C18160

7.2. STOL® 95 - CuCrZr

KME
ENGINEERING COPPER SOLUTIONS

Alloy Designation	STOL® 95
EN	CuCr1Zr
DIN CEN/TS 13388	
UNS	C18160

Characteristics

STOL® 95 is a CuCrZr alloy that can be hardened by cold forming and by precipitation of CuCrZr - phases during a heat treatment. It has good bendability, excellent hot and cold forming properties, a high strength and a good corrosion resistance.

Due to the CrZr-precipitations the relaxation properties, even at temperatures up to 250 °C are excellent. The electrical and thermal conductivity is excellent. Welding, soldering and brazing properties are good too.

Chemical Composition (Balance)

Weight percentage

Cu (incl. Ag)	Rest	%
Cr	0.8	%
Zr	0.2	%

Main Applications

Automotive: Switches and Relays, Contacts, Connectors, Terminals, Press fits, Hybrid Cars.

Electrical: Switches and Relays, Contacts, Connectors, Terminals, Press fits, Components for the electrical industry, Stamped parts, Semiconductor Components, Junction Boxes, Photovoltaic Systems.

Mechanical Properties (EN 1652)

Temper	Temper TM = Mill hardened	Tensile Strength Rm	Yield Strength Minimum $Rp_{0.2}$	Elongation Minimum A_{50mm}	Hardness HV (only for information)	Bending 90° gw	Bending 90° bw
		MPa	MPa	%	HV	rel. Bending Radius R/T Strip Thickness ≤ 0.50mm	
R480	TM04	480 .. 560	450	8	150 .. 190	1.5	1.5
R540	TM08	540 .. 630	500	4	160 .. 200	2	2
R540S	TR08	540 .. 620	480	8	160 .. 190	1.5	1.5
R600 *	-	≥ 600	550	2	≥ 160	2 **	2 **

* only for thicknesses between 0.10 and 0.50 mm (other thicknesses on request) ** Bending radii with maximum bending width 5 x t

Physical Properties

Typical values in annealed temper at 20 °C

Density		8.92	g/cm³
Thermal expansion coefficient	20 .. 300 °C	18.0	10^{-6}/K
Specific heat capacity		0.381	J/(g·K)
Thermal conductivity		330	W/(m·K)
Electrical conductivity	MS/m	50	MS/m
Electrical conductivity	IACS	86	%
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	Excellent
Hot Tinning Properties	Excellent
Soft Soldering, Brazing	Excellent
Resistance Welding	Less suitable
Gas Shielded Arc Welding	Excellent
Laser Welding	Fair

* For more details call our technical service