Permanent Mold: HIGH CONDUCTIVITY COPPERALLOY (CU)

SPECIFICATION	CHEMICAL COMPOSITION	CDA STANDARD EQUIVALENT	BRITISH STANDARD EQUIVALENT	DIN STANDARD EQUIVALENT	YIELD STRENGTH PSI x 10^3 (MIN)	TENSILE STRENGTH PSI x 10^3 (MIN)	ELONGATION % 2"	BRINELL HARDNESS (MIN)	MODULUS OF ELASTICITY PSI x 10^6	ELECTRICAL CONDUCTIVITY % IACS	ELECTRICAL CONDUCTIVITY m/mm^2Ω	CHARACTERISTICS
BC-CU-110	CU – 99.9%	811	B5 1400 HCC1	17655 GK-CUL50	5.1 – 6.0	27 – 30	28 – 35	10MM/500KG 36 – 46	17.6	97 MIN	56 MIN	Pure electrolytic copper, excellent electrical and thermal conductivity. Alloy can be hard and soft soldered, limited weldability.
BC-CU-110	CU – 99.9%	811	B5 1400 HCC1	17655 GK-SCUL50	3.5 – 5.1	26 – 29	44 – 48	10MM/500KG 33 – 38	17.6	93 MIN	52 MIN	Pure electrolytic copper with oxygen contents, excellent electrical and thermal conductivity. Material can be processed in hydrogen atmosphere.
BC-CU-210	CU-CR	815	B5 1400 CC1-TF	17655 GK-CUCRF35	39.5 – 44	54 – 59	20 – 25	10MM/500KG 100 – 140	17.5	77 MIN	44.5 MIN	Heat treated chromium copper with excellent strength and conductivity. Good hard and soft solderability.
BC-CU-300	CU-NI-SI	SIMILAR 821	B5 1400	SIMILAR 17666 CUN1251	50 – 55	63 – 66	8 – 15	10MM/3000KG 140-160	17.5	35 – 45 MIN	22.6 – 25.5	Heat treated copper alloy with good thermal and electrical conductivity. Alloy is resistant to stress corrosion.
BC-CU-310	CU-NI-SI	SIMILAR 822	B5 1400	SIMILAR 17666 CUN1351	74 – 79	77 – 83	3 – 4	10MM/3000KG 190 – 205	17.3	26 – 35	15.6 – 20.2	Heat treated copper alloy (Same as BC-CU-300), but has higher mechanical properties, and lower conductivity readings. Alloy is resistant to stress corrosion.

Permanent Mold: BRASS & SPECIALBRASS ALLOYS (B & SB)

BC-B-100	CU-ZN	855	B5 1400 HTB1	1709 GK-CUZN38AL	20 – 24	57 – 64	40 – 56	10MM/500KG 76 – 95	13.5	23 – 25	13.3 – 14.8	Excellent alloy for thin wall, complex and complicated castingrequirements. Alloy resists stress and atmospheric corrosion.
BC-B-300	CU-ZN-PB	857	B5 1400 HTB1	1709 GK-CUZN37PB	19 – 24	41 – 45	16 – 20	10MM/500K G70 – 90	13.6	20 – 23.5	11.6 – 13.6	Brass alloy with good machinability. Alloy is not recommended for complicated casting design.
BC-SB-100	CU-ZN-AL	864	B5 1400 HTB1	1709 GK-CUZN37AL1	23 – 30	61 – 71	30 – 49	10MM/500KG 90 – 120	13.6	17 – 22	9.8 – 11.6	Excellent alloy with outstanding mechanical properties. Alloy has good resistance to stress corrosion in industrial atmosphere.
BC-SB-120	CU-ZN	NONE	NONE	NONE	12 – 13	66 – 69	31 – 34	10MM/500KG 90 – 130	11.5	33 MIN	20.3 – 22	Alloy with high electrical conductivity suitable for use in electrical equipment. Alloy cannot be tin plated. Alloy does not resist stress corrosion. Part surfaces need protection from atmospheric corrosion.
BC-SB-120-1	CU-ZN	NONE	NONE	NONE	19 – 24	60 – 78	28 – 36	10MM/500KG 85 – 120	11.8	29 – 32	17.4 – 18.5	Same as alloy BC-SCB-120 except alloy can be soldered and tin plated.
BC-SB-200	CU-ZN-PB-MN	NONE	NONE	NONE	22 – 25	40 – 44	8 – 10	10MM/500KG 70 – 76	14.7	7.5 – 9	4.3 MIN	Alloy with excellent sliding properties. Good bearing material with high mechanical loads.
BC-SB-300	CU-ZN-FE-NI-AL	867	B5 1400 HTB1	1709 GK-CUZN34AL2	34 – 42	79 – 87	16 – 20	10MM/3000KG 125 – 150	15.8	18 – 22	10.4 – 11.6	High-strength yellow brass, good bearing material for large loads. Material suitable for high pressure valve parts. Limited castability.
BC-SB-310	CU-ZN-FE-AL	865	B5 1400 HTB1	1709 GK-CUZN37AL1	22 – 30	65 – 74	28 – 36	10MM/500KG 100 – 125	13.5	19 – 23	13.3 – 14.5	Same as alloy BC-SB-300 except with lesser hardness and strength, but greater conductivity.
BC-SB-340	CU-ZN-FE-AL-MN	865	B5 1400 HTB1	1709 GK-CUZN35AL1	21 – 35	63 – 76	25 – 45	10MM/500KG 110 – 130	13.8	17 – 19	9.8 – 11	High-strength yellow brass with good corrosion resistance in marine atmosphere.

