

**SM1201**

**Cu-DLP**

**Alloy characteristics**

Cu-DLP is a phosphorus-deoxidized copper with a limited, medium amount of residual Phosphorus. It has a good electrical conductivity and excellent welding and soldering properties. It can be formed excellent, either hot or cold. The alloy is registered US EPA antimicrobial.

Main application: Lead frames for power semiconductors, Cable strip, Conductors, Electrical conductors, Bus bars, Tubing, Resistant welding equipment.

**Mechanical properties**

**Temper condition**

	<b>R200</b>	<b>R240</b>	<b>R290</b>	<b>R360</b>
Tensile strength in N/mm <sup>2</sup> ref only	200-260	240-300	290-360	>360
0,2% yield strength in N/mm <sup>2</sup>	<100	>180	>250	>320
Vickers hardness HV	45-65	65-95	90-110	>110
Elongation A <sub>L50%</sub>	-	> 8	>4	>2

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

Thermal expansion coefficient 20 ... 300 °C	17.7	10 <sup>-6</sup> /K
Specific heat capacity	0.386	J/(g·K)
Density	8.94	g/cm <sup>3</sup>
Thermal conductivity	350	W/(m·K)
Thermal coefficient of electrical resistance (0 ... 100 °C)	3.6	10 <sup>-3</sup> /K
Modulus of elasticity ( 1 GPa = 1 kN/mm <sup>2</sup> ) cold formed	132	GPa
Electrical conductivity (IACS)	90	%

**Material designation**

DIN EN	CW023A
UNS	C12000

**Chemical composition**

Cu	99.90 %
P	0.004-0.012 %

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