



Brand Name	ISA-CON®414				
Material Code	1)				
Abbreviation	CuCr 0.3				
Chemical Composition (mass components) in %. Average values of alloy components					
Cu Rem.	Cr 0.3				

PRELIMINARY VERSION

Features and Application Notes

The ISA-CON® product family is renowned by its unique combination of mechanical strength and electrical conductivity.

ISA-CON®414 is a RoHS compliant copper chromium alloy to replace cadmium chromium copper C18125 or PD135. It fulfills the requirements of the ASTM B624.

ISA-CON®414 achieves a mechanical strength of 414 MPa at 85% IACS in annealed conditions. It has a good corrosion resistance and can be coated with nickel, tin or silver.

ISA-CON®414 has good flex live properties and high softening resistance for use at higher temperatures.

Form of Delivery

ISA-CON®414 is supplied in the form of round wires and stranded wires in the range of 0.05 to 0.3 mm Ø. Flat wires available on request.

Electrical Properties in Annealed Condition

Temperature coefficient of electrical resistance between	Electrical conductivity	Electrical resistance	
+20 °C and +105 °C 10 ⁻⁶ /K	+20 °C	+20 °C	
approx. +3,000	% IACS	m/Ω mm²	μΩ x cm
	≥85	≥49	≤2.03

Strength Properties at +20 °C in Annealed Condition

Tensile Strength		Elongation (L ₀ = 100 mm) % at 0.2 mm diameter	
MPa	ksi	%	
414	60	>6	

Physical Characteristics (Reference Values)

Density at +20 °C		Melting point	Specific heat at +20 °C	Thermal conductivity at +20 °C	Average linear thermal expansion coefficient between +20 °C and +100 °C	Thermal EMF against copper at +20 °C
g/cm³	lb/cub in	°C	J/g K	W/m K	10⁻⁶/K	μV/K
8.9	0.32	1,080	on demand	on demand	on demand	±1.0

1) ISA-CON®414 is not a standardized alloy.

