C10200

Cu-OF

Alloy Designation	
EN	Cu-OF
DIN CEN/TS 13388	CW008A
UNS	C10200

Characteristics

Cu-OF is a high purity, oxygen free, non phosphorus-deoxidized copper that does not contain in vacuum evaporating elements. It has a very high electrical and thermal conductivity, good welding and excellent soldering properties. It has excellent hot and cold forming properties, and a good corrosion resistance, especially in atmosphere due to a good adherence of the oxide layer.

Main Applications

Automotive: Automotive Rectifiers

Electrical: Transistor Component Bases, High Resistance-Ratio Cryogenic Shunts, Bus Conductors, Wave Guides, Hollow Conductors, Anodes for Vacuum Tubes, Coaxial Cable, Waveguides, High Frequency Cable, Submarine Cable, Coaxial Tube, Klystrons, Microwave Tubes, Bus Bars, Lead-in Wire, Vacuum Seals, Conductors, Glass-to-Metal Seals, Lead frames for semiconductors, Heat sinks.

Chemical Composition (Balance) Weight percentage		
Cu	≥ 99.95	%

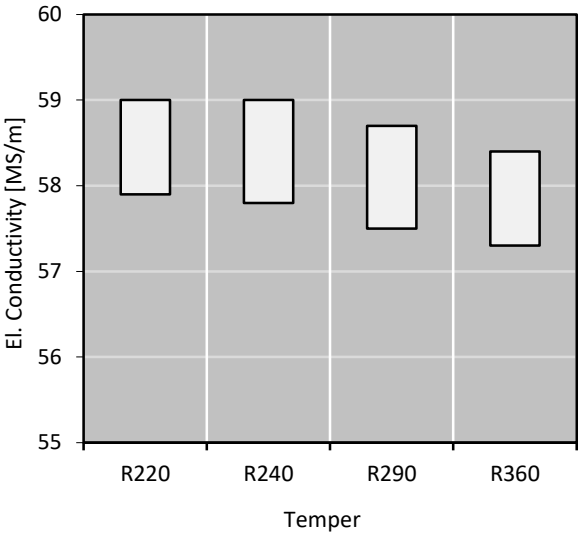
Mechanical Properties (EN 1652)

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	
R220	220 .. 260	≤ 140 *	33	40 .. 65	0	0
R240	240 .. 300	180	8	65 .. 95	0	0
R290	290 .. 360	250	4	90 .. 110	0	0
R360	≥ 360	320	2	≥ 110	0	0.5

* 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		0.39	J/(g·K)
Thermal conductivity		394	W/(m·K)
Electrical conductivity	MS/m	58	MS/m
Electrical conductivity	IACS	100	%
Thermal coefficient of electrical resistance	(0 .. 100 °C)	3.81	10^{-3}/K
Modulus of elasticity	GPa	130	GPa

Electrical Conductivity



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

* For more details call our technical service

Corrosion Resistance *
Practically resistant against stress corrosion cracking

Bend Fatigue (at room temperature)

The fatigue strength gives an indication about the resistance to variations in applied tension. It is measured under symmetrical alternating load. The maximum bending load for 10^7 load cycles without crack is measured. Dependent on the temper class it is approximately 1/3 of the tensile strength R_m.

Available delivery forms *
Strips in coils
Traverse-wound coils with drum weights up to 1.5 t
TECSTRIP®_multicoil up to 2.5 t
Hot-Dip-Tinned strips in thickness range 0.10 up to 1.20 mm

* For more details call our sales service