

Designation	DIN	EN Nr.	UNS (ASTM)	AISI	WCA
CuZn28	-	CW504L	25600	-	201

Chemical composition

Zn	Cu	Al	Fe	Ni	Pb	Sn	Others
Balance	71 – 73	≤ 0.02	≤ 0.05	≤ 0.20	≤ 0.05	≤ 0.05	≤ 0.20

Values (Weight %). In order to achieve maximum homogeneity and consistent quality, the actual manufacturing tolerances are tighter and more precisely than the composition indicated.

Main technical properties and features

The Brass CuZn28 is a lead-free brass alloy containing 72% copper. The microstructure shows an alpha single-phase with a very good behavior for cold formability, polishing, galvanic processes, soft and hard solderability. The brass shows a good resistance to fresh water, neutral or alkaline solutions, organic compounds as well as land, sea and industrial atmosphere. It is not resistant to acids, hydrous sulfur compounds, hydrous ammonia (stress corrosion cracking) in non-stress-relieved condition. The temperature ranges for thermal annealing is about 450-680°C, and 200-300°C for a stress-relieving. The machinability index is estimated around 25% (relative to CuZn39Pb3).

Typical uses

Metal goods, deep drawn parts, stamped and embossed parts, connectors, watch dials.

Typical manufacturing range

	Thickness (mm)	Width (mm)	Length (mm)
Rolled products Strip in coils ^[1]	0.10 - 1.50	3 - 140	-
Strip as sheets ^[1]	0.10 - 1.50	10 - 120	500 - 3000

^[1] Not all our production possibilities are presented here. Other dimensions or product forms available upon request. Some combinations of thicknesses and widths are not possible.

Mechanical properties of strips

Temper	R _{p0.2} (N/mm ²)	R _m (N/mm ²)	A _{50mm} (%)	Hardness HV
H055 soft				55 - 90
H090 ½ hard				90 - 125
H125 ¾ hard				125 - 160
H160 hard				160 min.

Physical properties

Modulus of elasticity	kN/mm ²	114
Density	g/cm ³	8.55
Melting point	°C	910 - 965
Linear dilatation coefficient	10 ⁻⁶ /°C	19.7
Thermal conductivity at 20°C	W/m °K	130
Thermal capacity at 20°C	J/kg K	125
Electrical resistivity	μΩcm	6.1
Electrical conductivity at 20°C	MS/m	16.5 ^[1]
Electrical conductivity at 20°C	% IACS	29 ^[1]
Magnetic properties		Non magnetic

^[1] Values for soft temper. The electrical conductivity decrease slightly for higher strain hardening.

Tolerances (strip and foil)

Thickness	Thickness (mm)		EN Standard		WEBER + CALIBRA		
	≥	<	10140 Precision	10258 Precision	WCA Standard	WCA Precision	WCA Extreme
<p>The table shown is an outline of our typical thickness tolerances available. They are tighter than industry standards.</p> <p>Our "WCA Precision" and "WCA Extreme" tolerances are available upon request.</p>	-	0.025	-	-	-	-	± 0.001
	0.025	0.050	-	-	± 0.003	± 0.002	± 0.0015
	0.050	0.065	-	± 0.003	± 0.003	± 0.0025	± 0.002
	0.065	0.100	-	± 0.004	± 0.004	± 0.0035	± 0.003
	0.100	0.125	± 0.005	± 0.006	± 0.005	± 0.004	± 0.003
	0.125	0.150	± 0.005	± 0.006	± 0.005	± 0.005	± 0.004
	0.150	0.250	± 0.010	± 0.008	± 0.008	± 0.006	± 0.004
	0.250	0.300	± 0.010	± 0.009	± 0.009	± 0.007	± 0.005
	0.300	0.400	± 0.010	± 0.010	± 0.010	± 0.007	± 0.005
	0.400	0.500	± 0.015	± 0.012	± 0.012	± 0.008	± 0.006
	0.500	0.600	± 0.015	± 0.014	± 0.014	± 0.010	± 0.007
	0.600	0.800	± 0.015	± 0.015	± 0.015	± 0.010	± 0.007
	0.800	1.000	± 0.015	± 0.018	± 0.018	± 0.012	± 0.009
	1.000	1.200	± 0.020	± 0.020	± 0.020	± 0.015	± 0.012
	1.200	1.250	± 0.020	± 0.020	± 0.020	± 0.015	± 0.012
1.250	1.500	± 0.020	± 0.020	± 0.020	± 0.015	± 0.014	
Width	Our width tolerances "Standard" is +0.2, -0.0 (or ± 0.1 mm upon request). They are available for slit widths < 125 mm and thicknesses < 1.00 mm. Special tolerances upon request.						
Camber	Width (mm)		Camber max. (mm/m)				
<p>Our tolerance "WCA Standard" respects the EN Standard 1654 (Length of measurement 1000 mm). Other tolerances upon request.</p>	>	≤	WCA Standard		WCA Extreme		
			≤ 0.5 mm	> 0.5 mm	≤ 0.5 mm	> 0.5 mm	
	3	6	12	-	6	-	
	6	10	8	10	4	5	
	10	20	4	6	2	3	
20	250	2	3	1	1.5		
Surface	Special surface qualities upon request						
Flatness	Special requirement on the longitudinal or transversal flatness upon request						

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