

SM333 (CW506L)

CuZn33

Alloy characteristics

CuZn33 alloy, also known as **CW506L**, is a yellow full Alpha brass that has very good cold forming properties.

CuZn33, as its designation indicates, is composed of **33% zinc and 67% copper**. This brass can achieve higher mechanical properties than CuZn30, has a lower price, but its elongation and electrical conductivity are lower.

Compared to the lower brass grades as CuZn37, it has better bendability and deep drawing properties.

Brass CuZn33 or CW506L has good deep-drawing properties, but inferior to CuZn30 and **good mechanical strength**. Due to the full Alpha structure it has good resistance to water, water vapour and many organic liquids.

We can offer the alloy in customized tempers, based on customer requirements.

Mechanical properties

	R280	R350	R420	R500
Tensile strength in N/mm ²	280-380	350-430	420-500	Min 500
0,2% yield strength in N/mm ²	Max 170	Min 170	Min 300	Min 450
Vickers hardness HV (ref.value)	-	-	-	-
Elongation A _{L50%}	>40	>23	>6	-
s ≤ 0.65mm	Transverse 180°	0 x t	0.5 x t	1 x t
	Parallel 180°	0 x t	0.5 x t	1 x t

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

Thermal expansion coefficient 20 ... 300 °C	19.9	10 ⁻⁶ /K
Specific heat capacity	0.378	J/(g·K)
Density	8.5	g/cm ³
Thermal conductivity	120	W/(m·K)
Thermal coefficient of electrical resistance (0 ... 100 °C)	1.6	10 ⁻³ /K
Modulus of elasticity (1 GPa = 1 kN/mm ²) cold formed	99 - 114	GPa
Electrical conductivity (IACS)	26	%

Material designation

DIN EN	CW506L
UNS	C27200

Chemical composition

Cu	66-68 %
Pb	<0.05 %
Fe	<0.05%
Zn	Rest %

This information was given with the best knowledge, but cannot guarantee any characteristics we describe listed above. The contract terms of Sofia Med agreed with any individual customer and our general conditions of sales describe the liability of these conditions.

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