

Alloy Designation		
EN	-	
DIN CEN/TS 13388	-	
UNS	C42500	

Chemical Composition (Balance)		
Weight percentage		
Cu	87 ... 90	%
Sn	1.5 ... 3	%
Zn	Rest	%

Characteristics
C42500 has excellent cold forming properties, good conductivity combined with high strength and hardness. Corrosion resistance, especially against seawater and industrial atmosphere is good and stress corrosion cracking susceptibility is low. Spring properties are good, so it is used for applications like spring, connectors, contacts.

Main Applications
Automotive: Switches and Relays, Contacts, Connectors, Terminals. Electrical: Switches and Relays, Contacts, Connectors, Terminals, Components for the electrical industry, Stamped parts.

Mechanical Properties (EN 1652)						
Temper	Tensile Strength	Yield Strength	Elongation	Hardness	Bending	
	Rm	Minimum Rp0.2	Minimum A50mm	HV *	90° gw rel. Bending Radius	90° bw R/T
	MPa	MPa	%	HV	Strip Thickness ≤ 0.50mm	
R320	320 .. 380	≤ 230 *	25	80 .. 110	0	0
R380	380 .. 430	200 *	16	110 .. 140	0	0
R430	430 .. 520	330 *	6	140 .. 170	0	0
R510	510 .. 600	430 *	3	160 .. 190	0	1
R580	580 .. 690	520 *	-	180 .. 210	1	2
R660	≥ 660	610 *	-	≥ 200	-	-

* only for information

Physical Properties			
Typical values in annealed temper at 20 °C			
Density		8.81	g/cm³
Thermal expansion coefficient	20 .. 300 °C	18.4	10 ⁻⁶ /K
Specific heat capacity		0.38	J/(g·K)
Thermal conductivity		120	W/(m·K)
Electrical conductivity	MS/m	15	MS/m
Electrical conductivity	IACS	25	%
Thermal coefficient of electrical resistance	(0 .. 100 °C)	1.0	10 ⁻³ /K
Modulus of elasticity	GPa	120	GPa

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

* For more details call our technical service

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