

Technical datasheet

Constantan TCR / CuNi44Mn1Fe

Constantan TCR is a copper–nickel alloy consisting usually of 55% copper and 44% nickel and specific minor amounts of additional elements to achieve almost constant values for the temperature coefficient of resistivity (TCR). Its key attribute is the low thermal variation in its resistivity, which is constant over a wide range of temperatures.

Available products

Product form

Sheet and strip
Rod and wire

Chemical composition (%)

Ni	Mn	Fe	Cu
44.0	1.3	0.4	Balance

Physical properties

Density, g/cm ³	8.85
Melting point, °C	1210
Thermal conductivity at 20°C, W/m.°C	25
Electrical resistivity at 20°C, µΩ.cm	50

For Constantan TCR at temperatures between 20-105°C, +/- 20ppm/°C can be achieved

Applications

Electrical engineering
Pyrometry
Shunts and precision resistors
Nuclear energy
Oil and gas
Electronics
Telecommunications
Defence
Aerospaces
Currency and medals