

SM315 (C23000)

CuZn15

Alloy characteristics

SM315 is a brass alloy with excellent cold forming good hot forming properties. Its characteristics are: good welding and brazing properties and it is not fragile to stress corrosion, not eager to dezincification. Even well suited for clad parts.

Main purposes of SM315 are in the jewelry industry, watch industry, electronic industry and installation parts. Grain sizes for deep drawing on request. SM315 is in compliance to the requirements of the OEKO-TEX Standard 100 in terms of the PB and Cd.

Mechanical properties

Temper condition

	H00 HV55-85	H01 HV85-120	H02 HV100-150	H03 HV125-155	H04 HV150-180	H05 HV170	
Tensile strength in N/mm ²	250-300	300-370	350-420	410-490	480-560	>550	
0,2% yield strength in N/mm ²	<150	>200	>270	>350	>390	>450	
Vickers hardness HV (ref. only)	55-85	85-120	100-150	125-155	150-180	>160	
Elongation A _{L50%}	> 40	> 25	> 15	> 9	>6	>3	
Bendability							
0.10 ≤ s ≤ 0.25 mm	Transverse	0 x t	0 x t	0 x t	0 x t	0 x t	-
	Parallel	0 x t	0 x t	0 x t	0 x t	0.5 x t	-
0.25 < s ≤ 0.5 mm	Transverse	0 x t	0 x t	0 x t	0 x t	0 x t	-
	Parallel	0 x t	0 x t	0 x t	0.5 x t	2 x t	-

Physical properties (Typical values in annealed temper at 20 °C)

Thermal expansion coefficient 20 ... 300 °C	18.5	10 ⁻⁶ /K
Specific heat capacity	0.377	J/(g·K)
Density	8.75	g/cm ³
Thermal conductivity	159	W/(m·K)
Thermal coefficient of electrical resistance (0 ... 100 °C)	2.6	10 ⁻³ /K
Modulus of elasticity (1 GPa = 1 kN/mm ²) cold formed	122	GPa
Electrical conductivity (IACS)	34-32	%

Material designation

DIN EN	CW502L
UNS	C23000

Chemical composition

Cu	Rest %
Sn	<0.05 %
Zn	15 %
Other	≤ 0.4 %

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