Brand Name	**ISA-CON®450**
Material Code	1)
Abbreviation	**CuCr 1.0**

Chemical Composition (mass components) in %.
Average values of alloy components

Cu	**Cr**				
Rem.	1.0				

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®450 is a RoHS compliant copper chromium alloy to replace cadmium chromium copper C18125 or PD135.

ISA-CON®450 achieves a mechanical strength of 450 MPa at 80% IACS in hard conditions. It has corrosion resistance and can be coated with nickel, tin or silver.

ISA-CON®450 has good flex live properties and high softening resistance for use at higher temperatures.

Application examples: prematerial for conductive fasteners like screws and bolts.

Form of Delivery

ISA-CON®450 is supplied in the form of round wires in the range of 1.0 to 7.4 mm Ø. Flat wires and bigger diameters are available on request.

Electrical Properties in Hard 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**
	≥80	**≥46**	**≤2.18**

Strength Properties at +20 °C in Hard Condition

Tensile Strength		Elongation (L_0 = 100 mm) % at 5.25 mm diameter
MPa	**ksi**	**%**
≥450	**≥65**	**>5**

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		Thermal EMF against copper at
					+100 °C		+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®450 is not a standardized alloy.

ISABELLENHÜTTE
Innovation by Tradition

Issue 24-January-2020