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AMETEK[®]
ELECTRONIC COMPONENTS
AND PACKAGING

Data Sheet: Pt100

Physical Properties of Bulk Material:

Braze Alloy Composition	Pt100 (weight per cent)
Melting temperature	1768.3°C (3214.9°F)
Density	21.45 g·cm ⁻³
Young's modulus	168 GPa
Poisson ratio	0.38
Tensile strength	125-240 MPa
Elongation at break (cold worked)	5%
Elongation at break (annealed)	35%
Shear modulus	61 GPa
Thermal conductivity	71.6 W·m ⁻¹ ·K ⁻¹
Thermal expansion	8.8 μm·m ⁻¹ ·K ⁻¹ (25 °C)
Electrical Conductivity	15% IACS
Electrical Resistivity	105 nΩ·m (20 °C)
CAS registry number	7440-06-4

Typical impurity levels for electronic grade/ vacuum tube grade are less than:
Volatile elements each 0.002 % max.
Other elements each 0.005% max.
Total other elements 0.010% max.

Platinum is used in catalytic converters, laboratory equipment, electrical contacts and electrodes, oxygen sensors, platinum resistance thermometers, dentistry equipment, and jewelry. Platinum has complete freedom from atmospheric corrosion and is preferred for devices that have low closed forces and where surety of making a circuit may be a problem. It has a high melting point (1769(C) and good resistance to forming arcs. Low electrical conductivity (15% IACS) limits its application to low currents, usually below 5 amperes.

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