B36	B36 B888	B36	B36	B591 B888	B591 B888	KLF-5	KLF-5Z	B103 B888	B103 B888	OCPX	CAC5	CAC60	B422 B888	

Physical Properties

Density	lb/in ³ g/cm ³	0.316 8.75	0.313 8.7	0.308 8.53	0.306 8.47	0.303 8.39	0.318 8.8	0.316 8.75	0.32 8.9	0.32 8.9	0.32 8.9	0.32 8.9	0.317 8.8	0.32 8.9	0.32 8.9	0.32 8.9
Electrical Conductivity (Nominal value in black) %IACS		37 37	32 32	28 28	27 27	28 28	31 31	28 28	35 30	33 30	15 15	20 20	28 28	40 35	44 40	45/53* 40/50*
Thermal Conductivity Btu/ft h °F W/(m °K)		92 159	81 140	70 121	67 116	71 123	75 130	69 119	75 137	75 137	40 69	48 84	70 121	96 166	90 156	90/112* 156/195*
Modulus of Elasticity X1000 ksi GPa		17 117	16 110	16 110	15 103	15 103	16 110	16 110	18 121	16 113	16 110	16 110	16 110	19 130	19 130	19 130
Coef. of Thermal Exp. at 68 °F (20 °C)																
	10 ⁻⁶ /°F	10.4	10.6	11.1	11.3	11.6	10.2	10.2	9.8	9.7	9.9	9.9	10.0	9.7	10.0	10.0
	10 ⁻⁶ /°C	18.7	19.1	20.0	20.3	20.9	18.4	18.4	17.6	17.5	17.8	17.8	18.0	17.5	18.0	18.0

Tempers

Mechanical Properties

(Tensile and Yield strength (ksi), Elongation (%) & Hardness (HV/30T). MPa=6.897Xksi)

Soft/TM00**	Tensile Strength	39-47	44-54	45-61	44-61		41-49	41-47			45-56	46-54	56-69			85-95
	Yield Strength (0.2 %)	13	20	21	23		19	17			24	22	49			75
	Elongation	45	50	53	52		45	48			55	47	30			15
	Hardness (HV/30T)										85/-	80/-	130/65			190/
	MBR 180° Bad Way	0	0	0	0		0	0			0	0	0			1
H02 (1/2 H)/TM01**	Tensile Strength	51-61	55-65	57-67	55-65	52-60	54-65	57-69	64-78	68-80	58-73	55-70	70-85		87-102	
	Yield Strength (0.2 %)	49	42	49	44	33	55	56	69	73	51	50	73		85	
	Elongation	18	18	32	31	40	16	20	12	11	32	31	12		13	
	Hardness (HV/30T)	105/	/62	135/		/60	120/64	130/68	166/	169/	145/69	125/65	170/		200/	
	MBR 180° Bad Way	1.5	1.5	0	0		1	0.5	0.5	0.5	0	0	1		0.5	
H04 (H)/TM02**	Tensile Strength	63-72	68-77	71-81	68-78		67-79	70-82	78-90	81-93	76-91	72-87	85-100	72-86	93-108	98-108
	Yield Strength (0.2 %)	62	61	67	57		71	74	84	85	77	75	86	78	95	97
	Elongation	7	4	13	12		4	6	9	9	7	11	5	9	12	10
	Hardness (HV/30T)	135/	/71	195/			145/70	155/73	187/	192/	200/75	185/74	205/	175/	215/	210/
	MBR 180° Bad Way	4	3	1.5	1.5		-	2	1	1	1	1	4	0	1	1.5
H06 (EH) / TM03**	Tensile Strength	72-80	78-87	83-92	79-89		75-85	76-88	85-100	85-100	88-103	84-99	97-112	78-91		105-115
	Yield Strength (0.2 %)	69	68	80	67		77	80	86	92	90	87	95	83		105
	Elongation	4	2	5	4		3	4	8	8	5	5	3	8		2
	Hardness (HV/30T)	150/	/75	220/			160/72	165/74	200/	206/	230/78	225/78	225/	185/		230/
	MBR 180° Bad Way	-	-	2.5	2.5		-	2.5	2	2	2	3	-	0.5		2
H08 (SH) / TM05**	Tensile Strength	78-86	85-93	91-100	86-95		82-92	84-94			95-110	91-105				90-105
	Yield Strength (0.2 %)	73	76	87	71		83	86			98	93				95
	Elongation	3	1	3	3		2	3			2	2				10
	Hardness (HV/30T)	160/	/77	220/			170/73	175/76			245/79	245/79				200/
	MBR 180° Bad Way	-	-	-	-		-	-			-	-				1
H10 (ES)	Tensile Strength	82-90	89-97	95-104	90-99		Min 88	Min 92			100-114	96-109				
	Yield Strength (0.2 %)	76	78	90	73		Min 84	Min 88			102	97				
	Elongation	1	1	2	1		2	2			1	1				
	Hardness (HV/30T)	170/	/78	220/			175/74	185/76			250/80	250/80				
	MBR 180° Bad Way	-	-	-	-		-	-			-	-				

** TMOS higher electrical and thermal conductivity

** TM00, TM01, TM02, TM03 and TM05 for C6476 & C7026

*** For C280 1/4 Hard (H01) temper only

Data for information only and not for use as purchase specification. Yield strength, Elongation and Hardness are typical values for each temper.