CuSn6 HP

KEMPER
DRIVING PROGRESS

HP   high performance

Standard Designation

EN CW452K / UNS 51900

Chemical Composition

Cu	Sn [%]	P [%]	
Balance	6	0.1	

Description / Applications

CuSn6 HP belongs to the copper-tin alloys. CuSn6 HP provides an extraordinary combination of strength and electircal conductivity. CuSn6 HP has elevated bending properties becasue of its fine-grained microstructure.
Applications: connectors, contact pins, springs, stamped pieces, parts in the machine and apparatus construction

Physical Properties[1]

Density	8.8 g/cm³	Thermal expansion coefficient	$18.5 \cdot 10^{-6}$/K
Electrical conductivity	9 m/Ω·mm² 15 % IACS[2]	Modulus of elasticity	115 GPa[3]
Thermal conductivity	75 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 (maximum strip thickness 0.4 mm)

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]
R550	550-650	min. 500	min. 16	170-220	0	0	0.5	1
R670	670-780	min. 660	min. 7	200-260	1	2	2	3.5

[1] The r/t values are valid for a strip thickness up to 0.4 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

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