

Designation	DIN	EN Nr.	UNS (ASTM)	AISI	WCA
<b>CuZn15</b>	-	CW502L	23000	-	720

## Chemical composition

Zn	Cu	Al	Fe	Ni	Pb	Sn	Others
Balance	84.0 – 86.0	≤ 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

CuZn15 commonly known as Red Brass alloy, contains 85 % of copper and 15 % Zinc. This brass has good hot forming and excellent cold forming properties, this brass is suitable for bending, stamping and other cold forming processes. CuZn15 is highly resistant to stress corrosion cracking, but it should be stress relieved (between 200 - 300°C) if exposed to an ammonia atmosphere. This brass can be welded, soldered and brazed.

CuZn15 brass can be easily polished, and it displays a golden natural color that make it suitable in applications like jewellery, watchmaking industry and other decorative items. This brass is renowned as an **outdoor metal** and has an important place in modern architecture.

## Typical uses

Metal goods, jewelry, cosmetics packing, components for watchmaking and electronic industry.

## Typical manufacturing range

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

<sup>[1]</sup> 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 <sub>p0.2</sub> (N/mm <sup>2</sup> )	R <sub>m</sub> (N/mm <sup>2</sup> )	A <sub>50mm</sub> (%)	Hardness HV
H055 R260	170 max.	260 - 310	36 min.	55 - 85
H085 R300	150 min.	300 - 370	16 min.	85 - 115
H105 R350	250 min.	350 - 420	4 min.	105 - 135
H130 R410	360 min.	410 - 490	3 min.	130 - 160
H150 R480	430 min.	480 - 560	-	150 - 180

## Physical properties

Modulus of elasticity	kN/mm <sup>2</sup>	117
Density	g/cm <sup>3</sup>	8.75
Melting point	°C	1005 - 1025
Linear dilatation coefficient	10 <sup>-6</sup> / °C	18.5
Thermal conductivity at 20°C	W/m °K	159
Thermal capacity at 20°C	J/kg K	380
Electrical resistivity	μΩcm	4.7
Electrical conductivity at 20°C	MS/m	21 [1]
Electrical conductivity at 20°C	% IACS	36 [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	
<b>Width</b>	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.						
<b>Camber</b>	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		
<b>Surface</b>	Special surface qualities upon request						
<b>Flatness</b>	Special requirement on the longitudinal or transversal flatness upon request						

WCA-MK.039 / Edition 2024/09

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