Cu-ETP

KEMPER
DRIVING PROGRESS

Standard Designation

EN CW004A / UNS C11000

Chemical Composition

Cu	O [%]		
99.9	max. 0.04		

Description / Applications

Cu-ETP is the most common metal used in the electrotechnology. It is highly suitable for cold-forming and soft soldering.
Applications: electrical devices, stamped pieces, switching elements, connectors, relay contacts

Physical Properties[1)]

Density	8.9 g/cm³	Thermal expansion coefficient	17.7·10 -6/K
Electrical conductivity	58 m/Ω·mm² 100 % IACS[2)]	Modulus of elasticity	130 GPa[3)]
Thermal conductivity	385 W/m·K		

[1)] Guideline values for soft temper, measured at room temperature

[2)] IACS = International Annealed Copper Standard

[3)] 1 GPa = 1 kN/mm²

Processing information

Weldability	medium	Stress corrosion cracking	none
Solderability	medium		

Mechanical properties

Temper	Tensile Strength Rm [MPa]	Yield Strength Rp0,2 [MPa]	Elongation A50 [%]	Hardness HV	Bendability[1)]			
					90° r/t[2)]		180° r/t[2)]	
					GW[3)]	BW[4)]	GW[3)]	BW[4)]
R200/H40	200 - 250	max. 100	min. 33	40 - 65	0	0	0	0
R220/H40	220 - 260	max. 140	min. 33	40 - 65	0	0.5	0.5	0.5
R240/H65	240 - 300	min. 180	min. 8	65 - 95	0.5	0.5	0.5	1
R290/H90	290 - 360	min. 250	min. 4	90 - 110	0.5	0.5	1	1.5
R360/H110	min. 360	min. 320	min. 2	min. 110	1	2	1	3

[1)] The r/t values are valid for a strip thickness up to 0.6 mm (without crack). The data refer to rolled-to-temper material and a width of the bending area of 5 mm. V-shape bend test according to ISO 7438

[2)] r = inner radius, t = thickness

[3)] GW = good way

[4)] BW = bad way

Rev.: 04/2019

Gebr. Kemper GmbH + Co KG · Metallwerke · Harkortstr. 5, 57462 Olpe · Tel. 02761 891 0 · Fax. 02761 891 175 · info@kemper-olpe.de