CuSn8

KEMPER
DRIVING PROGRESS

Standard Designation

EN CW453K / UNS C52100

Chemical Composition

Cu [%]	Sn [%]	P [%]	
Balance	8	0.1	

Description / Applications

CuSn8 belongs to the copper-tin alloys. CuSn8 combines high strength with good formability and thermal stability.
Applications: components for the electronic industry, connector springs, relays, leaf springs, switches

Physical Properties[1)]

Density	8.8 g/cm³	Thermal expansion coefficient	$18.5 \cdot 10^{-6}$/K
Electrical conductivity	7.5 m/Ω·mm² 13 % IACS[2)]	Modulus of elasticity	115 GPa[3)]
Thermal conductivity	62 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	good	Stress corrosion cracking	none
Solderability	very good		

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)]
R370/H90	370 - 450	max. 300	min. 50	90 - 120	0	0	0	0
R450/H135	450 - 550	min. 280	min. 20	135 - 175	0	0	0	0.5
R540/H170	540 - 630	min. 460	min. 13	170 - 200	0	0.5	0.5	1
R600/H190	600 - 690	min. 530	min. 5	190 - 220	0	1.5	1	2
R660/H210	660 - 750	min. 620	min. 3	210 - 240	0.5	2	1	2.5
R740/H230	740 - 830	min. 700	min. 2	230 - 260	1	2	1	3
R810/H240	min. 810	min. 770	-	min. 240	1	-	1.5	-

[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

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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