

Product Items Overview - Kiyomine Metal Industry Co., Ltd.

rev. Dec. 1st, 2025

Alloy Family		Phosphor Bronze				Phosphor Bronze for Springs		KIYOMINE ALLOY				Nickel Silver			
Alloy Name	CDA No.	CDA C52100	CDA C51900	CDA C51000	CDA C51100	CDA C52400	CDA C52100	Sn-Ni-P alloy	Corson alloy	CDA C50710	CDA C73150	CDA C77000	CDA C75200	CDA C75400	CDA 74500
	JIS No.	C5212	C5191	C5102	C5111	C5240	C5210	KA1025	KA250	MF202	MB115	C7701	C7521	C7541	C7451
Chemical Composition [wt.%] —Nominal Value—	Cu	Rem	Rem	Rem	Rem	Rem	Rem	Rem	Rem	Rem	Rem	HCR-C7701※2	HCR-C7521※3	60.0-64.0	63.0-67.0
	Zn	-0.20	-0.20	-0.20	-0.20	-0.20	-0.20	-	-	-0.20	9.0-13.0	Rem	Rem	Rem	Rem
	Fe	-0.10	-0.10	-0.10	-0.10	-0.10	-0.10	-	-	-0.10	-0.25	-0.25	-0.25	-0.25	-0.25
	Ni	-	-	-	-	-	-	0.2-0.35	1.6-2.2	0.1-0.4	4.0-7.0	16.5-19.5	16.5-19.5	12.5-15.5	8.5-11.0
	Sn	7.0-9.0	5.5-7.0	4.5-5.5	3.5-4.5	9.0-11.0	7.0-9.0	9.0-11.0	-	1.7-2.3	-	-	-	-	-
	P	0.03-0.35	0.03-0.35	0.03-0.35	0.03-0.35	0.03-0.35	0.03-0.35	0.03-0.35	-	-0.15	-	-	-	-	-
	Si	-	-	-	-	-	-	-	0.4-0.8	-	-	-	-	-	-
Melting Point [°C]	Mn	-	-	-	-	-	-	-	-0.50	-	-0.50	-0.50	-0.50	-0.50	-0.50
		1020	1043	1050	1060	1000	1020	1070	1080	1065	1070	1055	1060	1075	1020
Poisson's Ratio		0.33	-	0.33	0.33	0.33	0.33	0.33	0.33	-	-	0.32	0.32	0.32	0.34
Specific Gravity		8.8	8.9	8.9	8.86	8.78	8.8	8.8	8.9	8.88	8.77	8.7	8.73	8.68	8.61
Electrical Conductivity [%IACS]		13	14	15	20	11	13	12	42	32	15	5.5	6	7	9
Thermal Conductivity [W/m·K (20°C)]		63	65.8	71	84	50	63	55	160	155	-	29	33	38	46
Elastic Modulus [GPa]		110	105	105	105	100	110	110	127	125	120	125	125	125	121
Coeff. of Thermal Expansion [ppm/K (20~300°C)]		18.2	17.8	17.8	17.8	18.4	18.2	18.0	16.0	17.0	-	16.7	16.2	16.2	16.4
Tensile Strength [MPa] —Specified Value—	O	345-	315-	305-	295-	-	-	-	-	315-	315-	-	375-	355-	325-
	1/4H	390-510	390-510	375-470	345-440	-	-	-	-	-	-	-	-	-	-
	1/2H	490-610	490-610	470-570	410-510	-	470-610	640-740	-	410-510	390-490	540-655	440-570	410-540	390-510
	H	590-705	590-685	570-665	490-590	650-750	590-705	700-800	640-740	490-590	460-560	630-735	540-640	490-	-
	EH	685-	635-720	620-710	570-660	750-850	685-785	800-900	-	540-635	530-630	705-805	610-	-	-
	SH	-	690-	660-	640-	850-950	735-835	850-950	-	610-705	-	765-865	-	-	-
	ESH	-	-	-	-	950-	770-885	950-1050	-	-	-	-	-	-	-
0.2% Proof Strength [MPa] —Nominal Value—	XSH	-	-	-	-	1000-	-	1000-	-	-	-	-	-	-	-
	O	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	1/4H	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	1/2H	-	-	-	-	-	260-	-	-	-	-	390-	-	-	-
	H	-	-	-	-	510-	450-	560-	600-	-	-	500-	-	-	-
	EH	-	-	-	-	630-	580-	680-	-	-	-	600-	-	-	-
	SH	-	-	-	-	750-	640-	800-	-	-	-	680-	-	-	-
Elongation [%] —Specified Value—	ESH	-	-	-	-	870-	690-	920-	-	-	-	-	-	-	-
	XSH	-	-	-	-	930-	-	980-	-	-	-	-	-	-	-
	O	-	-	-	-	-	-	-	-	70-115	-	-	-	-	-
	1/4H	100-160	100-160	90-160	80-150	-	-	-	-	-	-	-	-	-	-
	1/2H	150-205	150-205	130-190	120-180	-	140-205	190-220	-	125-165	110-	150-210	120-180	110-170	105-155
	H	180-235	180-230	170-220	150-200	200-240	185-235	220-260	195-240	150-185	135-	180-240	150-210	135-	-
	EH	210-	200-240	190-230	170-220	230-270	210-260	240-290	-	175-205	150-	210-260	185-	-	-
Vickers Hardness [HV] —Specified Value—	SH	-	210-	200-	200-	250-300	230-270	270-310	-	185-	-	230-270	-	-	-
	ESH	-	-	-	-	270-	245-285	300-	-	-	-	-	-	-	-
	XSH	-	-	-	-	290-	-	320-	-	-	-	-	-	-	-

※1: Thickness ≥ 0.2mm

※2 & 3: HCR (Heat Discoloration Resistant) material
shows no visible discoloration after heating 300°C for
10 minutes