

TECHNICAL DATA

Copper, pure and low-alloyed ¹⁾

	DIN / EN	Copper	Oxygen-free Copper		Copper alloyed	
		Cu-ETP1	Cu-OF1	Cu-OF1 selekt. *	CuAg0,1 *	HCHS **
Material - No.	DIN / EN	CW003A	CW007A	-	CW013A	-
	UNS	C11040	C10100	-	C11600	-
Nominal Composition	[%]	≥99,95 Cu	≥99,99 Cu	≥99,99 Cu Incl. Ag	≥99,80 Cu Ag 0,1	≥99,60 Cu
Conductivity ²	[m/(Ohm mm ²)]	58	58	58	57	50
Conductivity ²	[% IACS]	100	100	100	98	86
Thermal Conductivity ²	[W/(mK)]	390	390	390	390	355
Coefficient of Thermal Expansion ³	[10 ⁻⁶ /K]	17	17	17	17	17
Tensile Strength annealed	[N/mm ²]	240	240	240	240	-
Elongation annealed	[%]	30	30	30	30	-
Tensile Strength hard	[N/mm ²]	450	450	450	450	600
Density	[g/cm ³]	8,9	8,9	8,9	8,9	8,9

1) Nominal data for diameter 0,8 mm

2) At 20° C

3) Temperature range 20 - 200° C

*) higher thermal resistance

***) excellent thermal resistance up to 600° C (**High Conductivity High Strength**)

Nickel Silver

CuNi12Zn24

CuNi18Zn20

Material - No.	DIN / EN	CW403J	CW409J
	UNS	G10060	C76400
Nominal Composition	[%]	12 Ni 24 Zn Rest Cu	18 Ni 20 Zn Rest Cu
Conductivity ²	[m/(Ohm mm ²)]	4,1	2,9
Conductivity ²	[% IACS]	7	5
Thermal Conductivity ²	[W/(mK)]	42	33
Coefficient of Thermal Expansion ³	[10 ⁻⁶ /K]	16	16
Tensile Strength annealed	[N/mm ²]	460	490
Elongation annealed	[%]	30	30
Tensile Strength hard	[N/mm ²]	740	780
Density	[g/cm ³]	8,7	8,8

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		Bronze			
		CuSn0,6	CuSn5	CuSn6	CuSn8
Material - No.	DIN / EN	-	CW451K	CW452K	CW453K
	UNS	C50100	C51000	C51900	C52100
Nominal Composition	[%]	0,6 Sn Rest Cu	5 Sn Rest Cu	6 Sn Rest Cu	8 Sn Rest Cu
Conductivity ²	[m/(Ohm mm ²)]	37	9,9	8,1	7,0
Conductivity ²	[% IACS]	63	17	14	12
Thermal Conductivity ²	[W/(mK)]	220	96	75	67
Coefficient of Thermal Expansion ³	[10 ⁻⁶ /K]	17	17	18	18
Tensile Strength annealed	[N/mm ²]	290	400	420	470
Elongation annealed	[%]	30	40	55	70
Tensile Strength hard	[N/mm ²]	460	820	870	900
Density	[g/cm ³]	8,9	8,9	8,8	8,8

1) Nominal data for diameter 0,8 mm

2) At 20° C

3) Temperature range 20 - 200° C

Messing

		CuZn15	CuZn20	CuZn30	CuZn37
Material - No.	DIN / EN	CW502L	CW503L	CW505L	CW508L
	UNS	C23000	C24000	C26000	C27400
Nominal Composition	[%]	15 Zn Rest Cu	20 Zn Rest Cu	30 Zn Rest Cu	37 Zn Rest Cu
Conductivity ²	[m/(Ohm mm ²)]	21,5	18,8	16	15,1
Conductivity ²	[% IACS]	37	32	28	26
Thermal Conductivity ²	[W/(mK)]	160	140	125	120
Coefficient of Thermal Expansion ³	[10 ⁻⁶ /K]	18	18	20	20
Tensile Strength annealed	[N/mm ²]	350	350	380	380
Elongation annealed	[%]	30	30	30	30
Tensile Strength hard	[N/mm ²]	600	600	720	720
Density	[g/cm ³]	8,8	8,7	8,6	8,5

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2) At 20° C

3) Temperature range 20 - 200° C

Messing

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Material - No.	DIN / EN	CW502L	CW503L	CW505L	CW508L
	UNS	C23000	C24000	C26000	C27400
Nominal Composition	[%]	15 Zn Rest Cu	20 Zn Rest Cu	30 Zn Rest Cu	37 Zn Rest Cu
Conductivity ²	[m/(Ohm mm ²)]	21,5	18,8	16	15,1
Conductivity ²	[% IACS]	37	32	28	26
Thermal Conductivity ²	[W/(mK)]	160	140	125	120
Coefficient of Thermal Expansion ³	[10 ⁻⁶ /K]	18	18	20	20
Tensile Strength annealed	[N/mm ²]	350	350	380	380
Elongation annealed	[%]	30	30	30	30
Tensile Strength hard	[N/mm ²]	600	600	720	720
Density	[g/cm ³]	8,8	8,7	8,6	8,5

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