

## SM305 (C21000)

CuZn5

### Alloy characteristics

SM305 is a brass alloy with slightly red color. Its characteristics are: shiny surface, very well cold forming properties and a high corrosion resistance.

Between the brasses, alloys with copper and zinc composition, SM305 has the highest electrical conductivity and, as well, the thermal conductivity. There are significant deep drawing applications like in jewelry industry. Even for facades it is used very often. It is in compliance to the requirements of the OEKO-TEX Standard 100 in terms of the PB and Cd.

### Mechanical properties

#### Temper condition

	M20 HV45-75	H01 HV75-105	H03 HV100-140	H04 HV115-150	H06 HV130-170	H08 HV150-190	
Tensile strength in N/mm <sup>2</sup>	220-290	255-325	315-385	345-405	385-440	415-470	
0,2% yield strength in N/mm <sup>2</sup>	<130	>180	>260	>330	>360	>390	
Vickers hardness HV (ref. value)	45-75	75-105	100-140	115-150	130-170	150-190	
Elongation A <sub>L50%</sub>	> 40	> 20	> 10	> 4	-	-	
Bendability							
0.10 ≤ s ≤ 0.25 mm	Transverse	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	-	-
0.25 < s ≤ 0.5 mm	Transverse	0 x t	0 x t	0 x t	0.5 x t	-	-
	Parallel	0 x t	0 x t	0 x t	1 x t	-	-

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

Thermal expansion coefficient 20 ... 300 °C	18.0	10 <sup>-6</sup> /K
Specific heat capacity	0.380	J/(g·K)
Density	8.8	g/cm <sup>3</sup>
Thermal conductivity	243	W/(m·K)
Thermal coefficient of electrical resistance (0 ... 100 °C)	2.6	10 <sup>-3</sup> /K
Modulus of elasticity ( 1 GPa = 1 kN/mm <sup>2</sup> ) cold formed	127	GPa
Electrical conductivity (IACS)	57	%

### Material designation

DIN EN	CW500L
UNS	C21000

### Chemical composition

Cu	Rest %
Sn	<0.05 %
Zn	5 %
Other	≤ 0.175 %

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