C18070

7.1. STOL® 75 - CuCrSiTi

ENGINEERING
COPPER SOLUTIONS

Alloy Designation	STOL® 75
EN	CuCrSiTi
DIN CEN/TS 13388	
UNS	C18070

Chemical Composition (Balance) Weight percentage		
Cu	Rest	%
Cr	0.3	%
Si	0.02	%
Ti	0.1	%

Characteristics

STOL® 75 is a CuCrSiTi alloy that can be hardened by cold forming and by precipitation during a heat treatment. This alloy provides a good combination of high electrical conductivity, good strength, good bendability, excellent hot and cold forming properties and a good corrosion resistance.

Due to the Precipitations the relaxation properties, even at temperatures up to 200 °C are excellent.

Main Applications

E-Mobility, Hybrid Applications, Elecrical contacts, Automotive Connectors, Photovoltaic-Systems and Electronic Components.

Mechanical Properties (EN 1652)

Temper	Tensile Strength Rm	Yield Strength Minimum $Rp_{0.2}$	Elongation Minimum A_{50mm}	Hardness HV *	Bending 90° gw rel. Bending Radius R/T	Bending 90° bw rel. Bending Radius R/T
	MPa	MPa	%	HV	Strip Thickness ≤ 0.50mm	
R400	400 .. 480	300	8	120 .. 150	0	0
R460	460 .. 560	400	9	140 .. 170	0.5	0.5
R530	530 .. 610	460	10	150 .. 190	1	1
R550	550 .. 630	520	10	150 .. 190	1	1

* only for information

Physical Properties Typical values in annealed temper at 20 °C			
Density		8.93	g/cm³
Thermal expansion coefficient	20 .. 300 °C	18.0	10^{-6}/K
Specific heat capacity		0.38	J/(g·K)
Thermal conductivity		310	W/(m·K)
Electrical conductivity	MS/m	45	MS/m
Electrical conductivity	IACS	78	%
Thermal coefficient of electrical resistance	(0 .. 100 °C)	3	10^{-3}/K
Modulus of elasticity	GPa	135	GPa

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

* For more details call our technical service