

Overview of Copper Alloys for Wire



Diehl Metal Applications	DIN EN Symbol	UNS	JIS	DIN EN	Electrical conductivity [MS/m]	Density [g/cm ³]	Applications of the alloy group
Phosphor Bronze (Copper-Tin)							
BD20	CuSn2	C50700	-	-	24.9	8.9	Connector pins, flat wire, screws, springs, rivets, pressed parts, claws, conductor & connector wire, harness wire, brush & netting wire, striker pins, resistance wire for heating elements, contact parts for lighting technology, connecting & fixing elements, welding & soldering pins, wire mesh (construction), reinforcement (construction), spectacle frames
BD40	CuSn4	C51100	C5111	CW450K	11.6	8.9	
BD50	CuSn5	C51000	C5102	CW451K	9.8	8.9	
BD60 / BD 61 / BD64 / BD 65	CuSn6	C51900	C5191	CW452K	8.1	8.8	
BD80	CuSn8	C52100	C5212	CW453K	6.9	8.8	
Multi-Component Bronze (machining qualities)							
BY44	CuSn4Zn4Pb4	C54400	C5441	CW456K	11	8.8	Turned contact elements, pins
BY51	CuSn5Pb1	C53400	C5341	CW458K	9.8	8.8	
Copper-Magnesium							
SD01	(CuMg0,1)	C18661	-	CW127C	46.4	8.9	Conductor & connector wire, (car) wire harnesses, pins, telecommunication cables, catenary cables, contact wire for high-speed trains
SD02	CuMg0,2	C18661	-	CW127C	44.6	8.9	
SF02	CuMg0,2	C18661	-	CW127C	45.2	8.9	
SD03	(CuMg0,3)	C18661	-	CW127C / CW128C	41.7	8.9	
SD04	(CuMg0,4)	C18661 / C18665	-	CW128C	37.1	8.9	
SD05	CuMg0,5	C18661 / C18665	-	CW128C	37.1	8.9	
Nickel Silver (Copper-Nickel-Zinc)							
ND07	CuNi8Zn28	C74300	-	-	5.2	8.7	Fashion jewelry, clips for pens, spectacle frames, optical industry, springs, zip fasteners, model railway tracks, bridges for musical instruments, scrub sponges
ND12	CuNi12Zn24	C75700	-	CW403J	4	8.7	
ND18	CuNi18Zn20	C76400	-	CW409J	2.9	8.7	
Brass (Copper-Zinc)							
MD02	(CuZn2)	-	-	-	36.5	8.9	Electrical engineering, electronics, connecting & fixing elements, rivets, extrusion parts, battery pins for electrical engineering, zip fasteners, fashion jewelry, watchmaking industry, arts & crafts
MD05	CuZn5	C21000	C2100	CW500L	31.3	8.8	
MD15	CuZn15	C23000	C2300	CW502L	21.0	8.8	
MD30	CuZn30	C26000	C2600	CW505L	15.7	8.5	
High-Performance Alloys (Copper-Zinc-Aluminum-Nickel-Titanium)							
MT31	CuZn31Al5Ni3Ti1	-	-	-	-	-	Wear protection
Copper							
KD00	Cu-OF	C10200	-	CW008A	58	8.94	Connecting & fixing elements, screws & rivets for electronic applications
KD03	SE-Cu / Cu-PHC / Cu-HCP	C10300	-	CW020A / CW021A	58	8.94	
KD30	SF-Cu / Cu-DHP	C12200	C1220	CW024A	58	8.94	
KD58	E-Cu58 / Cu-ETP	C11000	C1100	CW004A	≥ 57	8.94	
Low-Alloyed Copper Materials							
BD01	CuSn0,15	C14410 / C14415	-	CW117C	46.4	8.9	Conductor & connector wire, stranded wire, connectors, pins, contact parts for the lighting industry, contact elements, telecommunication cables, (car) wire harnesses, flat wire, special screws, pressed parts, rivets
BD03	(CuSn0,3)	C18835	-	CW129C	39.4	8.9	
BF03	(CuSn0,3)	C18835	-	CW129C	42.9	8.9	
BD06	CuSn0,6	C50100	C5010	-	36.5	8.9	
MD02	(CuZn2)	-	-	-	36.5	8.9	
MD05	CuZn5	C21000	C2100	CW500L	31.3	8.8	
SD01	(CuMg0,1)	C18661	-	CW127C	46.4	8.9	
SF02	CuMg0,2	C18661	-	CW127C	45.2	8.9	
SD04	(CuMg0,4)	C18661 / C18665	-	CW128C	37.1	8.9	
SD94	CuFe2P	C19400	C1940	CW107C	36.5	8.9	