C14415

4.3. STOL® 81 - CuSn0.15

KME
ENGINEERING COPPER SOLUTIONS

Alloy Designation	STOL® 81
EN	
DIN CEN/TS 13388	CW117C
UNS	C14415 #

small difference in chemical composition

Characteristics

CuSn0,15 is a low Tin (Sn) special alloy that combines low cost with highest conductivity. The total cost for finish products are often equal to brass due to excellent conditions for stamping scrap.

Typical applications are male connectors and fuse boxes.

Chemical Composition (Balance)

Weight percentage

Cu	Rest	%
Sn	0.1	%

Main Applications

Automotive: Switches and Relays, Contacts, Connectors, Terminals.
Elektrotechnik: Switches and Relays, Contacts, Connectors, Terminals, Components for the electrical industry, Stamped parts, Semiconductor Components.

Mechanical Properties (EN 1652)

Temper	Tensile Strength Rm	Yield Strength Minimum $Rp_{0.2}$	Elongation Minimum A_{50mm}	Hardness HV *	Bending 90° gw rel. Bending Radius R/T	Bending 90° bw rel. Bending Radius R/T
	MPa	MPa	%	HV	Strip Thickness ≤ 0.50mm	
R250	250 .. 320	200	9	60 .. 90	0	0
R300	300 .. 370	250	4	85 .. 110	0	0
R360	360 .. 430	300	3	105 .. 130	0	0
R420	420 .. 490	350	2	120 .. 140	1	1

* only for information

Physical Properties

Typical values in annealed temper at 20 °C

Density		8.93	g/cm³
Thermal expansion coefficient	20 .. 300 °C	18	10^{-6}/K
Specific heat capacity		0.385	J/(g·K)
Thermal conductivity		340	W/(m·K)
Electrical conductivity	MS/m	47	MS/m
Electrical conductivity	IACS	81	%
Thermal coefficient of electrical resistance	(0 .. 100 °C)	3.3	10^{-3}/K
Modulus of elasticity	GPa	120	GPa

Fabrication Properties *

Cold Forming Properties	Excellent
Machinability (Rating 20)	Fair
Electroplating Properties	Excellent
Hot Tinning Properties	Excellent
Soft Soldering, Brazing	Excellent
Resistance Welding	Fair
Gas Shielded Arc Welding	Excellent
Laser Welding	Good

* For more details call our technical service