C19400

8.3. STOL® 194 - CuFe2P

KME
ENGINEERING COPPER SOLUTIONS

Alloy Designation	STOL® 194
EN	CuFe2P
DIN CEN/TS 13388	CW107C
UNS	C19400

Characteristics

STOL®194 is a medium strength alloy, with fine Fe precipitations. It combines high conductivity with medium strength and good relaxation properties.

Chemical Composition (Balance)

Weight percentage

Cu	Rest	%
Fe	2.4	%
Zn	0.1	%
P	0.03	

Main Applications

Automotive: Fuel Injectors, Electrical Connectors – Automotive.

Electrical: Circuit Breaker, Components, Contact Springs, Lead Frames, Electrical Connectors, Cable Warp, Electrical

Springs: Clamps, Plug Contacts, Fuse Clips, Terminal.

Mechanical Properties (EN 1652)

Temper	Tensile Strength Rm	Yield Strength Minimum $Rp_{0.2}$	Elongation Minimum A_{50mm}	Hardness HV *	Bending 90° gw	Bending 90° bw
					rel. Bending Radius R/T	
	MPa	MPa	%	HV	Strip Thickness ≤ 0.50mm	
R300	300 .. 360	≤ 240	18	80 .. 100	0	0
R360	360 .. 430	270	15	110 .. 135	0	0
R420	420 .. 480	380	10	130 .. 150	0.5	0.5
R480	480 .. 540	430	7	140 .. 160	0.5	0.5
R520	520 .. 580	470	4	≥ 140	2.5	3.5

* only for information

Physical Properties

Typical values in annealed temper at 20 °C

Density		8.91	g/cm³
Thermal expansion coefficient	20 .. 300 °C	16.3	10^{-6}/K
Specific heat capacity		0.38	J/(g·K)
Thermal conductivity		260	W/(m·K)
Electrical conductivity	MS/m	35	MS/m
Electrical conductivity	IACS	60	%
Thermal coefficient of electrical resistance	(0 .. 100 °C)	3.31	10^{-3}/K
Modulus of elasticity	GPa	125	GPa

Fabrication Properties *

Cold Forming Properties	Good
Machinability (Rating 20)	Good
Electroplating Properties	Excellent
Hot Tinning Properties	Excellent
Soft Soldering, Brazing	Excellent
Resistance Welding	Good
Gas Shielded Arc Welding	Excellent
Laser Welding	Good

* For more details call our technical service