

# Polyimide Constantan® Thermocouple Insulated Wire

**Formula:** Cu55/Ni45

**Conductor Diameter:** 0.25mm

**Insulation:** Polyimide

**Insulation Thickness:** 0.022mm

**Length:** 50m

**Product Shape:** Thermocouple (May Be Used As One Component)

**UOM Code:** 031-384-65

**SKU:** 1000004006-group

**Product Code:** CU04-SW-000150

## Material Properties for Alloys

### Mechanical Properties

Element	Value
Hardness - Brinell	100-300
Elongation at break( % )	45
Modulus of elasticity( GPa )	162
Izod impact strength( J m <sup>2</sup> )	107
Tensile strength( MPa )	400-590

### Electrical Properties

Element	Value
Electrical resistivity( μOhmcm )	52
Temperature coefficient( K <sup>-1</sup> )	0.00002+/-

### Thermal Properties

Element	Value
Maximum use temperature in air( C )	500
Melting point( C )	1225-1300
Thermal conductivity( W m <sup>-1</sup> K <sup>-1</sup> )	19.5@23°C
Coefficient of thermal expansion( x10 <sup>-6</sup> K <sup>-1</sup> )	14.9@20-100°C

## Physical Properties

Element	Value
Density( gcm <sup>3</sup> )	8.9