Permanent Mold: ALUMINUM BRONZE ALLOYS (A B)

BC-AB-100	CU-AL	953	B5 1400 AB1	1714 GK-CUAL10	20 – 23	63 – 72	52 – 65	10MM/500KG 70 – 90	15	15 – 18	8.7 – 10.4	Alloy has good corrosion resistance. Little property change in –200°C tem-perature. Good alloy for chemical industry and food handling equipment.
BC-AB-110	CU-AL-FE	952	B5 1400 AB1	1714 GK-CUAL10FE	25 – 35	76 – 85	25 – 35	10MM/500KG 95 – 110	16	10 – 12	5.8 – 6.9	Excellent resistance to chemical agents such as H2SO4and H3PO4. Good resistance to cold salt water, weldable, and suitable for non-magnetic application.
BC-AB-120	CU-AL-FE	952	B5 1400 AB1	1714 GK-CUAL10FE	30 – 40	80 – 95	28 – 40	10MM/3000KG135 – 155	16.5	10 – 12	5.8 – 6.9	Good corrosion resistance in salt water and other water applications. Alloy can be welded and heat treated.
BC-AB-200	CU-AL-FE-NI	955	B5 1400 AB2	1714 GK-CUAL11NI	58 – 68	95 – 108	6 – 10	10MM/3000KG190 – 210	17.5	8.0 MAX	4.6 MAX	High-strength nickel-aluminum bronze with excellent corrosion resistance. Excellent in hot and cold salt applications. Alloy with high mechanical loading capacity and very good erosion and wear resistance properties.
BC-AB-210	CU-AL-FE-NI	955	B5 1400 AB2	1714 GK-CUAL10NI	45 – 50	88 – 98	14 – 20	10MM/3000KG160 – 190	17.2	8.0 MAX	4.6 MAX	Good mechanical properties, excellent resistance against hot and cold salt water, good corrosive resistance.Alloy performs excellently in O2and H2S environment.Alloy used in electrical, machine, mining and marine industry.
BC-AB-220	CU-AL-FE-NI	954	B5 1400 AB2	1714 GK-CUAL9NI	35 – 42	82 – 92	20 – 30	10MM/3000KG125 –160	16.9	8.0 MAX	4.6 MAX	Alloy similar to BC-AB-110 except better mechanical properties. Alloy can be welded and heat treated.
BC-AB-230	CU-AL-FE-NI	955	B5 1400 AB2	1714 GK-CUAL11NI	64 – 78	98 – 113	5 – 7	10MM/3000KG210 – 230	18	8.0 MAX	4.6 MAX	Extreme high wear and corrosion resistance. Properties similar to BC-AB-200. Alloy can be heat treated and welded.
BC-AB-240	CU-AL-FE-NI	955	B5 1400 AB2	1714 GK-CUAL10NI	45 – 52	88 – 98	12 – 18	10MM/3000KG150 – 195	17.1	8.0 MAX	4.6 MAX	Alloy similar to BC-AB-210. Alloy specially tailored for disc and valve applications.
BC-AB-300	CU-AL-MN-NI	NONE	B5 1400 CMA1	1714 GK-CUAL8MN	28 – 32	70 – 75	33 – 40	10MM/500KG 100 – 110	16.8	8.0 MAX	4.6 MAX	Aluminum-nickel-manganese bronze with very good corrosion resistance. Goodapplicationwhere low magnetic properties are required.