

Material number (DIN)	2.1293		
Material no. UNS (ASTM)	C18150		
International standard	R.W.M.A Class 2		
Abbreviation	CuCrZr		
Standard analysis (percent by weight)	Cr 0,8	Zr 0,1	Cu remainder

Material description Age hardenable Cu alloy with high electrical and thermal conductivity under a very high degree of hardness and strength.

- Applications**
- electrodes for resistance welding, preferably of rust-free and heat-resistance steels as well as welded wire mesh
 - upsetting electrodes, electrode cheeks and UP nozzles
 - sealing cheeks and plates for plastic welding machines
 - pistons in the cold chamber diecasting machines (light alloy casting)
 - nozzles for hot channel systems
 - inserts for plastic injection moulds

Mechanical properties
(at 20° C)

Condition		hardened
hardness (average)	HB 10/2,5	135-170
tensile strength	N-mm ²	380-470
tensile yield strength	N-mm ²	320-410
A 5 elongation	%	14-18
Modules of elasticity	N-mm ²	135 x 10 ³
Softening temp.	°C	min. 480

Physical properties
(at 20° C)

Specific weight	$\frac{g}{cm^3}$	8,9
Specific heat	$\frac{J}{g.K}$	0,42
Thermal conductivity	$\frac{W}{m.K}$	20° C env. 240 300° C env. 320
Coefficient of expansion (20-200° C)	$\frac{1}{K}$	17,2 x 10 ⁻⁶
Electrical conductivity	$\frac{MS}{m}$	min. 80% IACS
Electrical resistance	$\frac{Ohm \cdot mm^2}{m}$	0,033-0,05