CuSn0.09

4.2. CuSn0.09

ENGINEERING
COPPER SOLUTIONS

Alloy Designation	
EN	-
DIN CEN/TS	-
UNS	-

Characteristics

CuSn0.09 is an in-house developed alloy and is specifically used for radiator fin applications. The alloy has excellent thermal properties. Hot and cold formability is very good (which makes it ideal for engine cooling applications where heat transfer is critical).

The tin addition improves mechanical properties even more than our alloy CuSn0.04 and, as such, contributes to a sturdy final product.

Chemical Composition (Balance) Weight percentage		
Cu	≥ 99.90	%
Sn	0.055 – 0.135	%

Mechanical Properties (EN 1652)

Temper	Tensile Strength Rm	Yield Strength Minimum $Rp_{0.2}$	Elongation Minimum A_{50mm}	Hardness HV *
	MPa	MPa	%	HV
R220	220 .. 275	80	15	53 .. 65
R255	255 .. 315	190	4	80 .. 100
R260	260 .. 330	210	3	85 .. 110
R280	280 .. 360	240	1	95 .. 120
R330	330 .. 410	300		105 .. 130
R355	355 .. 435	330		115 .. 140
R390	390 .. 475	370		125 .. 150

* only for information

Physical Properties Typical values in annealed temper at 20 °C			
Density		8.93	g/cm³
Thermal expansion coefficient	20 .. 300 °C	17.7	10^{-6}/K
Specific heat capacity		0.385	J/(g·K)
Thermal conductivity		355	W/(m·K)
Electrical conductivity	MS/m	52	MS/m
Electrical conductivity	IACS	90	%
Modulus of elasticity	GPa	125	GPa

Fabrication Properties *	
Cold Forming Properties	Excellent
Hot formability	Good (decreasing with higher hardnesses)
Soft Soldering, Brazing	Excellent
Welding	Good

* For more details call our technical service