

SM301 (C not indicated)

CuZn0,5

Alloy characteristics

SM301 is a brass alloy with red color like copper. Its characteristics are: excellent cold forming properties and in stamping process and bending properties. In comparison to SM1100 and other coppers the SM305 has much better deep drawing properties. We have to accentuate that SM301 has a good corrosion, brazing and soldering resistance.

SM301 can be found in many applications like terminals and connectors. Some components for the electrical industry are found stamped out of SM301. Switches and relays and semiconductor components are other applications of this alloy. It is in compliance to the requirements of the OEKO-TEX Standard 100 in terms of the PB and Cd.

Mechanical properties

Temper condition

	H00 HV40-65	H01 HV65-95	H02 HV85-115	H03 >110		
Tensile strength in N/mm ² ref only	220-260	240-300	290-360	>360		
0,2% yield strength in N/mm ²	<140	>180	>250	>320		
Vickers hardness HV	45-65	75-105	100-140	115-150		
Elongation A _{L50%}	> 33	> 8	-	-		
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	-	-	
0.25 < s ≤ 0.5 mm	Transverse	0 x t	0 x t	-	-	
	Parallel	0 x t	0 x t	-	-	

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

Thermal expansion coefficient 20 ... 300 °C	17.7	10 ⁻⁶ /K
Specific heat capacity	0.386	J/(g·K)
Density	8.92	g/cm ³
Thermal conductivity	350	W/(m·K)
Thermal coefficient of electrical resistance (0 ... 100 °C)	3.2	10 ⁻³ /K
Modulus of elasticity (1 GPa = 1 kN/mm ²) cold formed	125	GPa
Electrical conductivity (IACS)	79-88	%

Material designation

DIN EN	CW119C
UNS	Not indicated

Chemical composition

Cu	Rest %
P	<0.02 %
Zn	0.1-1 %
Other	≤ 0.1 %

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