Cu-ETP

KEMPER
DRIVING PROGRESS

Standard Designation

EN CW004A / UNS C11000

Chemical Composition

Cu [%]	O [%]		
min 99.9	max. 0.04		

Description / Applications

Cu-ETP is the most commonly used material in electrical engineering. It possesses almost the highest electrical conductivity achievable with copper alloys and is highly suitable for cold-forming. Due to its oxygen content, its soldering and welding properties are limited.

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	127 GPa
Thermal conductivity	392 W/m·K		

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

[2)] IACS = International Annealed Copper Standard

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	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 0.5 mm (without crack). The data refer to 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

The details in this datasheet are exclusively meant for general information only. They correspond to the state of knowledge at the time of issue and cannot replace the examination by our customers. Liability cannot be derived from the information.

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