

## SM310 (C22000)

CuZn10

### Alloy characteristics

SM310 is a brass alloy with single phase and very good cold forming properties. Its characteristics are: good welding and brazing properties beside good corrosion resistance and low stress corrosion. SM310 is not eager for dezincification.

Main purposes of SM310 are in the jewelry industry, watch industry (Switzerland and France), electronic industry and installation parts. Grain sizes for deep drawing on request. SM310 is in compliance to the requirements of the OEKO-TEX Standard 100 in terms of the PB and Cd.

### Mechanical properties

#### Temper condition

	H00 HV50-80	H01 HV80-110	H02 HV110-135	H03 HV125-150	H04 HV150-170	H05 HV160	
Tensile strength in N/mm <sup>2</sup>	230-290	280-360	350-420	420-490	440-500	>480	
0,2% yield strength in N/mm <sup>2</sup>	<140	>200	>290	>380	>410	>460	
Vickers hardness HV	50-80	80-110	110-135	125-150	150-170	>160	
Elongation A <sub>L50%</sub>	> 40	> 28	> 8	> 5	>2	>1	
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	1 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	0.5 x t	1 x t	3 x t	-

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

Thermal expansion coefficient 20 ... 300 °C	18.4	10 <sup>-6</sup> /K
Specific heat capacity	0.376	J/(g·K)
Density	8.8	g/cm <sup>3</sup>
Thermal conductivity	184	W/(m·K)
Thermal coefficient of electrical resistance (0 ... 100 °C)	1.8	10 <sup>-3</sup> /K
Modulus of elasticity ( 1 GPa = 1 kN/mm <sup>2</sup> ) cold formed	124	GPa
Electrical conductivity (IACS)	42-40	%

### Material designation

DIN EN	CW501L
UNS	C22000

### Chemical composition

Cu	Rest %
Sn	<0.05 %
Zn	10 %
Other	≤ 0.4 %

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