C11000

2.1. Cu-ETP



ENGINEERING COPPER SOLUTIONS

Alloy Designation			
EN	Cu-ETP		
DIN CEN/TS 13388	CW004A		
UNS	C11000		

≥ 99.90

≤ 0.040

%

%

Chemical Composition (Balance)

Weight percentage

Cu

0

01							•
	nai	'a	CT	ρ	т	ST	ICS
				-			100

Cu-ETP is an oxygen containing copper which has a very high electrical and thermal conductivity. It has excellent forming properties. Due to its oxygen content soldering and welding properties are limited.

Main Applications

Electrical: Transformer Coils, Switches, Terminals, Contacts, Radio Parts, Busbars, Terminal Connectors, Conductors, Stranded Conductors, Cable Strip

Industrial: Printed circuit boards, Stamped parts, Pressure Vessels, Chemical Process Equipment, Chlorine Cells, Chimney Cap Screens, Heat Exchangers, Printing Rolls, Anodes, Rotating Bands, Kettles, Pans, Vats, Heat sinks

Mechanical Properties (EN 1652)						
Temper	Tensile Strength	Yield Strength Minimum	Elongation Minimum	Hardness	Bendability 90°	
	Rm	Rp _{0.2}	A _{50mm}	HV *	gw rel. Bendin	bw g radius R/T
	MPa	MPa	%	HV	Strip thickne	ess ≤ 0.50mm
R220	220260	≤ 140 *	33	40 65	0	0
R240	240300	180	8	65 95	0	0
R290	290360	250	4	90110	0	0.5
R360	≥ 360	320	2	≥ 110	1	2

* only for information

Physical Properties

Typical values in annealed temper at 20 °C					
Density		8.92	g/cm³		
Thermal expansion coefficient	20 300 °C	17.7	10 ⁻⁶ /K		
Specific heat capacity		0.394	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)	3.7	10 ⁻³ /K		
Modulus of elasticity	GPa	130	GPa		

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	Less suitable
Laser Welding	Less suitable

During heating in reducing atmosphere hydrogen can penetrate inside the copper and react with Cu-Oxide to water vapour. Its pressure can cause embrittlement.

* For more details call our technical service

Due to continuous improvements within our production process, the details given in our brochure cannot be guaranteed. We reserve the right to update or change our products without prior notice. We recommend that you seek confirmation of our product details / specifications before committing to specific alloys.