

Steel Type	Material (Code)	Standard	Version	Chemical Composition (%)											Tensile Strength (N/mm ²)	Impurity Total	Yield Strength (N/mm ²)		Elongation (%)	Hardness (HB)	Heat Treatment Status
				Sn	Zn	Pb	P	Ni	Al	Fe	Mn	Si	Others	Cu			δ0.2	δ1			
Copper Alloy	ZCuSn3Zn8Pb6Ni1	GB/T 1176-2013		2.0-4.0	6.0-9.0	4.0-7.0	0.5-1.5							Others	175	≤1.1			8	60	Casting
	ZCuSn3Zn11Pb4	GB/T 1176-2013		2.0-4.0	9.0-13.0	3.0-6.0								Others	175	≤0.7			8	60	Casting
	ZCuSn5Pb5Zn5	GB/T 1176-2013		4.0-6.0	4.0-6.0	4.0-6.0								Others	200	≤1.1	90		13		Casting
	ZCuSn10P1	GB/T 1176-2013		9.0-11.5			0.8-1.1							Others	220	≤1.1	130		3	80	Casting
	ZCuSn10Pb5	GB/T 1176-2013		9.0-11.0		4.0-6.0								Others	195	≤0.5			10	70	Casting
	ZCuSn10Zn2	GB/T 1176-2013		9.0-11.0	1.0-3.0									Others	240	≤1.0	120		12	70	Casting
	ZCuAl8Mn13Fe3	GB/T 1176-2013						7.0-9.0	2.0-4.0	12.0-15.5				Others	600	≤0.4	270		15	160	Casting
	ZCuAl8Mn13Fe3Ni	GB/T 1176-2013					1.8-2.5	7.0-8.5	2.5-4.0	11.5-14.0				Others	645	≤0.3	280		20	160	Casting
	ZCuAl8Mn14Fe3Ni	GB/T 1176-2013			<0.5		1.9-2.3	7.4-8.1	2.6-3.5	12.4-13.2				Others	735		280		15	170	Casting
	ZCuAl9Mn2	GB/T 1176-2013						8.0-10.0		1.5-2.5				Others	390	≤0.15	150		20	85	Casting
	ZCuAl8Be1Co1	GB/T 1176-2013						7.0-8.5	<0.4				Be:0.7-1.0 Co:0.7-1.0	Others	647	≤0.15	280		15	160	Casting
	ZCuAl9Fe4Ni4Mn2	GB/T 1176-2013					4.0-5.0	8.5-10.0	4.0-5.0	0.8-2.5				Others	630		250		16	160	Casting
	ZCuAl10Fe4Ni4	GB/T 1176-2013					3.5-5.5	9.5-11.0	3.5-5.5					Others	539		200		5	155	Casting
	ZCuAl10Fe3	GB/T 1176-2013						8.5-11.0	2.0-4.0					Others	490		180		13	100	Casting
	ZCuAl10Fe3Mn2	GB/T 1176-2013						9.0-11.0	2.0-4.0	1.0-2.0				Others	490				15	110	Casting
	ZCuZn33Pb2	GB/T 1176-2013				Others	1.0-3.0							63.0-87.0	180		70		12	50	Casting
	ZCuZn40Pb2	GB/T 1176-2013				Others	0.5-2.5		0.2-0.8					58.0-83.0	220		95		15	80	Casting
	CuAl10Fe5Ni5	BS EN 1982-2008						4.0-6.0	8.5-10.5	4.0-5.5	≤3			78.0-83.0	600		250		13	140	Casting
CuSn11Pb2	BS EN 1982-2008			10.5-12.5	≤2.0	0.7-2.5	≤0.4	≤2.0					83.5-87.0	240		130		5	80	Casting	